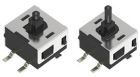
Switches

ALPSALPINE

Switches

Detector Switches

List of Varieties

Series		SPVS	SPVN	SPVT	SPVM	SPVR	SPVE	SSCQ
Photo								
Features/Type		Horizontal Compact	Horizontal Low-profile	Horizontal	Vertical Compact	Vertical Low-profile lever type	Vertical Compact push operation type	Horizontal Compact
Operation type		Two-way operation type					One-way operation type	Two-way output, two-step detection type
Water-proof		—	—	—	—	—	—	—
Dust-proof		—	—	—	—	—	—	—
IP standard		—	—	—	—	—	—	—
Dimensions (mm)		3.3×3.5×1.0	3.6×3.8×1.0	4.7×5.6×1.9	2.8×3.5×1.5	3.6×4.2×1.2	3.4×3.0×2.3 3.4×4.0×1.8	3.8×3.6×0.9
Poles		1						
Positions		1						Two-direction, 2-positions each side
Operating force		0.35N max.		0.4N max.		0.35N max.	0.3N max.	0.35N max.
Operating temperature range		-40℃ to +85℃					-10℃ to +60℃	
Rating(max.)/(min.) (Resistive load)		1mA 5V DC/50μA 3V DC		50mA 20V DC/ 100μA 3V DC	1mA 5V DC/ 50μA 3V DC	1mA 5V DC/ 100μA 3V DC	0.1A 30V DC/ 50μA 3V DC	1mA 5V DC/ 50μA 3V DC
Electrical performance	Contact resistance (Initial/After operating life)	2Ω max./5Ω max.		500mΩ max./ 1Ω max.	2Ω max./ 5Ω max.	3Ω max./ 5Ω max.	500mΩ max./ 1Ω max.	2Ω max./ 5Ω max.
	Insulation resistance	100MΩ min. 100V DC						
	Voltage proof	100V AC for 1 minute						
Mechanical performance	Terminal strength	0.5N for 1 minute			1N for 1 minute	0.5N for 1 minute		
	Actuator strength	5N		10N	5N	2N	5N	1N
Durability	Operating life without load	50,000 cycles 5Ω max.		100,000 cycles 1Ω max.	50,000 cycles 5Ω max.		50,000 cycles 1Ω max.	50,000 cycles 5Ω max.
	Operating life with load Rating(max.) (Resistive load)	50,000 cycles 5Ω max.		100,000 cycles 1Ω max.	50,000 cycles 5Ω max.		50,000 cycles 1Ω max.	50,000 cycles 5Ω max.
Environmental performance	Cold	-40℃ 96h					-20℃ 96h	
	Dry heat	85℃ 96h						
	Damp heat	40℃, 90 to 95%RH 96h						
Automotive		●	●	●	●	●	—	—

Note

● Indicates applicability to all products in the series, while ○ indicates applicability to some products in the series.

Detector Switches

Series		SSCM	SPVL	SPPB	SSCT	SSCF	SSCW	SSCL
Photo								
Features/Type		Horizontal Compact	Horizontal Low-profile	General-purpose type	Micro switch type	Two-way output type	With female connector terminal	
Operation type		Two-way output type	Multi-direction operation type	One-way output type Two-way output type	Two-way output type			
Water-proof		—	—	—	—	—	—	—
Dust-proof		—	—	—	—	—	—	—
IP standard		—	—	—	—	—	—	—
Dimensions (mm)		4.0×5.0×1.5	6.6×5.55×1.0	6.3×3.0×4.9 6.3×5.1×3.7 6.3×6.1×4.25 6.4×3.0×4.9 6.5×3.1×4.9 8.8×3.5×5.1 9.15×3.75×5.5 9.7×3.75×5.1 9.75×3.75×5.7 10.0×6.1×5.25	12.5×5.0×11.5	11.0×5.8×12.4 15.5×5.8×12.4	5.3×13.1×11.35	5.3×11.0×16.1
Poles		1						
Positions		2	1		2		1	2
Operating force		0.35N max.			0.7±0.3N	0.7N max.	1N max.	0.7N max.
Operating temperature range		-10℃ to +60℃	-40℃ to +85℃					
Rating(max.)/(min.) (Resistive load)		1mA 5V DC/50μA 3V DC		0.1A 30V DC/ 50μA 3V DC	0.1A 12V DC/50μA 3V DC		0.1A 12V DC/ 100μA 3V DC	0.1A 12V DC/ 50μA 5V DC
Electrical performance	Contact resistance (Initial/After operating life)	2Ω max./5Ω max.		1Ω max./ 2Ω max.	200mΩ max./ 500mΩ max.	100mΩ max./ 300mΩ max.	500mΩ max./1Ω max.	
	Insulation resistance	100MΩ min. 100V DC			100MΩ min. 250V DC	100MΩ min. 100V DC	100MΩ min. 250V DC	100MΩ min. 100V DC
	Voltage proof	100V AC for 1 minute			250V AC for 1 minute	100V AC for 1 minute	250V AC for 1 minute	100V AC for 1 minute
Mechanical performance	Terminal strength	0.5N for 1 minute	1N for 1 minute	3N for 1 minute		5N for 1 minute	—	
	Actuator strength	2N	5N	10N	20N	10N	20N	10N
Durability	Operating life without load	50,000 cycles 5Ω max.		50,000 cycles 2Ω max.	10,000 cycles 500mΩ max.	50,000 cycles 300mΩ max.	100,000 cycles 1Ω max.	50,000 cycles 1Ω max.
	Operating life with load Rating(max.) (Resistive load)	50,000 cycles 5Ω max.		50,000 cycles 2Ω max.	10,000 cycles 500mΩ max.	50,000 cycles 300mΩ max.	100,000 cycles 1Ω max.	50,000 cycles 1Ω max.
Environmental performance	Cold	-20℃ 96h	-40℃ 500h					
	Dry heat	85℃ 96h	85℃ 500h					
	Damp heat	40℃, 90 to 95%RH 96h	60℃, 90 to 95%RH 500h					
Automotive		—	●	●	●	●	●	●

⚠Note

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Detector Switches

Series		SSCZ	SPVQ3	SPVQ6	SPVQ7	SPVQ8	SPVQ8H	SPVQ9
Photo								
Features/Type		Connector terminal 1-pole 2-positions type	Water-proof type Long travel type	Compact size & water-proof type With internal resistor type	Water-proof type	Ultra-compact & water-proof type With internal resistor type	Water-proof type	Water-proof type Two-pole fast switching type
Operation type		Two-way output type		One-way output type Two-way output type	Two-way output type			
Water-proof		—	●	●	●	●	●	●
Dust-proof		—	●	●	●	●	●	●
IP standard		—	IP6K7	IP6K7	IP6K7	IP6K7	IP6K7	IP6K7
Dimensions (mm)		13.84×5.4×15.4	5.3×13.0×8.35	5.3×13.3×6.5	5.4×14.7×6.7	5.3×8.3×6.5	6.45×14.8×14.5 6.45×17.95×14.5	8.4×15.4×7.5
Poles		1						2
Positions		2	1 2			1		2
Operating force		1.1N max.	1±0.5N 3N max.		1±0.5N	1±0.5N 3N max.	4.7N max.	1±0.5N
Operating temperature range		-40℃ to +85℃						
Rating(max.)/(min.) (Resistive load)		0.1A 16V DC/ 100μA 3V DC	0.1A 12V DC/ 50μA 5V DC	0.1A 12V DC/ 50μA 5V DC Respond individually	0.1A 12V DC/ 50μA 5V DC	0.1A 16V DC/ 50μA 5V DC Respond individually	0.1A 16V DC/ 50μA 5V DC	50mA 26V DC/ 50μA 5V DC
Electrical performance	Contact resistance (Initial/After operating life)	500mΩ max./1Ω max.		500mΩ max./1Ω max. Respond individually	500mΩ max./ 1Ω max.	500mΩ max./1Ω max. 500mΩ max./3Ω max. Respond individually	500mΩ max./ 1Ω max.	75mΩ max./ 200mΩ max.
	Insulation resistance	100MΩ min. 250V DC	100MΩ min. 500V DC	100MΩ min. 500V DC Respond individually	100MΩ min. 500V DC	100MΩ min. 500V DC Respond individually	100MΩ min. 500V DC	
	Voltage proof	250V AC for 1minute	500V AC for 1 minute	500V AC for 1 minute Respond individually	500V AC for 1 minute	500V AC for 1 minute Respond individually	500V AC for 1 minute	
Mechanical performance	Terminal strength	—	3N for 1 minute				110N for 1 minute	3N for 1 minute
	Actuator strength	20N						
Durability	Operating life without load	300,000 cycles 1Ω max.		300,000 cycles 300,000 cycles 1Ω max.	300,000 cycles 1Ω max.	300,000 cycles 300,000 cycles 1Ω max. 1,000,000 cycles 3Ω max.	100,000cycles 1Ω max.	300,000 cycles 200mΩ max.
	Operating life with load Rating(max.) (Resistive load)	300,000 cycles 1Ω max.		300,000 cycles 1Ω max. Respond individually	300,000 cycles 1Ω max.	300,000 cycles 1Ω max. 1,000,000 cycles 3Ω max. Respond individually	100,000cycles 1Ω max.	300,000 cycles 200mΩ max.
Environmental performance	Cold	-40℃ 500h						
	Dry heat	85℃ 500h						
	Damp heat	60℃, 90 to 95%RH 500h						
Automotive		●	●	●	●	●	●	●

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Detector Switches

Series		SPVQA	SPVQC	SPVQF	SSCN	SDDH
Photo						
Features/Type		Water-proof type (Fork terminals)	Water-proof type Two-pole fast switching type (surface mount)		Water-proof type	
Operation type		Two-way output type				Push
Water-proof		●	●	●	●	●
Dust-proof		●	●	●	●	●
IP standard		IP6K7	IP6K7	IP6K7	IP6K7	IP6K8
Dimensions (mm)		6.4×15.2×7.95	7.4×15.4×7.5	6.3×8.5×7.0	5.0×13.0×15.0	28.5×9.0×24.3
Poles		1	2		1	
Positions		1 2	2			1
Operating force		1±0.5N		1.8N max.	2N max.	4.6N max.
Operating temperature range		-40℃ to +85℃		-40℃ to +90℃	-40℃ to +85℃	-15℃ to +80℃
Rating(max.)/(min.) (Resistive load)		0.1A 12V DC/ 50μA 5V DC	50mA 18V DC/50μA 5V DC		0.1A 12V DC/ 100μA 5V DC	4.5A 12V DC/ 10mA 12V DC
Electrical performance	Contact resistance (Initial/After operating life)	500mΩ max./ 1Ω max.	75mΩ max./ 200mΩ max.	75mΩ max./ 2Ω max.	500mΩ max./1Ω max.	
	Insulation resistance	100MΩ min. 500V DC	100MΩ min. 250V DC		100MΩ min. 500V DC	10MΩ min. 500V DC
	Voltage proof	500V AC for 1 minute	250V AC for 1 minute		500V AC for 1 minute	
Mechanical performance	Terminal strength	3N for 1 minute		5±1N for 10±1S	3N for 1 minute	Slider pull-out strength: 100N min
	Actuator strength	20N			10N	—
Durability	Operating life without load	300,000 cycles 1Ω max.	300,000 cycles 200mΩ max.	300,000 cycles 2Ω max.	100,000 cycles 1Ω max.	
	Operating life with load Rating(max.) (Resistive load)	300,000 cycles 1Ω max.	300,000 cycles 200mΩ max.	300,000 cycles 2Ω max.	100,000 cycles 1Ω max.	
Environmental performance	Cold	-40℃ 500h				-15℃ 96h
	Dry heat	85℃ 500h		90℃ 500h	85℃ 500h	80℃ 96h
	Damp heat	60℃, 90 to 95%RH 500h				40℃, 90 to 95%RH 96h
Automotive		●	●	●	●	●

⚠Note

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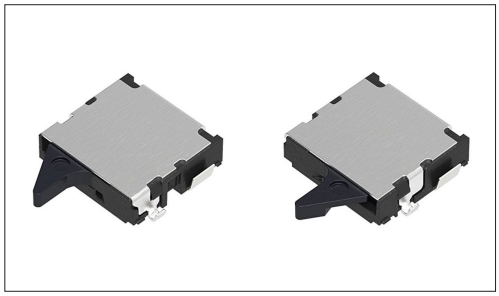
Compact Two-way Operation

SPVS Series

Compact, thin-profile type with a body height of 1.0mm, 3.3×3.5mm, offering N/O & N/C two-circuit varieties.



Automotive

- Rating(max.)/(min.)(Resistive load):1mA 5V DC/50μA 3V DC
- Contact resistance(Initial/After operating life):2Ω max./5Ω max.
- Operating life without load:50,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  50,000 cycles 5Ω max.

Applications:Mobile:Smartphones, tablets,Headsets, wearables, Notebooks, peripherals
Energy_Industrial:Robots, drones,Industrial equipment, Converters
Game:Home handheld consoles,Virtual/augmented reality
Healthcare:Healthcare equipment,Nursing care equipment,Analysis, test equipment
Audio_TV:Visual,Audio,Cameras
Automotive:Navigation/audio systems, HVAC

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Lever length	Operating direction	Circuit	Location lug	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVS310100	1	1	0.35N max.	For PC board (Reflow)	Standard	Right	N/O	With	3.3×3.5×1.0	—	—	●	1
SPVS310200	1	1	0.35N max.	For PC board (Reflow)	Standard	Right	N/O	Without	3.3×3.5×1.0	—	—	●	2
SPVS320100	1	1	0.35N max.	For PC board (Reflow)	Standard	Right	N/C	With	3.3×3.5×1.0	—	—	●	3
SPVS320200	1	1	0.35N max.	For PC board (Reflow)	Standard	Right	N/C	Without	3.3×3.5×1.0	—	—	●	4
SPVS410100	1	1	0.35N max.	For PC board (Reflow)	Standard	Left	N/O	With	3.3×3.5×1.0	—	—	●	5
SPVS410200	1	1	0.35N max.	For PC board (Reflow)	Standard	Left	N/O	Without	3.3×3.5×1.0	—	—	●	6
SPVS420100	1	1	0.35N max.	For PC board (Reflow)	Standard	Left	N/C	With	3.3×3.5×1.0	—	—	●	7
SPVS420200	1	1	0.35N max.	For PC board (Reflow)	Standard	Left	N/C	Without	3.3×3.5×1.0	—	—	●	8
SPVS360100	1	1	0.35N max.	For PC board (Reflow)	Long	Right	N/C	With	3.3×3.5×1.0	—	—	●	9
SPVS360200	1	1	0.35N max.	For PC board (Reflow)	Long	Right	N/C	Without	3.3×3.5×1.0	—	—	●	10

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.
4. For the Terminal Layout, please check our website.

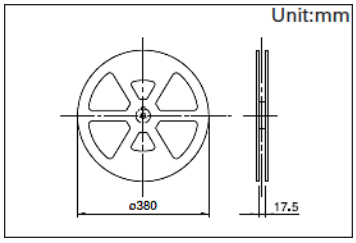
Compact Two-way Operation

SPVS Series

■ Packing Specifications

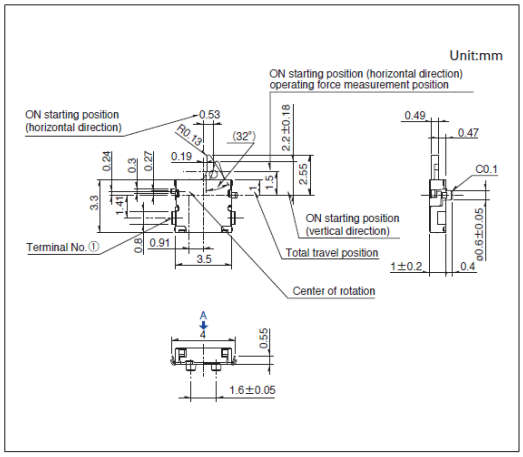
Taping

Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
5,000	10,000	20,000	16	417 x 409 x 139



Drawing No.1

■ Dimensions



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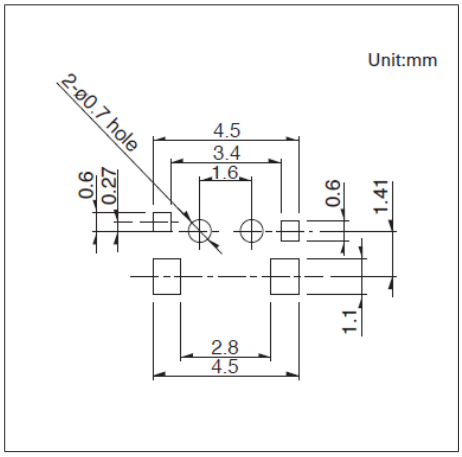
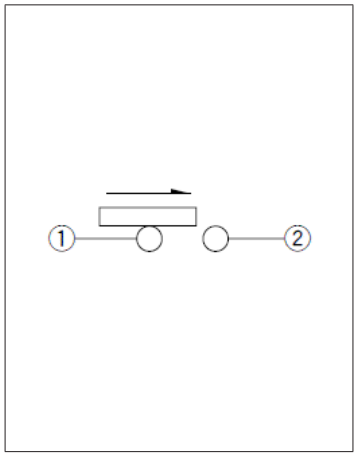


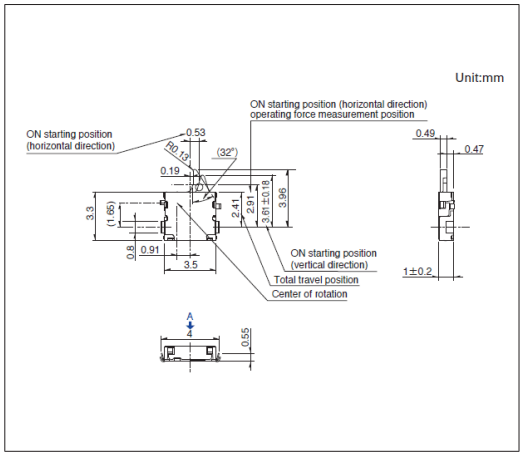
■ Circuit Diagram



Viewed from direction A in the dimensions.

Drawing No.2

■ Dimensions



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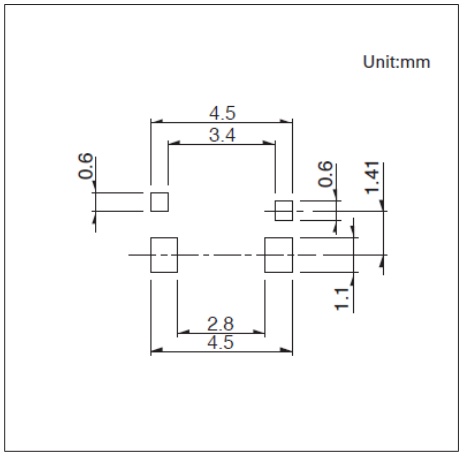
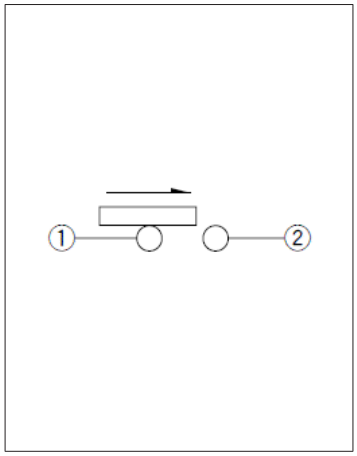


■ Circuit Diagram



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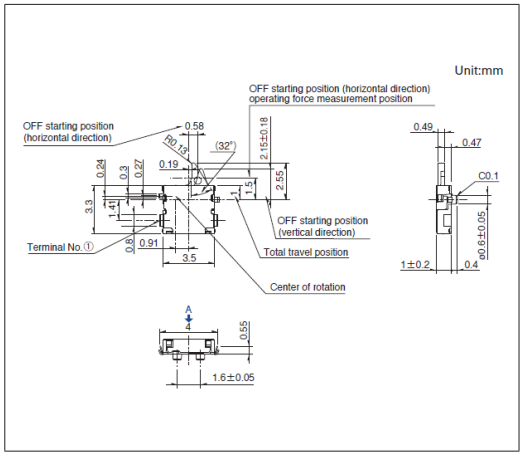
Drawing No.3

■ Dimensions



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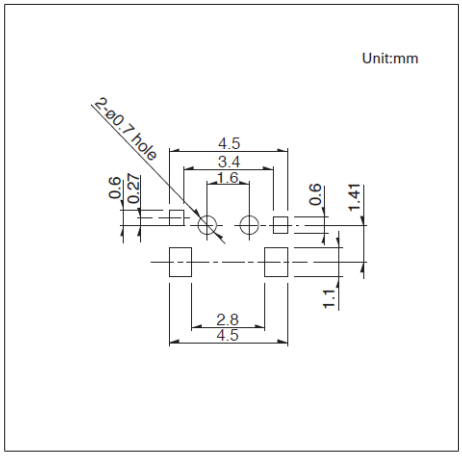
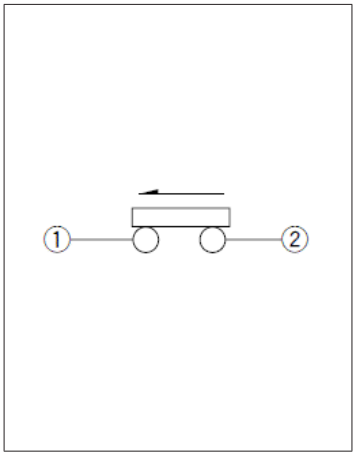


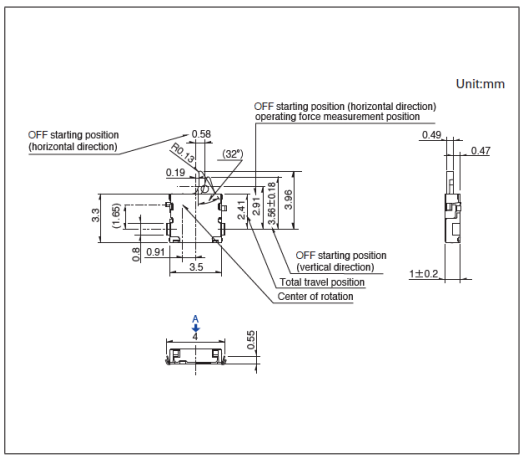
■ Circuit Diagram



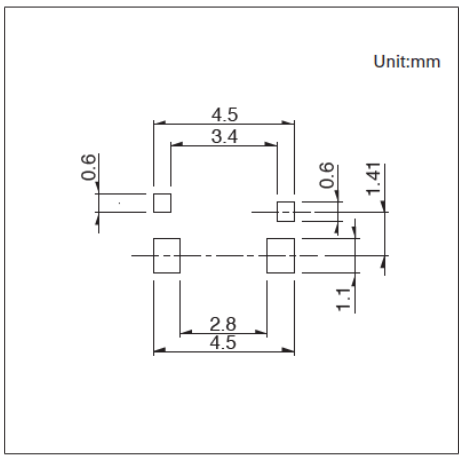
Viewed from direction A in the dimensions.

Drawing No.4

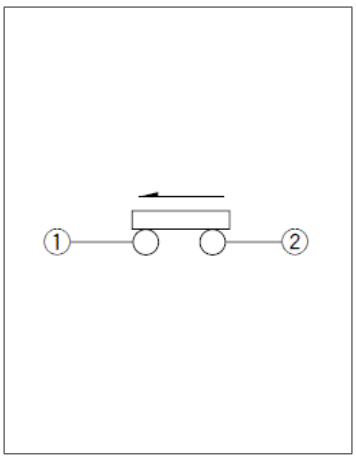
■ Dimensions



■ Land Dimensions



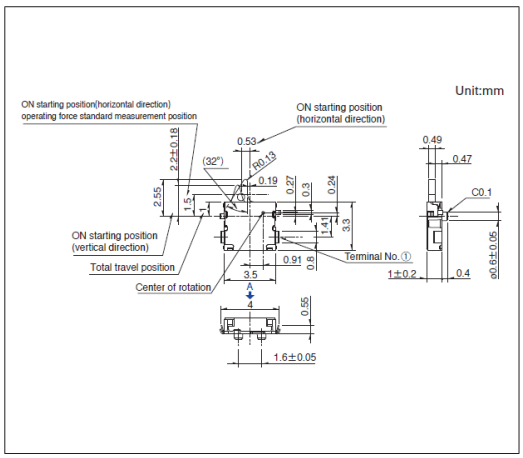
■ Circuit Diagram



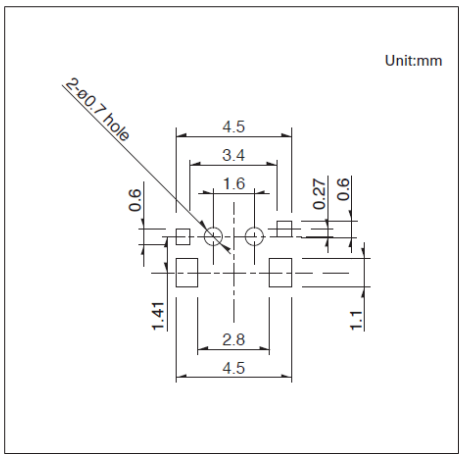
Viewed from direction A in the dimensions.

Drawing No.5

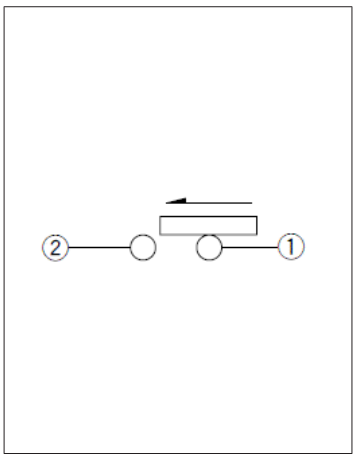
■ Dimensions



■ Land Dimensions



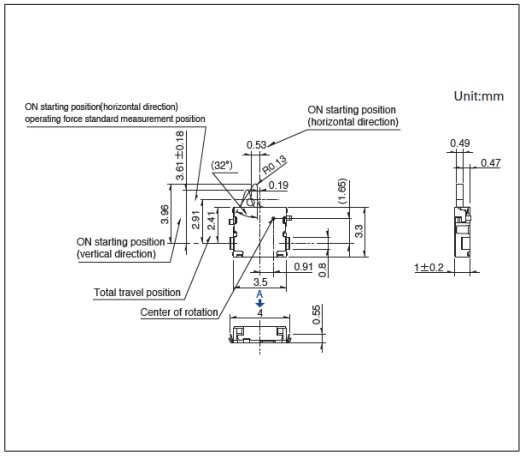
■ Circuit Diagram



Viewed from direction A in the dimensions.

Drawing No.6

■ Dimensions



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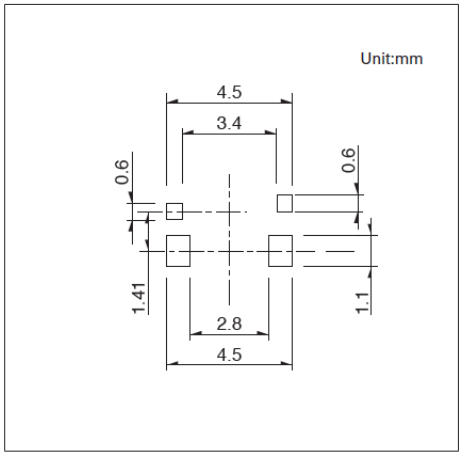
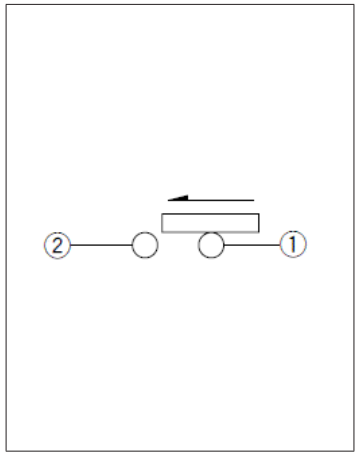


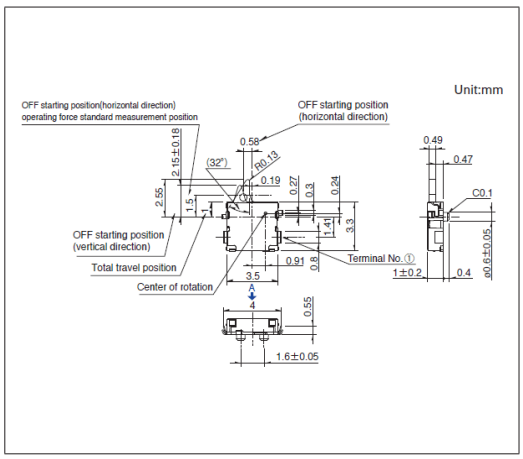
■ Circuit Diagram



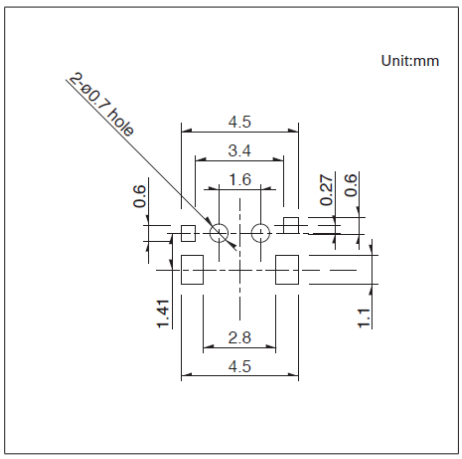
Viewed from direction A in the dimensions.

Drawing No.7

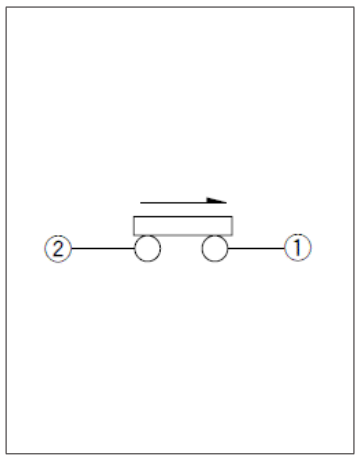
■ Dimensions



■ Land Dimensions



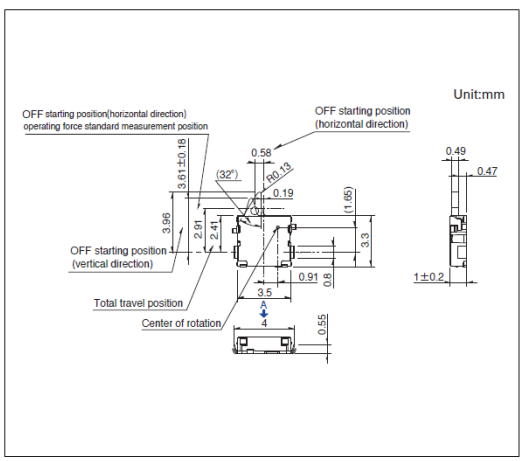
■ Circuit Diagram



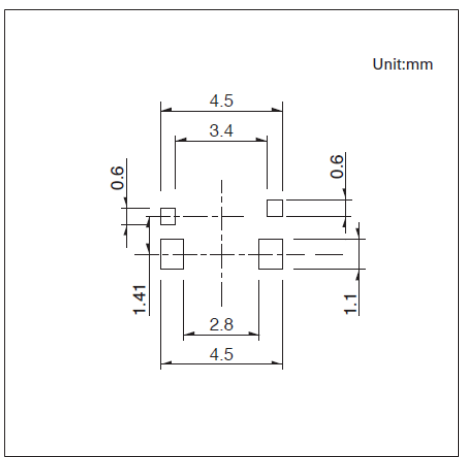
Viewed from direction A in the dimensions.

Drawing No.8

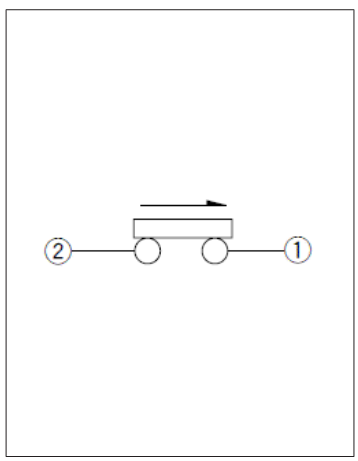
■ Dimensions



■ Land Dimensions



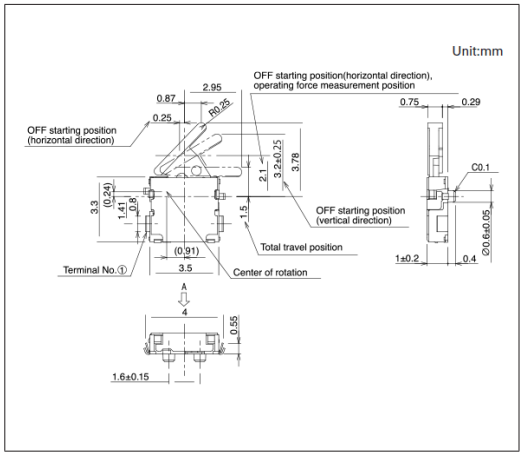
■ Circuit Diagram



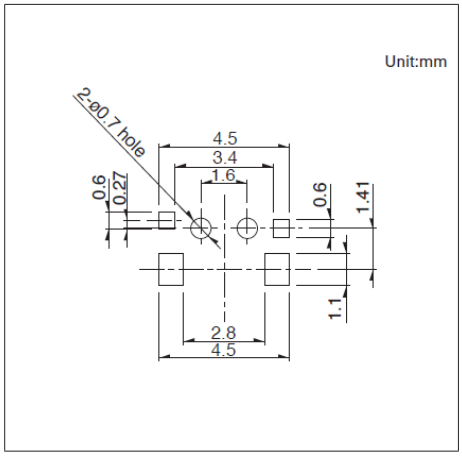
Viewed from direction A in the dimensions.

Drawing No.9

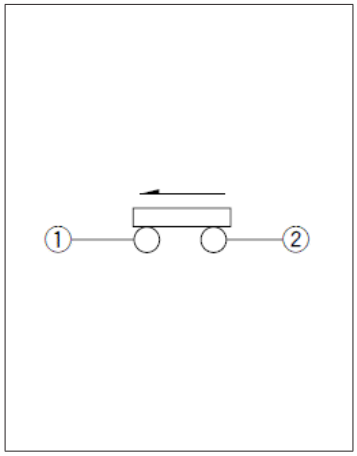
■ Dimensions



■ Land Dimensions



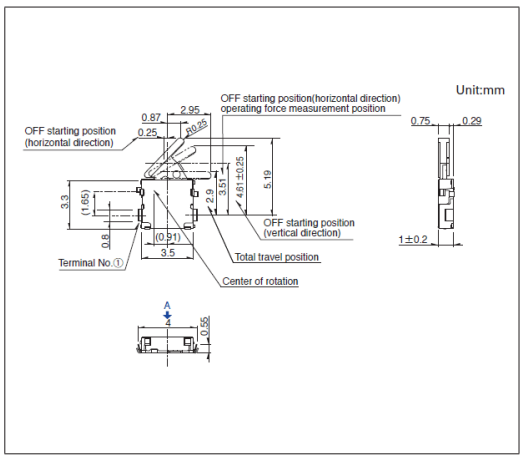
■ Circuit Diagram



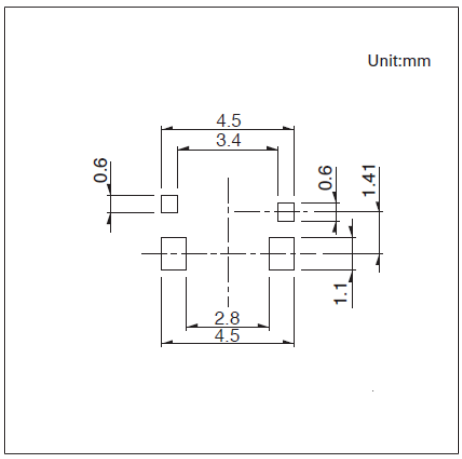
Viewed from direction A in the dimensions.

Drawing No.10

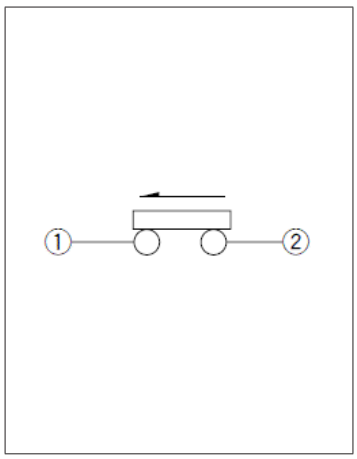
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



Viewed from direction A in the dimensions.

Low-profile Two-way Operation

SPVN Series

Thin-profile type with a body height of 1.0mm, 3.6×3.8mm.

Automotive

- Rating(max.)/(min.)(Resistive load):1mA 5V DC/50μA 3V DC
- Contact resistance(Initial/After operating life):2Ω max./5Ω max.
- Operating life without load:50,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  50,000 cycles 5Ω max.

Applications:Mobile:Smartphones, tablets,Headsets, wearables, Notebooks, peripherals
Healthcare:Healthcare equipment
Audio_TV:Visual,Audio,Cameras
Automotive:Navigation/audio systems, HVAC

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Lever length	Operating direction	Location lug	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVN110107	1	1	0.35N max.	For PC board (Reflow)	Standard	Right	With	3.6×3.8×1.0	—	—	●	1
SPVN120104	1	1	0.35N max.	For PC board (Reflow)	Standard	Right	Without	3.6×3.8×1.0	—	—	●	2
SPVN210106	1	1	0.35N max.	For PC board (Reflow)	Standard	Left	With	3.6×3.8×1.0	—	—	●	3
SPVN220103	1	1	0.35N max.	For PC board (Reflow)	Standard	Left	Without	3.6×3.8×1.0	—	—	●	4
SPVN310101	1	1	0.35N max.	For PC board (Reflow)	Long	Right	With	3.6×3.8×1.0	—	—	●	5
SPVN320101	1	1	0.35N max.	For PC board (Reflow)	Long	Right	Without	3.6×3.8×1.0	—	—	●	6
SPVN410101	1	1	0.35N max.	For PC board (Reflow)	Long	Left	With	3.6×3.8×1.0	—	—	●	7
SPVN420101	1	1	0.35N max.	For PC board (Reflow)	Long	Left	Without	3.6×3.8×1.0	—	—	●	8

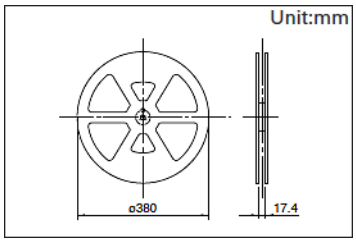
⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.
4. For the Terminal Layout, please check our website.

■ Packing Specifications

Taping

Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
5,000	10,000	20,000	16	417 x 409 x 139

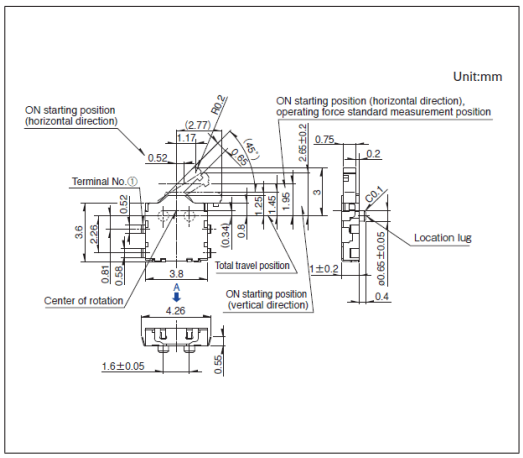


Low-profile Two-way Operation

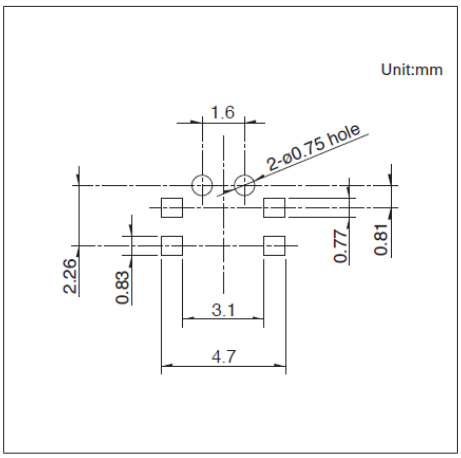
SPVN Series

Drawing No.1

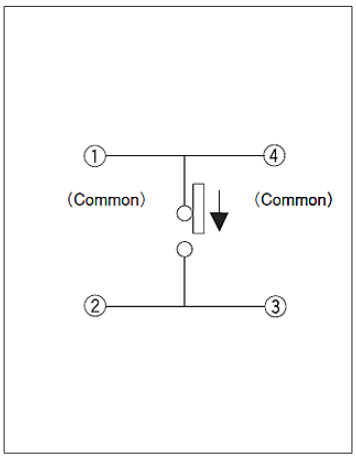
■ Dimensions



■ Land Dimensions



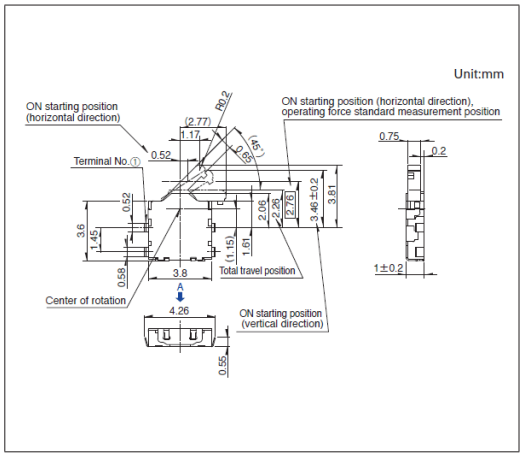
■ Circuit Diagram



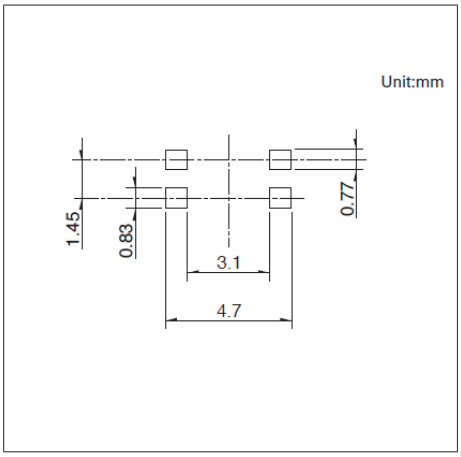
Viewed from direction A in the dimensions.

Drawing No.2

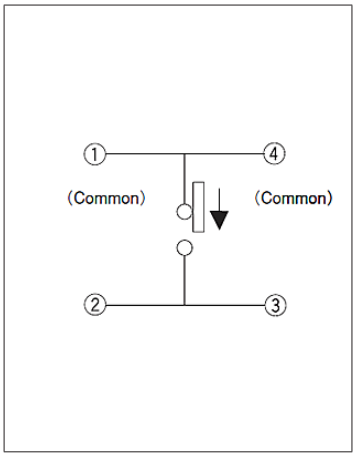
■ Dimensions



■ Land Dimensions



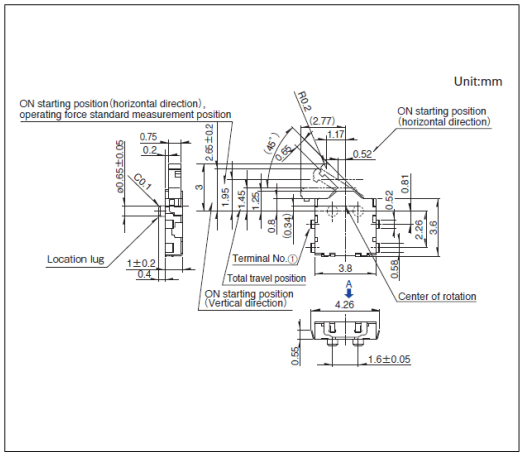
■ Circuit Diagram



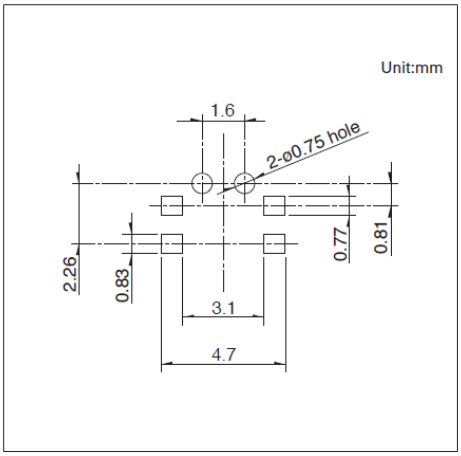
Viewed from direction A in the dimensions.

Drawing No.3

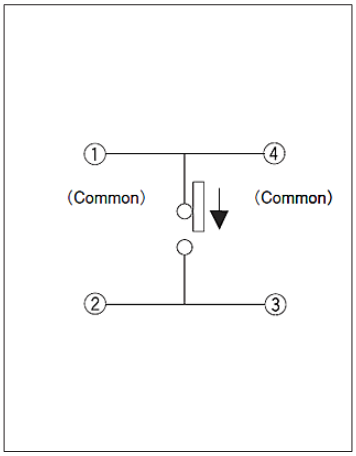
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



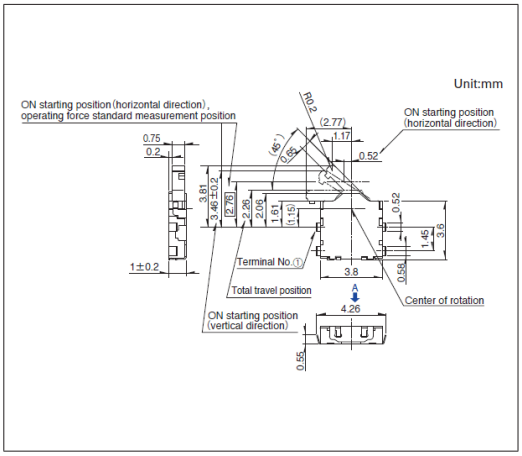
Viewed from direction A in the dimensions.

Low-profile Two-way Operation

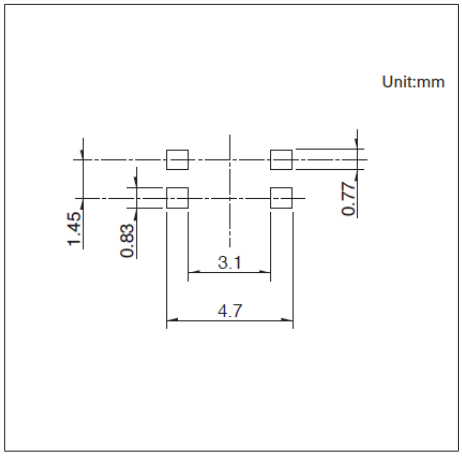
SPVN Series

Drawing No.4

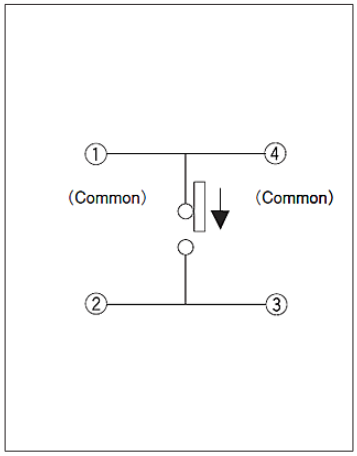
■ Dimensions



■ Land Dimensions



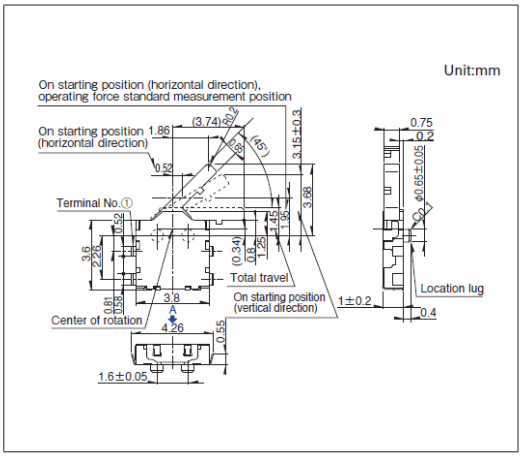
■ Circuit Diagram



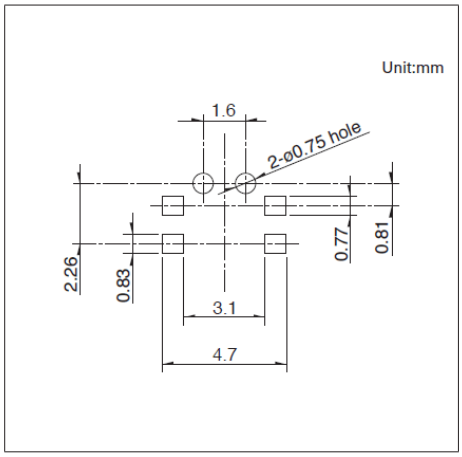
Viewed from direction A in the dimensions.

Drawing No.5

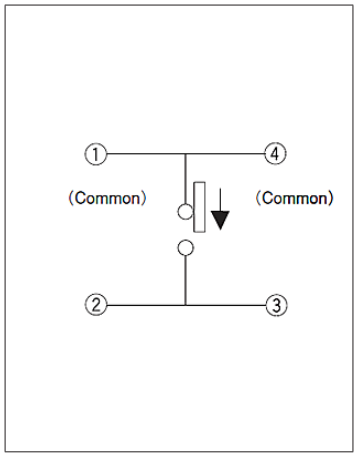
■ Dimensions



■ Land Dimensions



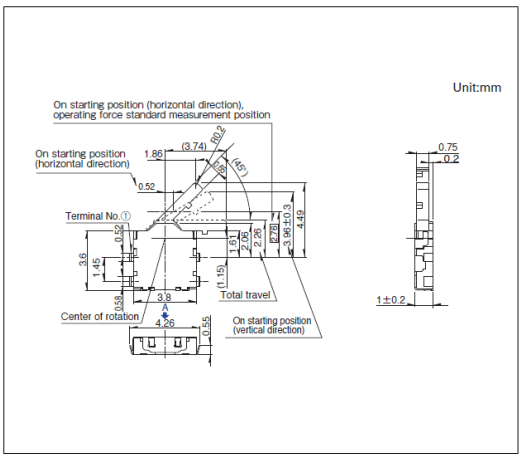
■ Circuit Diagram



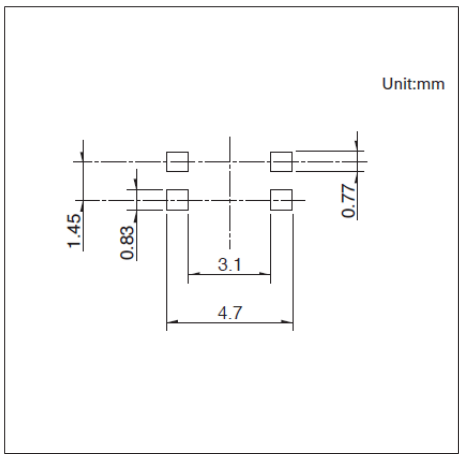
Viewed from direction A in the dimensions.

Drawing No.6

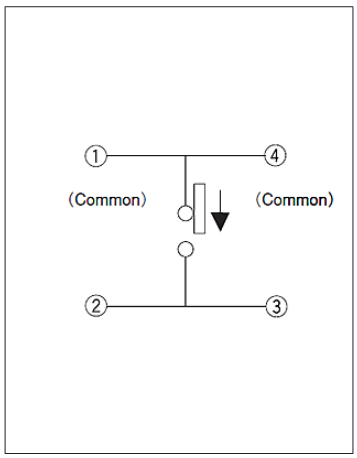
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



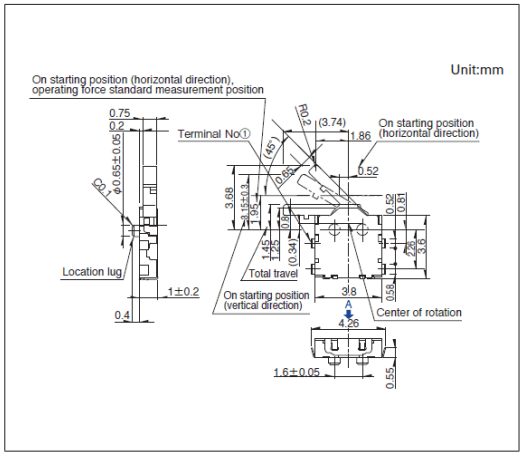
Viewed from direction A in the dimensions.

Low-profile Two-way Operation

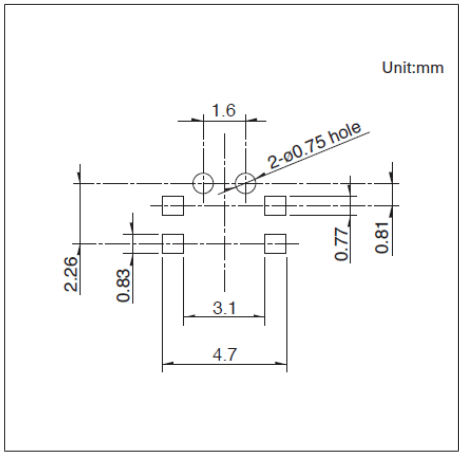
SPVN Series

Drawing No.7

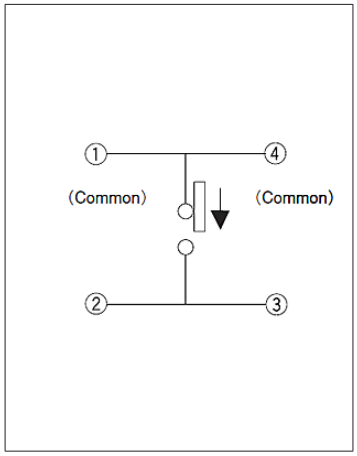
■ Dimensions



■ Land Dimensions



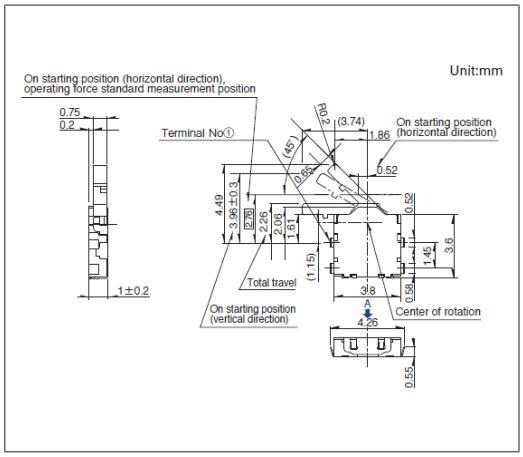
■ Circuit Diagram



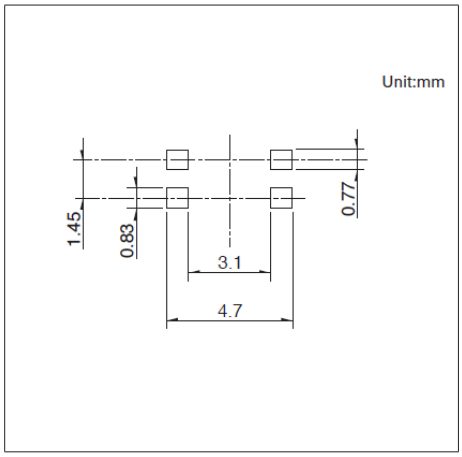
Viewed from direction A in the dimensions.

Drawing No.8

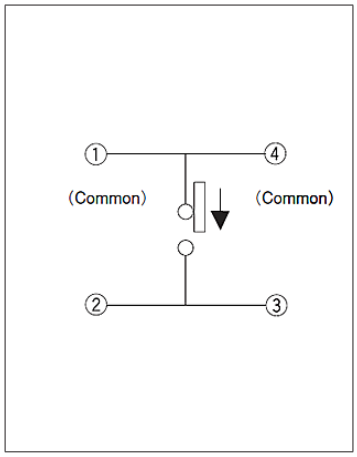
■ Dimensions



■ Land Dimensions



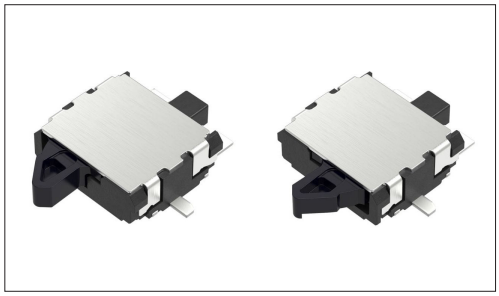
■ Circuit Diagram



Viewed from direction A in the dimensions.

Two-way Operation
SPVT Series

Compact type with a body height of 1.9mm, 4.7×5.6mm, capable of two-direction detection.



Automotive

- Rating(max.)/(min.)(Resistive load):50mA 20V DC/100μA 3V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:100,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  100,000 cycles 1Ω max.

Applications:Mobile:Smartphones, tablets,Notebooks, peripherals
Energy_Industrial:Robots, drones,Industrial equipment, Converters
Game:Home handheld consoles,Virtual/augmented reality
Healthcare:Healthcare equipment,Nursing care equipment, Analysis, test equipment
Infrastructure:Smart meters,Power distribution facilities, Data servers,Communications cables
Home:Major home appliances,Distribution boards, Storage batteries,Office equipment
Audio_TV:Visual,Audio,Pro audio,Cameras
Automotive:Navigation/audio systems, HVAC

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Operating direction	Location lug	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVT110106	1	1	0.4N max.	For PC board (Reflow)	Right	With	4.7×5.6×1.9	—	—	●	1
SPVT130102	1	1	0.4N max.	For PC board (Reflow)	Right	With	4.7×5.6×1.9	—	—	●	2
SPVT120103	1	1	0.4N max.	For PC board (Reflow)	Right	With	4.7×5.6×1.9	—	—	●	3
SPVT140104	1	1	0.4N max.	For PC board (Reflow)	Right	With	4.7×5.6×1.9	—	—	●	4
SPVT110202	1	1	0.4N max.	For PC board (Reflow)	Right	Without	4.7×5.6×1.9	—	—	●	5
SPVT130202	1	1	0.4N max.	For PC board (Reflow)	Right	Without	4.7×5.6×1.9	—	—	●	6
SPVT120202	1	1	0.4N max.	For PC board (Reflow)	Right	Without	4.7×5.6×1.9	—	—	●	7
SPVT210104	1	1	0.4N max.	For PC board (Reflow)	Left	With	4.7×5.6×1.9	—	—	●	8
SPVT230103	1	1	0.4N max.	For PC board (Reflow)	Left	With	4.7×5.6×1.9	—	—	●	9
SPVT220103	1	1	0.4N max.	For PC board (Reflow)	Left	With	4.7×5.6×1.9	—	—	●	10
SPVT240103	1	1	0.4N max.	For PC board (Reflow)	Left	With	4.7×5.6×1.9	—	—	●	11
SPVT210202	1	1	0.4N max.	For PC board (Reflow)	Left	Without	4.7×5.6×1.9	—	—	●	12
SPVT230202	1	1	0.4N max.	For PC board (Reflow)	Left	Without	4.7×5.6×1.9	—	—	●	13
SPVT220202	1	1	0.4N max.	For PC board (Reflow)	Left	Without	4.7×5.6×1.9	—	—	●	14

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders for taping products per minimum order unit (1 reel or a case).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.
4. For the Terminal Layout, please check our website.

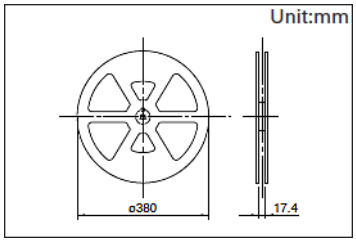
Two-way Operation

SPVT Series

■ Packing Specifications

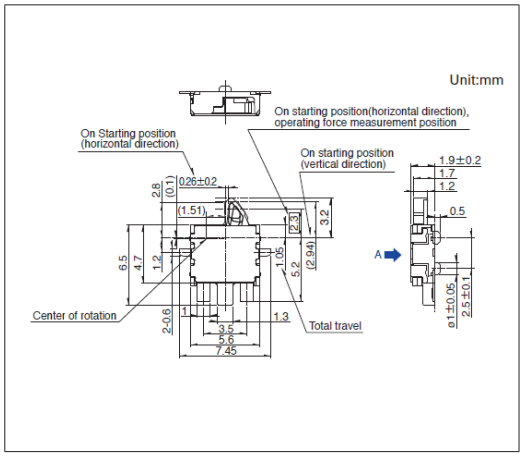
Taping

Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
2,500	5,000	10,000	16	417 x 409 x 139

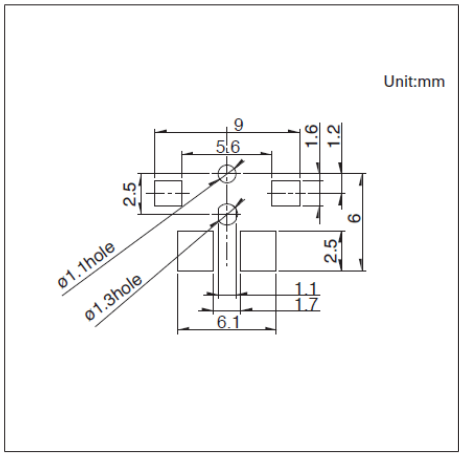


Drawing No.1

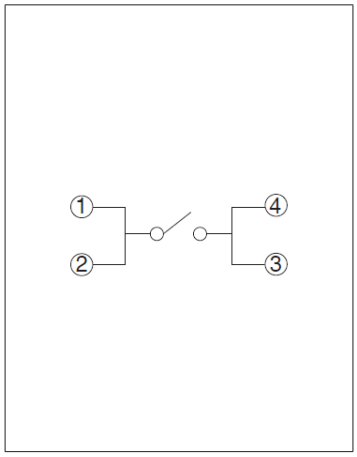
■ Dimensions



■ Land Dimensions



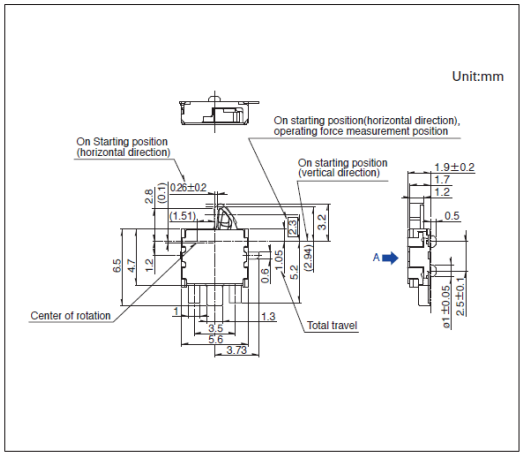
■ Circuit Diagram



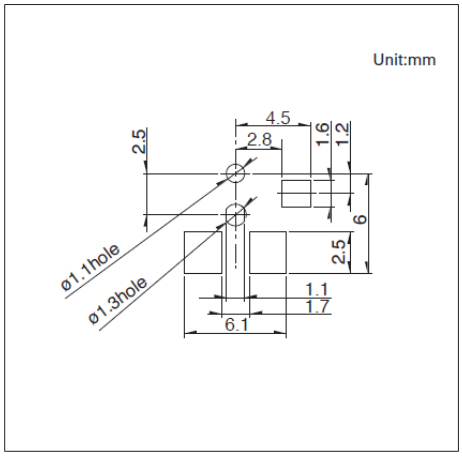
Viewed from direction A in the dimensions.

Drawing No.2

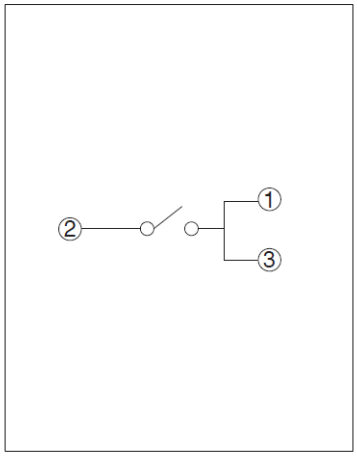
■ Dimensions



■ Land Dimensions



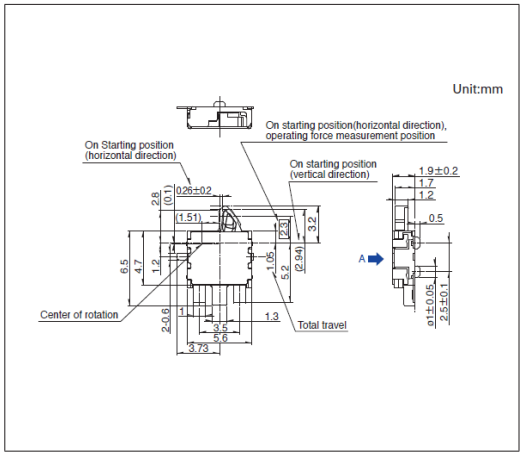
■ Circuit Diagram



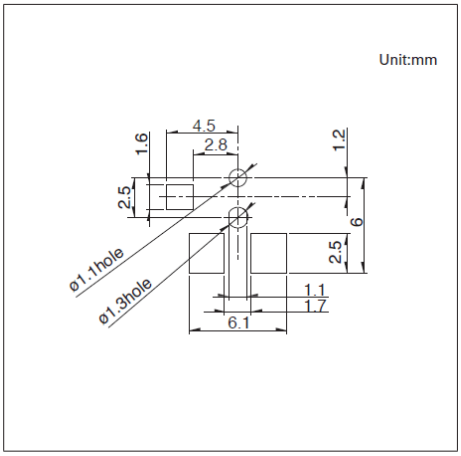
Viewed from direction A in the dimensions.

Drawing No.3

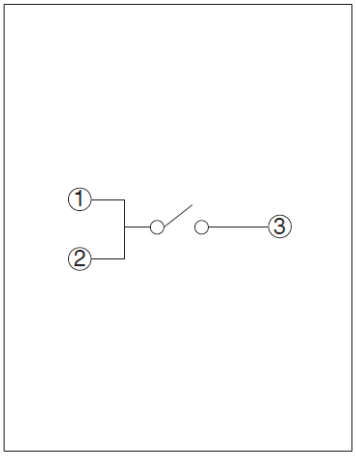
■ Dimensions



■ Land Dimensions



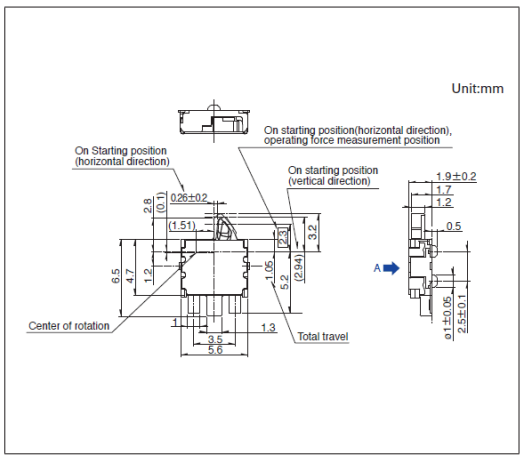
■ Circuit Diagram



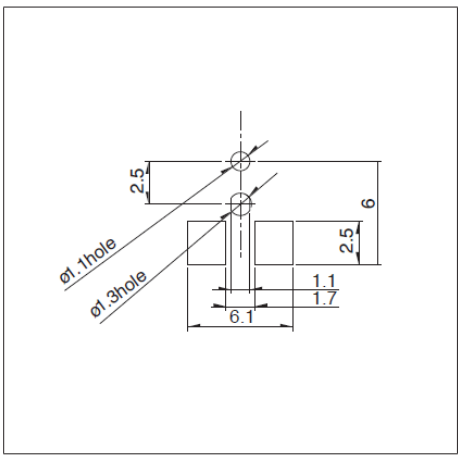
Viewed from direction A in the dimensions.

Drawing No.4

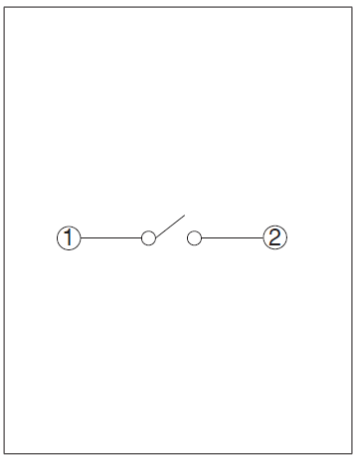
■ Dimensions



■ Land Dimensions



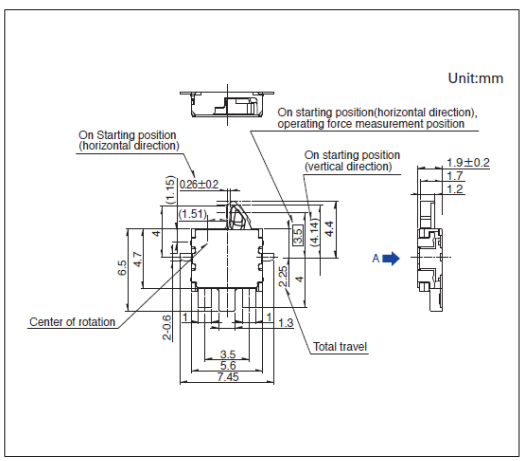
■ Circuit Diagram



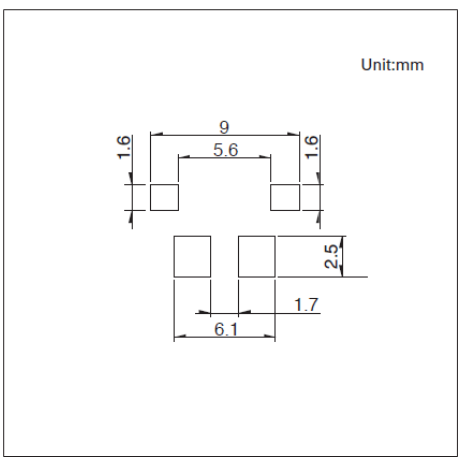
Viewed from direction A in the dimensions.

Drawing No.5

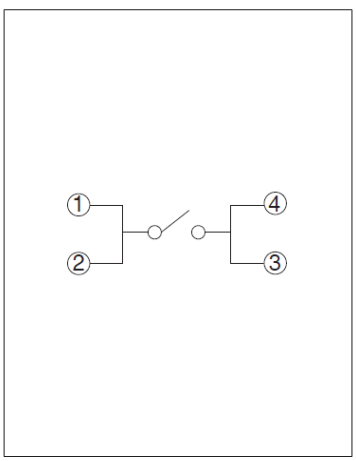
■ Dimensions



■ Land Dimensions



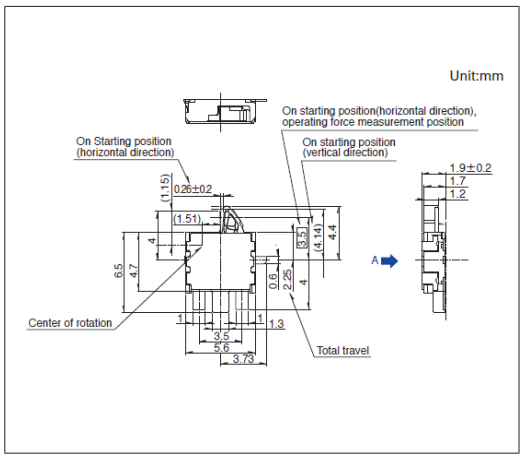
■ Circuit Diagram



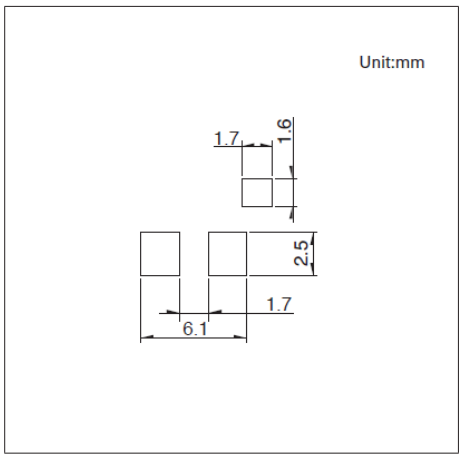
Viewed from direction A in the dimensions.

Drawing No.6

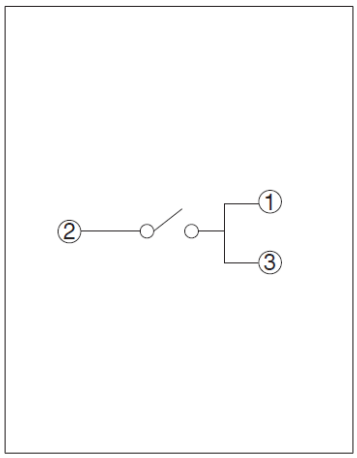
■ Dimensions



■ Land Dimensions



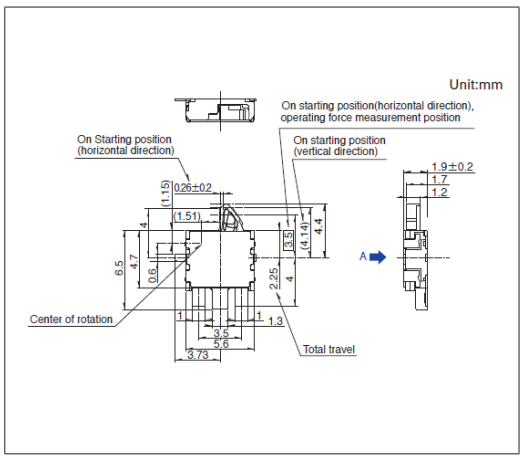
■ Circuit Diagram



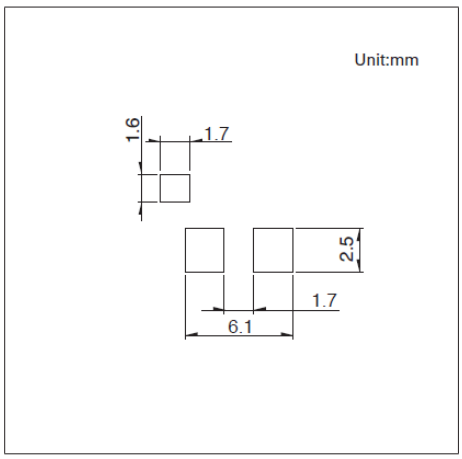
Viewed from direction A in the dimensions.

Drawing No.7

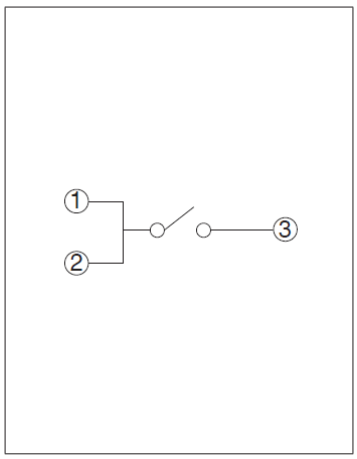
■ Dimensions



■ Land Dimensions



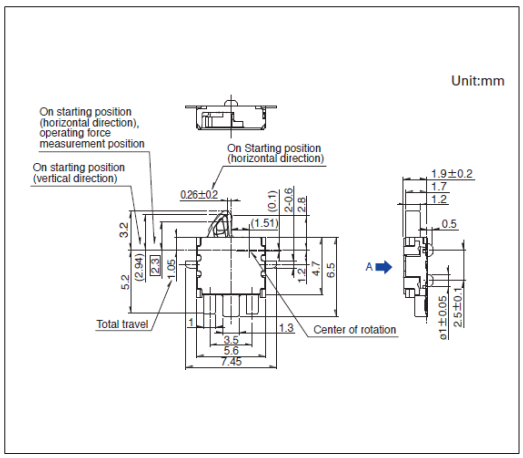
■ Circuit Diagram



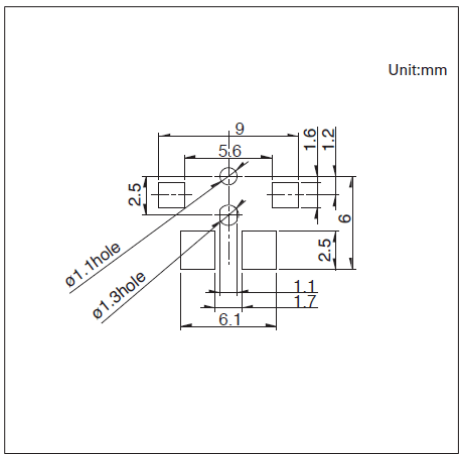
Viewed from direction A in the dimensions.

Drawing No.8

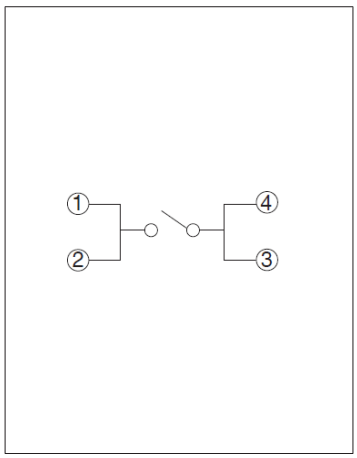
■ Dimensions



■ Land Dimensions



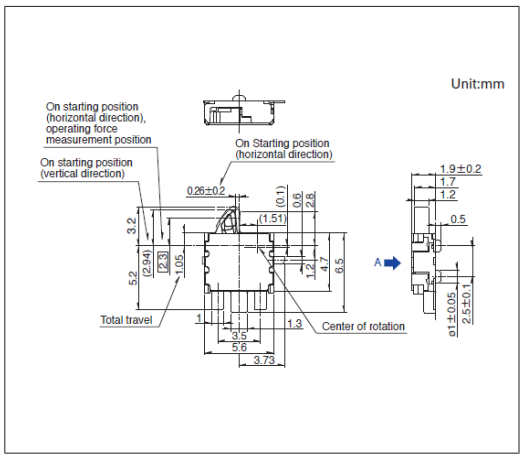
■ Circuit Diagram



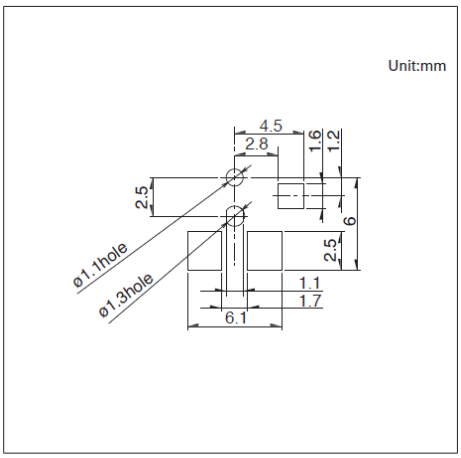
Viewed from direction A in the dimensions.

Drawing No.9

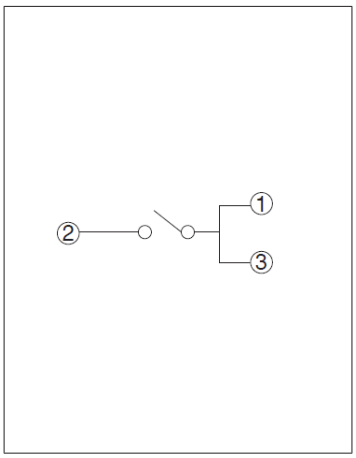
■ Dimensions



■ Land Dimensions



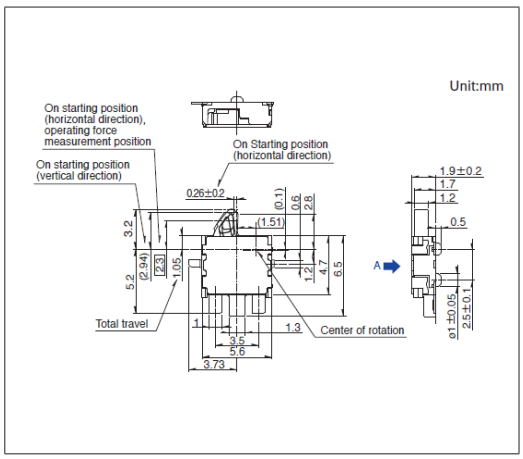
■ Circuit Diagram



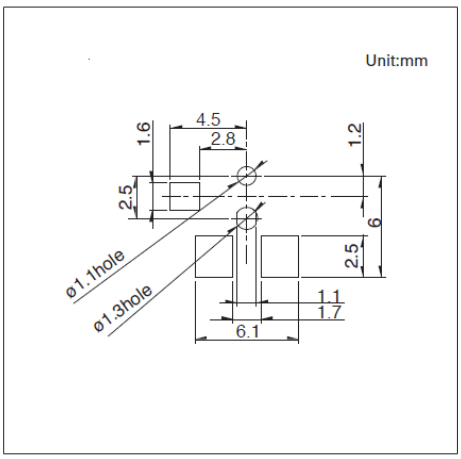
Viewed from direction A in the dimensions.

Drawing No.10

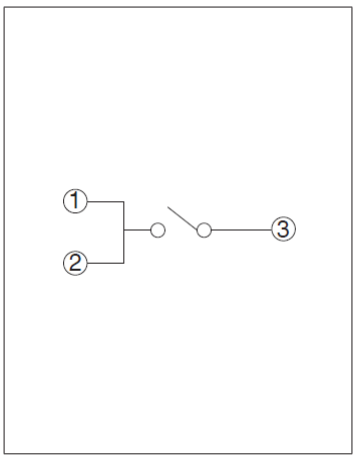
■ Dimensions



■ Land Dimensions



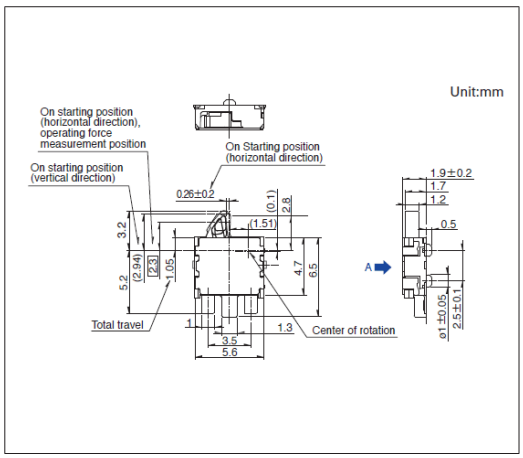
■ Circuit Diagram



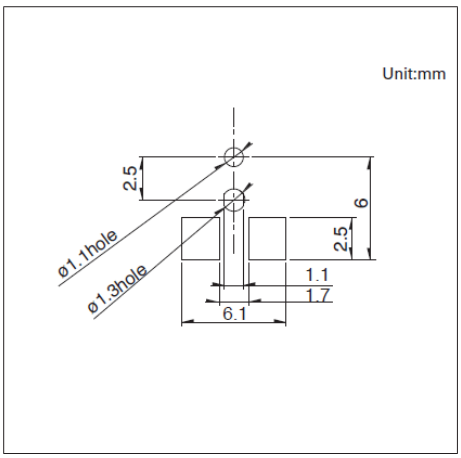
Viewed from direction A in the dimensions.

Drawing No.11

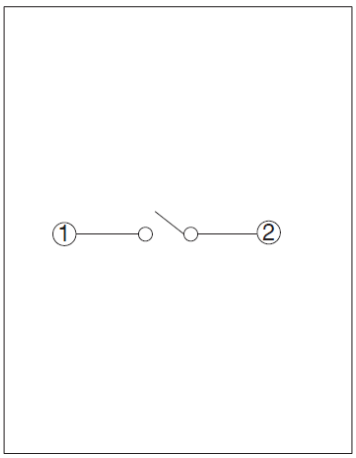
■ Dimensions



■ Land Dimensions



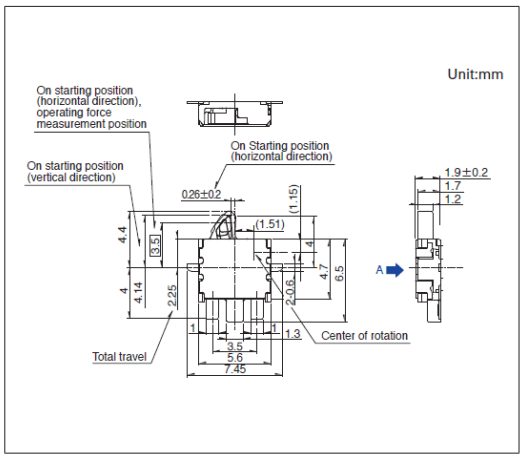
■ Circuit Diagram



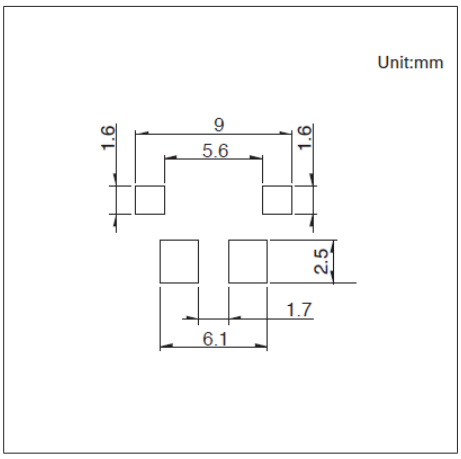
Viewed from direction A in the dimensions.

Drawing No.12

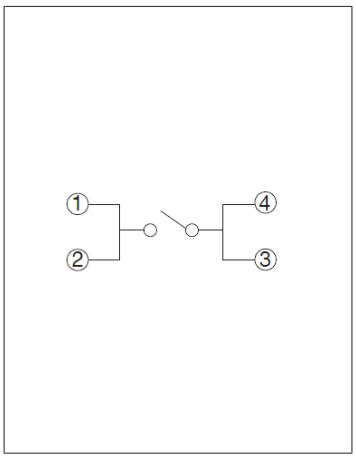
■ Dimensions



■ Land Dimensions



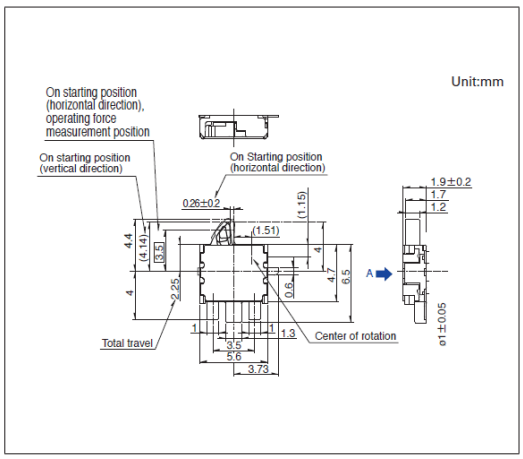
■ Circuit Diagram



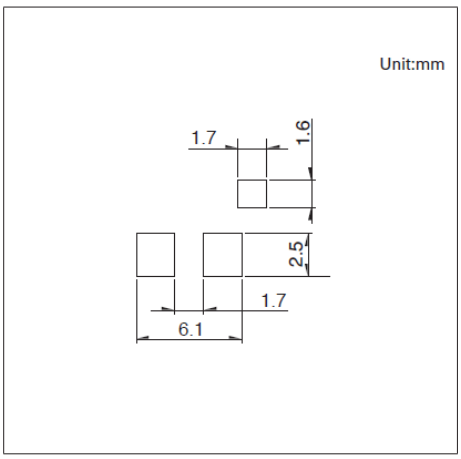
Viewed from direction A in the dimensions.

Drawing No.13

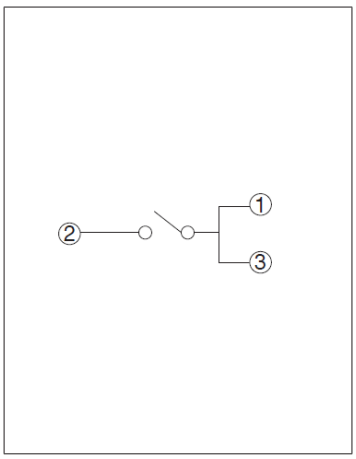
■ Dimensions



■ Land Dimensions



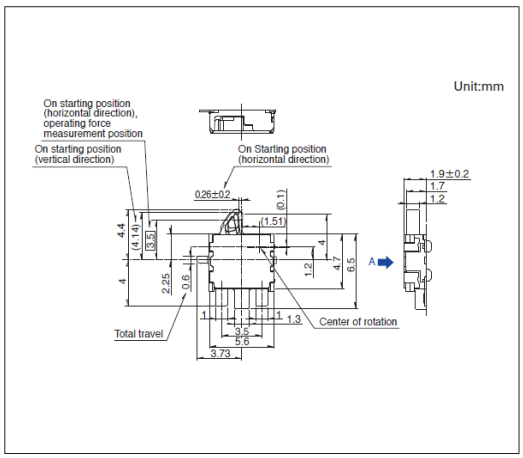
■ Circuit Diagram



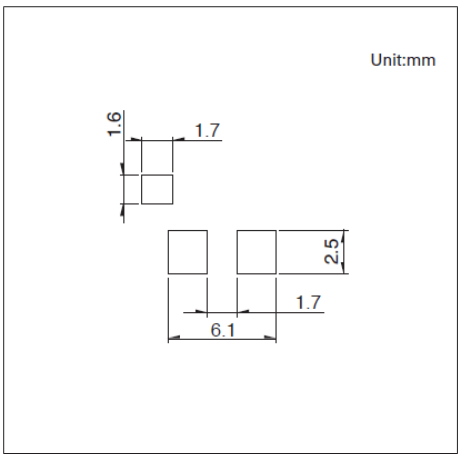
Viewed from direction A in the dimensions.

Drawing No.14

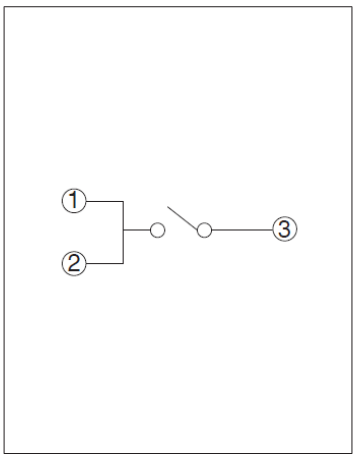
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



Viewed from direction A in the dimensions.

Compact Two-way Operation
SPVM Series

Compact type with a body height of 1.5mm, 3.5×2.8mm, pressable from two directions, vertical and horizontal.

Automotive

- Rating(max.)/(min.)(Resistive load):1mA 5V DC/50μA 3V DC
- Contact resistance(Initial/After operating life):2Ω max./5Ω max.
- Operating life without load:50,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  50,000 cycles 5Ω max.

Applications:Mobile:Smartphones, tablets,Notebooks, peripherals
Healthcare:Healthcare equipment
Audio_TV:Cameras
Automotive:Navigation/audio systems, HVAC

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Location lug	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVM110100	1	1	0.4N max.	For PC board (Reflow)	With	2.8×3.5×1.5	—	—	●	1
SPVM110200	1	1	0.4N max.	For PC board (Reflow)	Without	2.8×3.5×1.5	—	—	●	2

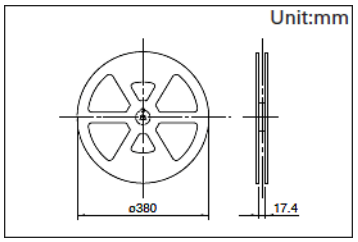
Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.
4. For the Terminal Layout, please check our website.

■ Packing Specifications

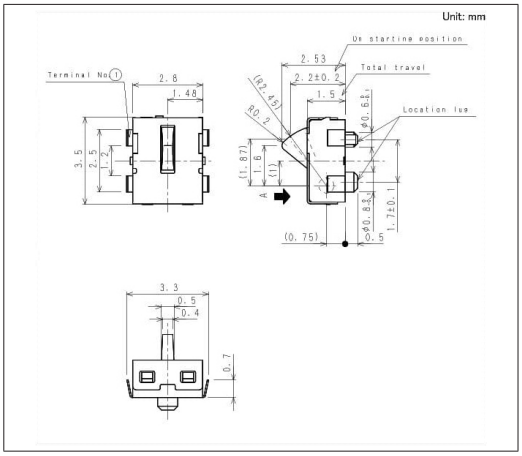
Taping

Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
3,000	6,000	12,000	16	417 x 409 x 139

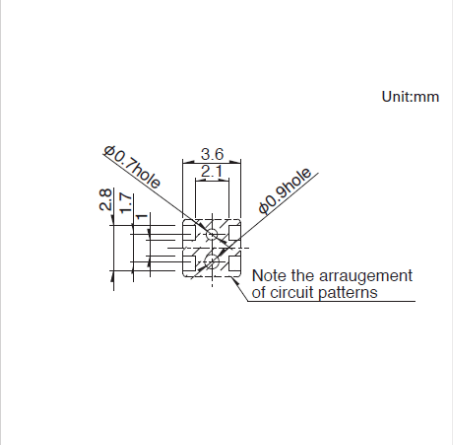


Drawing No.1

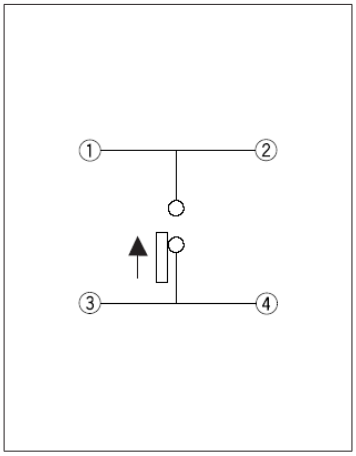
■ Dimensions



■ Land Dimensions



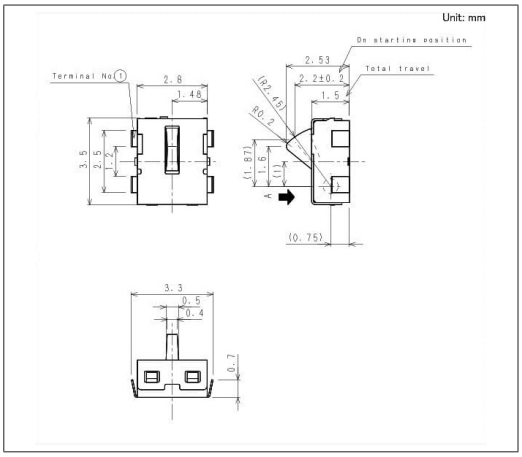
■ Circuit Diagram



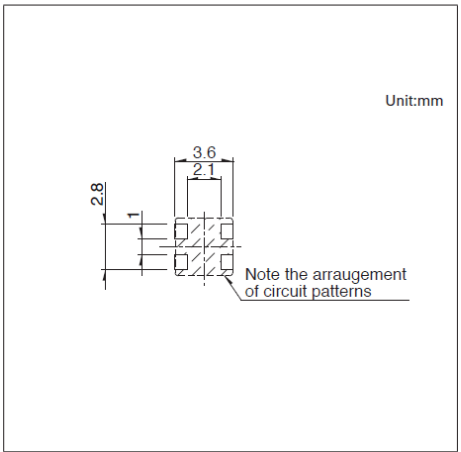
Viewed from direction A in the dimensions.

Drawing No.2

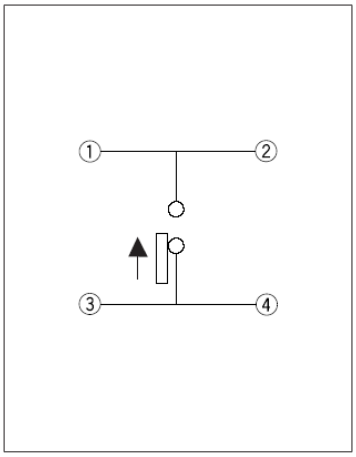
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



Viewed from direction A in the dimensions.

Low-profile Lever

SPVR Series

Thin-profile long-stroke type with a body height of 1.2mm, 4.2×3.6mm.

Automotive

- Rating(max.)/(min.)(Resistive load):1mA 5V DC/100μA 3V DC
- Contact resistance(Initial/After operating life):3Ω max./5Ω max.
- Operating life without load:50,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  50,000 cycles 5Ω max.

Applications:Mobile:Smartphones, tablets,Notebooks, peripherals
Healthcare:Healthcare equipment
Audio_TV:Cameras
Automotive:Navigation/audio systems, HVAC

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Total travel position	Location lug	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVR110102	1	1	0.35N max.	For PC board (Reflow)	1.93	With	3.6×4.2×1.2	—	—	●	1
SPVR120102	1	1	0.35N max.	For PC board (Reflow)	1.93	Without	3.6×4.2×1.2	—	—	●	2

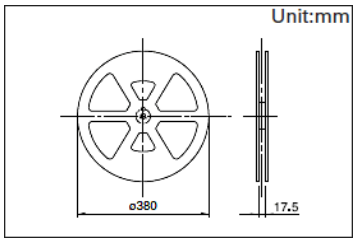
Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.
4. For the Terminal Layout, please check our website.

■ Packing Specifications

Taping

Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
2,500	5,000	10,000	16	417 x 409 x 139

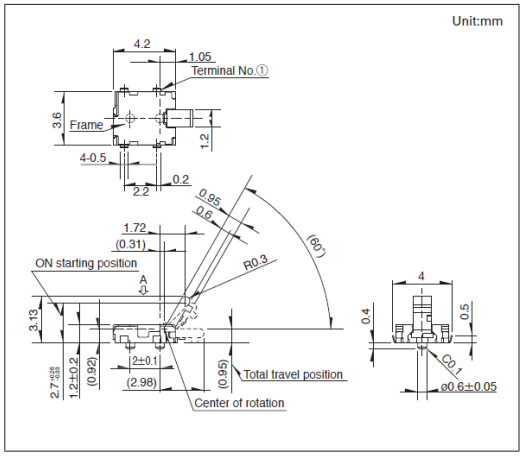


Low-profile Lever

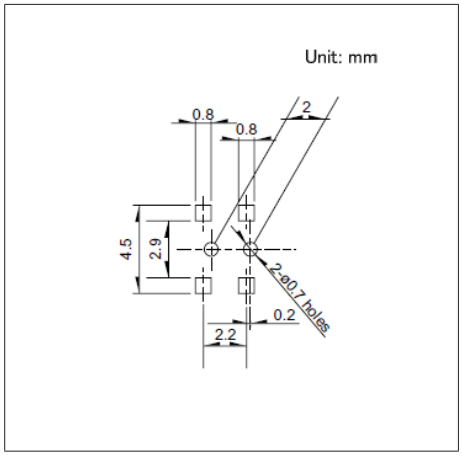
SPVR Series

Drawing No.1

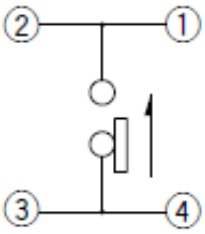
■ Dimensions



■ Land Dimensions



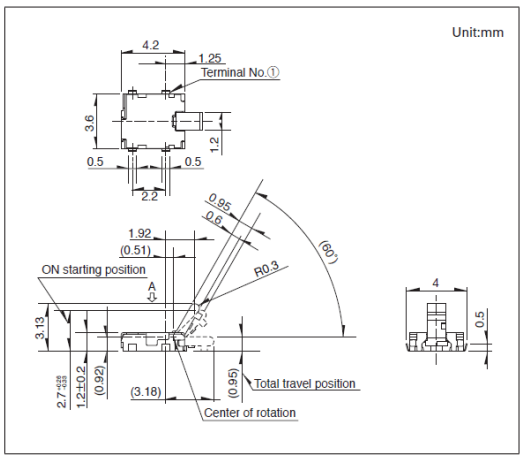
■ Circuit Diagram



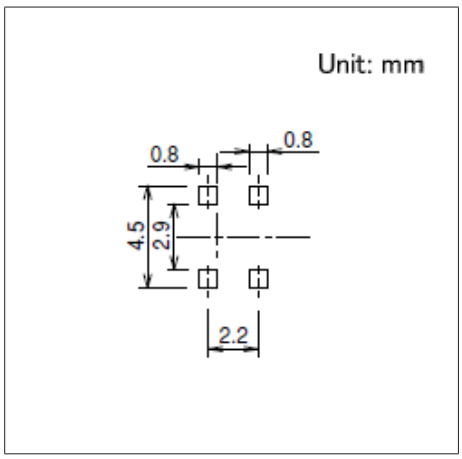
Viewed from direction A in the dimensions.

Drawing No.2

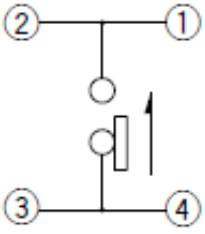
■ Dimensions



■ Land Dimensions



■ Circuit Diagram

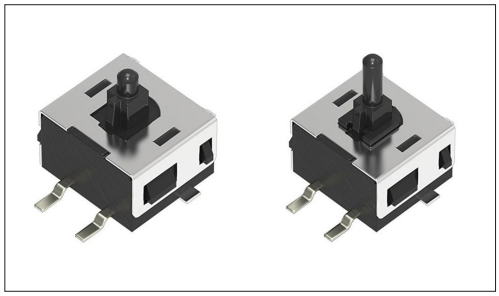


Viewed from direction A in the dimensions.

Compact One-way Operation

SPVE Series

Industry's smallest class type with dimensions of 3.4×3.0mm.



- Rating(max.)/(min.)(Resistive load):0.1A 30V DC/50μA 3V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:50,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  50,000 cycles 1Ω max.

Applications:Mobile:Smartphones, tablets,Notebooks, peripherals
Audio_TV:Cameras

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Slider height	ON start position	Total travel position	Location lug	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVE110100	1	1	0.3N max.	For PC board (Reflow)	3.8	3.5	2.5	Without	3.4×3.0×2.3	—	—	—	1
SPVE110600	1	1	0.3N max.	For PC board (Reflow)	3.8	3.5	2.5	With	3.4×3.0×2.3	—	—	—	2
SPVE110401	1	1	0.3N max.	For PC board (Reflow)	4.1	3.8	2.9	Without	3.4×3.0×2.3	—	—	—	3
SPVE110801	1	1	0.3N max.	For PC board (Reflow)	4.1	3.8	2.9	With	3.4×3.0×2.3	—	—	—	4
SPVE110200	1	1	0.3N max.	For PC board (Reflow)	4.8	4.5	3.6	Without	3.4×3.0×2.3	—	—	—	5
SPVE110900	1	1	0.3N max.	For PC board (Reflow)	4.8	4.5	3.6	With	3.4×3.0×2.3	—	—	—	6
SPVE111300	1	1	0.3N max.	For PC board (Reflow)	5.2	4.9	4.0	With	3.4×3.0×2.3	—	—	—	7
SPVE111200	1	1	0.3N max.	For PC board (Reflow)	5.5	5.2	4.3	With	3.4×3.0×2.3	—	—	—	8
SPVE210100	1	1	0.3N max.	For PC board (Reflow)	3.3	3.0	2.0	—	3.4×4.0×1.8	—	—	—	9

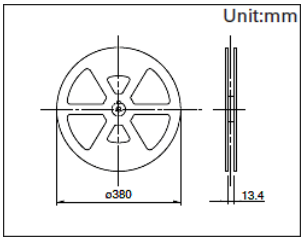
⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders for taping products per minimum order unit (1 reel or a case).
3. For the Terminal Layout, please check our website.

■ Packing Specifications

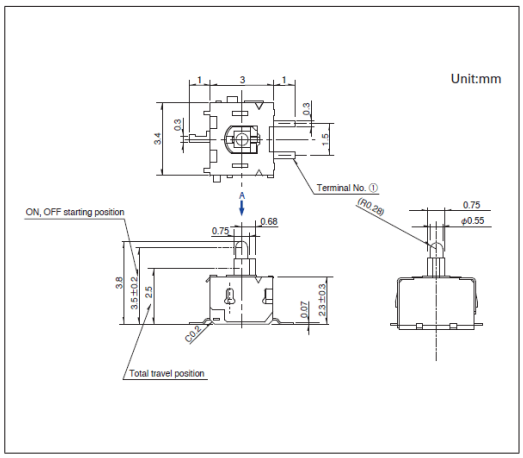
Taping

Products No.	Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case / Japan	1 case / export packing		
SPVE110100 SPVE110600 SPVE110401 SPVE110801 SPVE210100	2,800	5,600	22,400	12	406×406×190
SPVE110200 SPVE110900	2,200	4,400	17,600	12	406×406×190
SPVE111300 SPVE111200	2,000	4,000	16,000	12	406×406×190

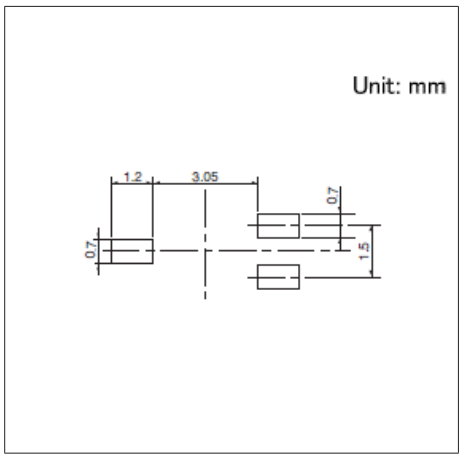


Drawing No.1

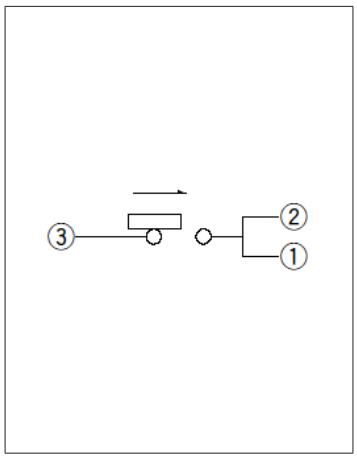
■ Dimensions



■ Land Dimensions



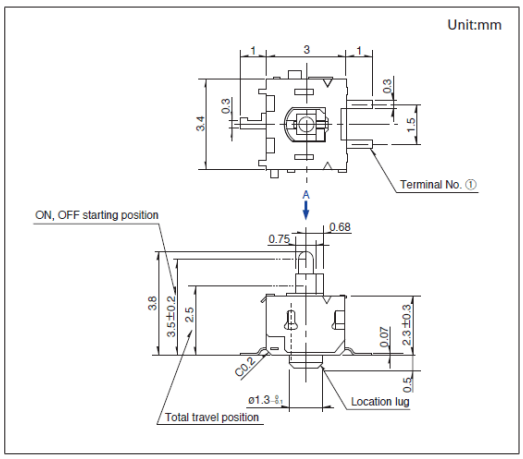
■ Circuit Diagram



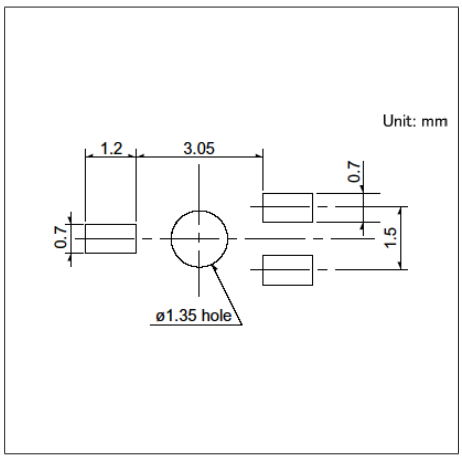
Viewed from direction A in the dimensions.

Drawing No.2

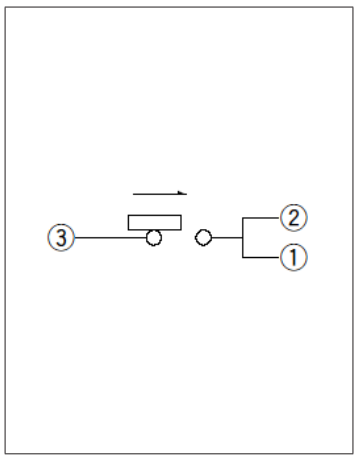
■ Dimensions



■ Land Dimensions



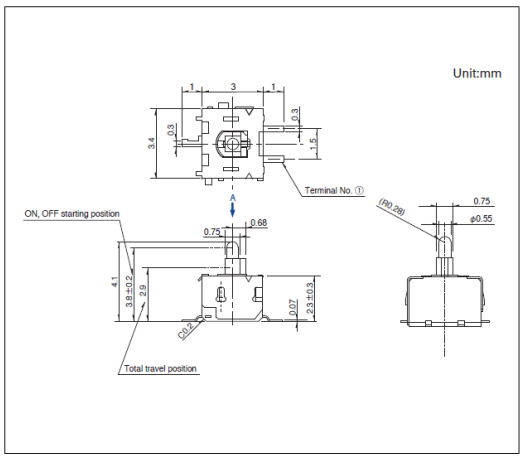
■ Circuit Diagram



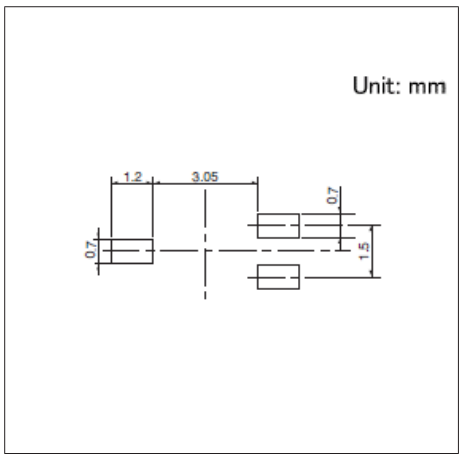
Viewed from direction A in the dimensions.

Drawing No.3

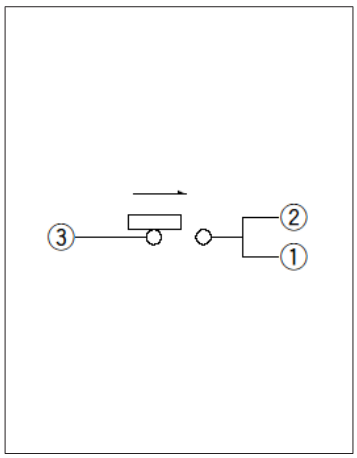
■ Dimensions



■ Land Dimensions



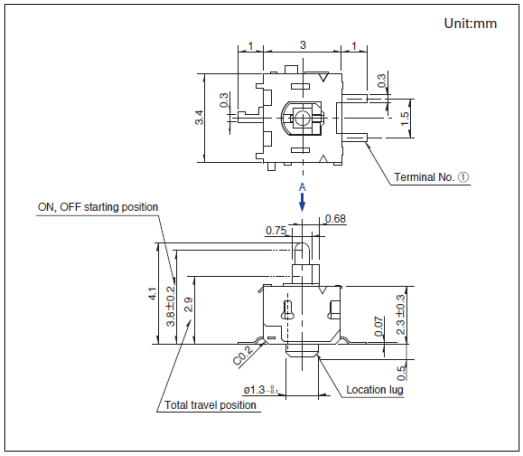
■ Circuit Diagram



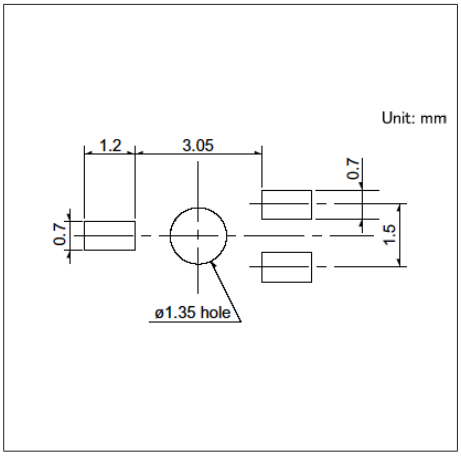
Viewed from direction A in the dimensions.

Drawing No.4

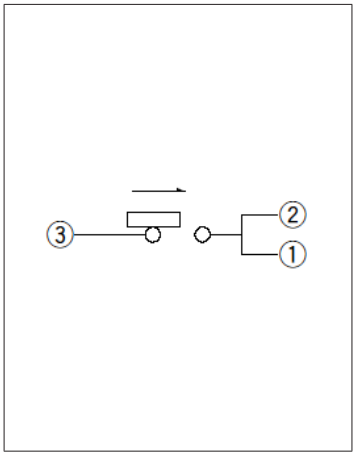
■ Dimensions



■ Land Dimensions



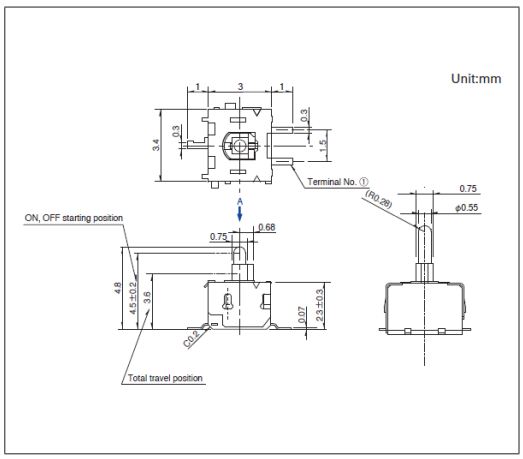
■ Circuit Diagram



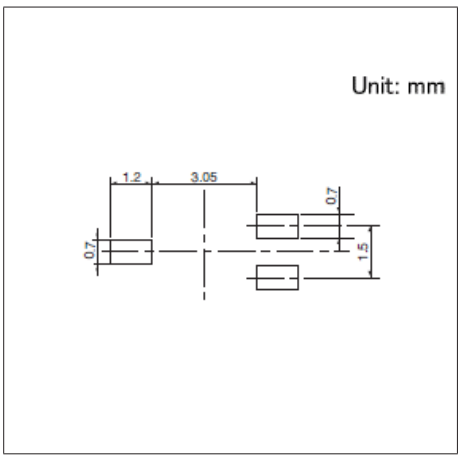
Viewed from direction A in the dimensions.

Drawing No.5

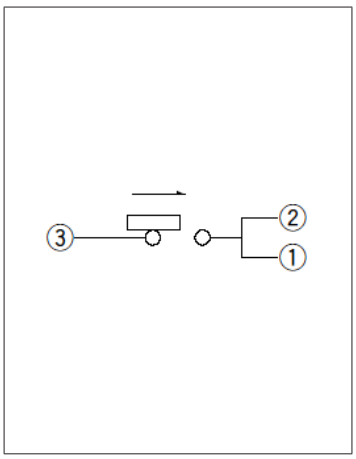
■ Dimensions



■ Land Dimensions



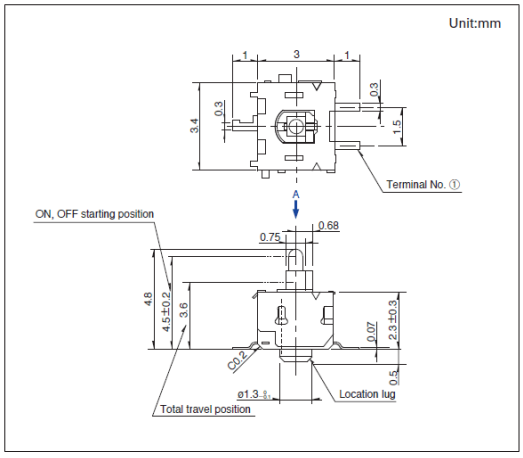
■ Circuit Diagram



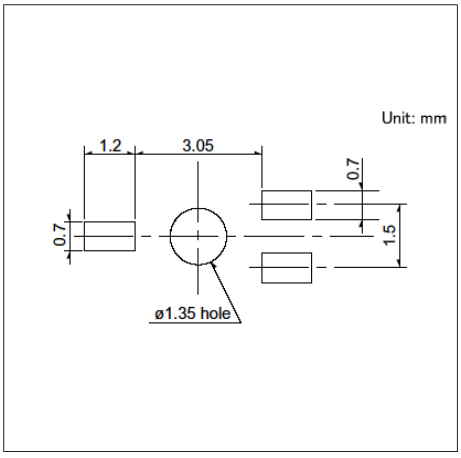
Viewed from direction A in the dimensions.

Drawing No.6

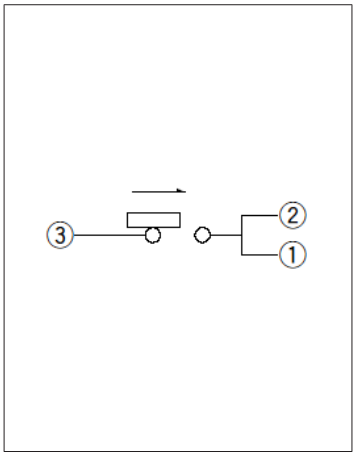
■ Dimensions



■ Land Dimensions



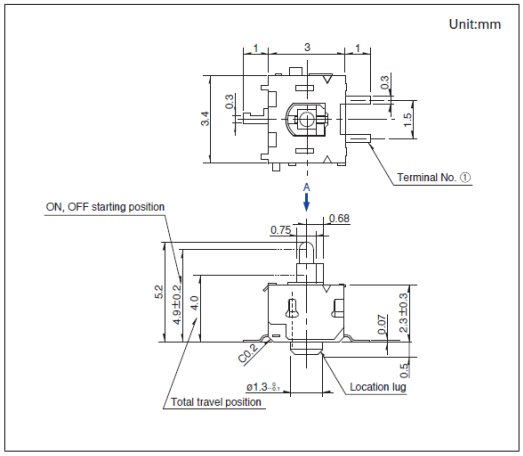
■ Circuit Diagram



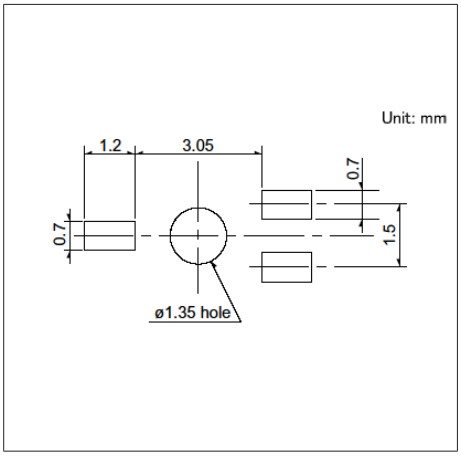
Viewed from direction A in the dimensions.

Drawing No.7

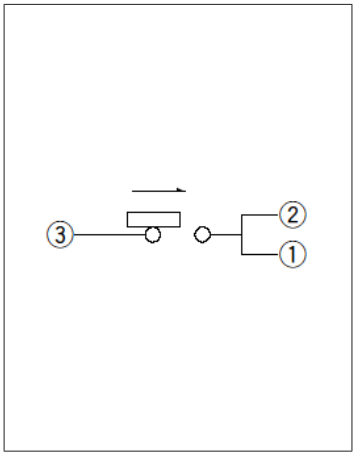
■ Dimensions



■ Land Dimensions



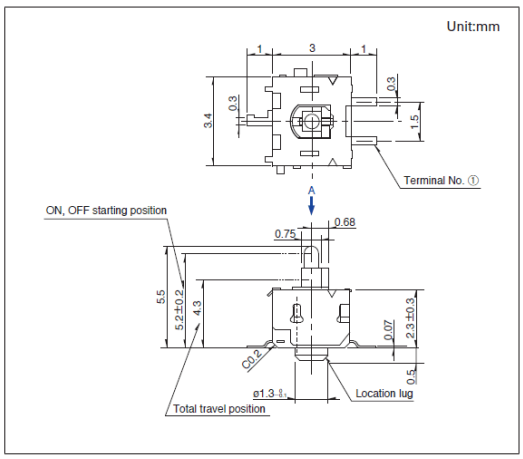
■ Circuit Diagram



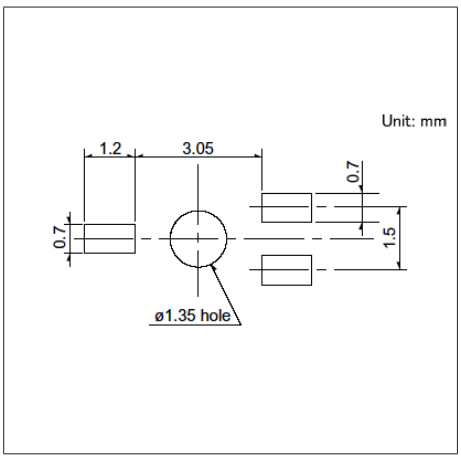
Viewed from direction A in the dimensions.

Drawing No.8

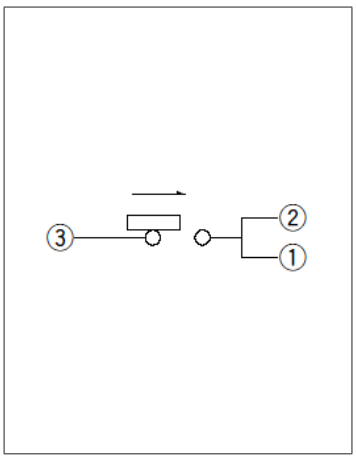
■ Dimensions



■ Land Dimensions



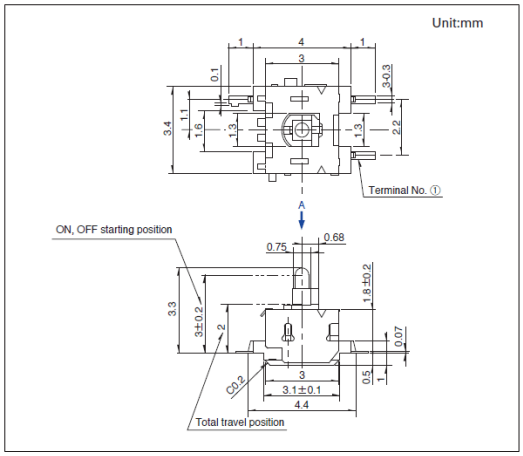
■ Circuit Diagram



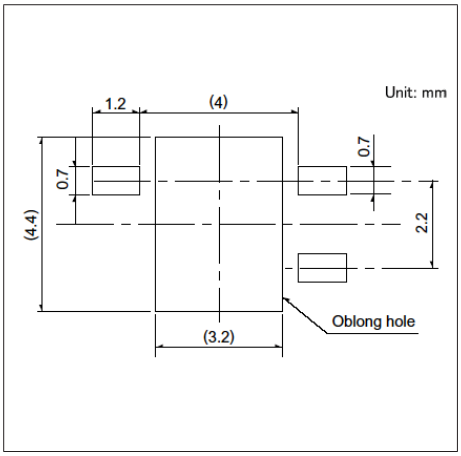
Viewed from direction A in the dimensions.

Drawing No.9

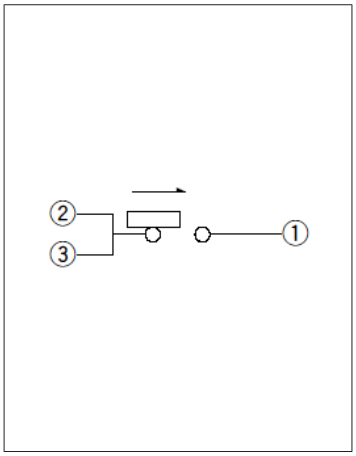
■ Dimensions



■ Land Dimensions



■ Circuit Diagram

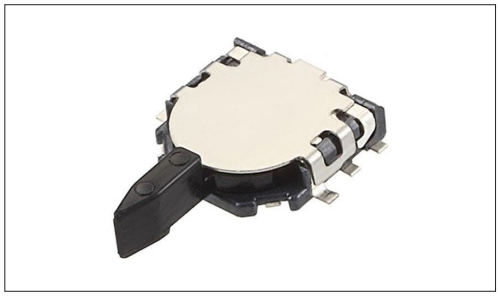


Viewed from direction A in the dimensions.

Compact Two-way, Two-step Detection

SSCQ Series

Two-stage detection type, 30% smaller than conventional products, among the smallest in the industry.



- Rating(max.)/(min.)(Resistive load):1mA 5V DC/50μA 3V DC
- Contact resistance(Initial/After operating life):2Ω max./5Ω max.
- Operating life without load:50,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  50,000 cycles 5Ω max.

Applications:Audio_TV:Cameras

■ Product List

Products No.	Poles	Positions	Operating force	Total travel position	Location lug	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SSCQ110100	1	Two-direction, 2-positions each side	0.35N max.	3.73	With	3.8×3.6×0.9	—	—	—	1
SSCQ120102	1	Two-direction, 2-positions each side	0.35N max.	3.73	Without	3.8×3.6×0.9	—	—	—	2

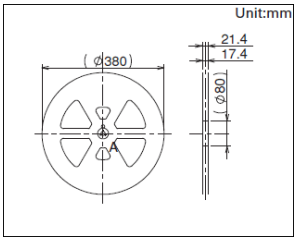
⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders for taping products per minimum order unit (1 reel or a case).
3. For the Terminal Layout, please check our website.

■ Packing Specifications

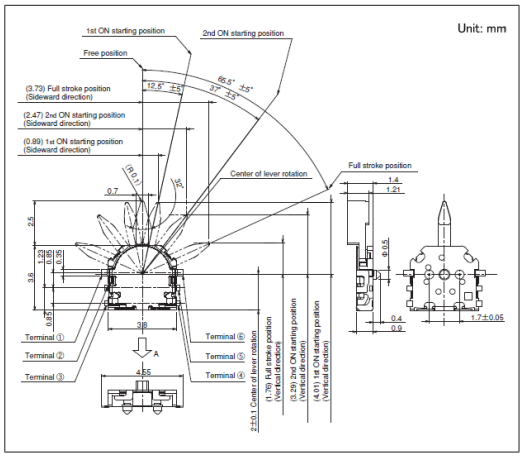
Taping

Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
4,000	8,000	16,000	16	417 x 409 x 139

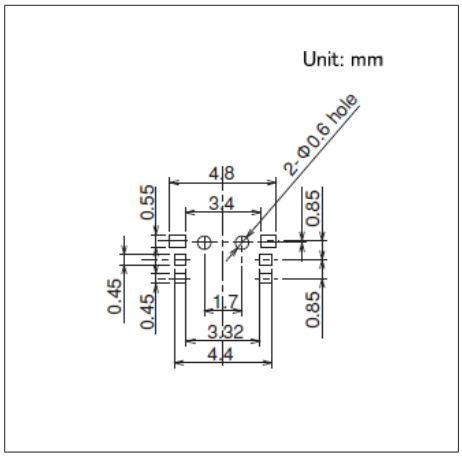


Drawing No.1

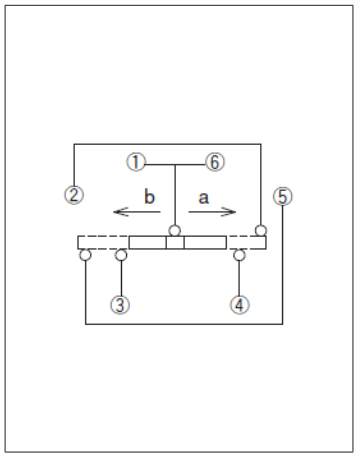
■ Dimensions



■ Land Dimensions



■ Circuit Diagram

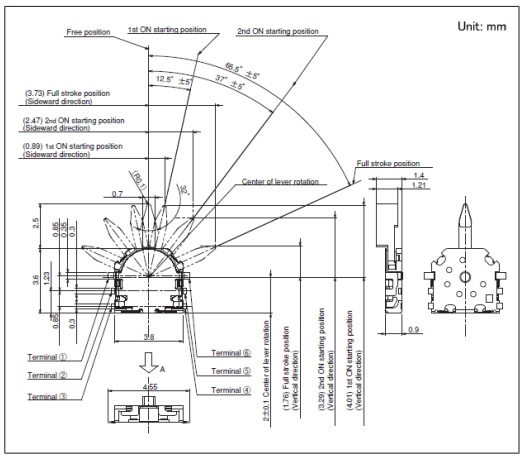


Compact Two-way, Two-step Detection

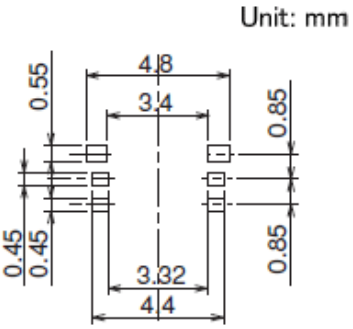
SSCQ Series

Drawing No.2

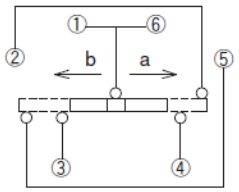
■ Dimensions



■ Land Dimensions

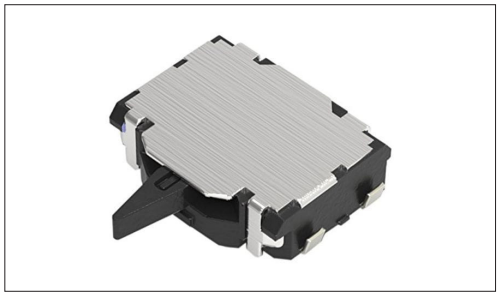


■ Circuit Diagram



Compact Two-way Detection
SSCM Series

Thin-profile type with a body height of 1.5mm, capable of detecting two lateral directions.



- Rating(max.)/(min.)(Resistive load):1mA 5V DC/50μA 3V DC
- Contact resistance(Initial/After operating life):2Ω max./5Ω max.
- Operating life without load:50,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  50,000 cycles 5Ω max.

Applications:Mobile:Smartphones, tablets,Headsets, wearables, Notebooks, peripherals
Game:Home handheld consoles,Virtual/augmented reality
Healthcare:Healthcare equipment
Audio_TV:Audio,Cameras

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Total travel position	Location lug	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SSCM110100	1	2	0.35N max.	For PC board (Reflow)	1.57	With	4.0×5.0×1.5	—	—	—	1
SSCM120100	1	2	0.35N max.	For PC board (Reflow)	1.57	Without	4.0×5.0×1.5	—	—	—	2

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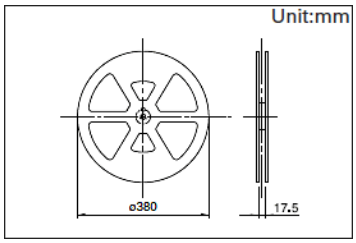
2. Please place purchase orders for taping products per minimum order unit (1 reel or a case).
3. For the Terminal Layout, please check our website.

■ Packing Specifications

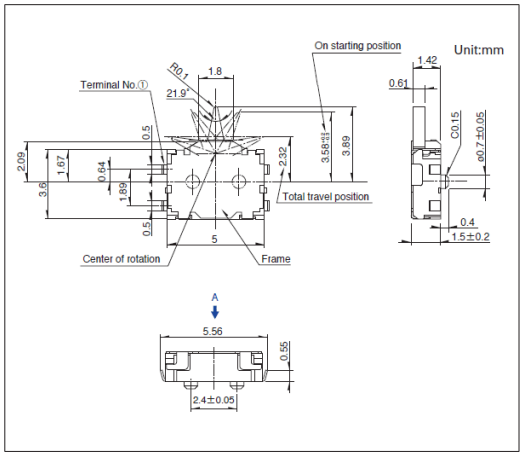
Taping

Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
3,000	6,000	12,000	16	417 x 409 x 139

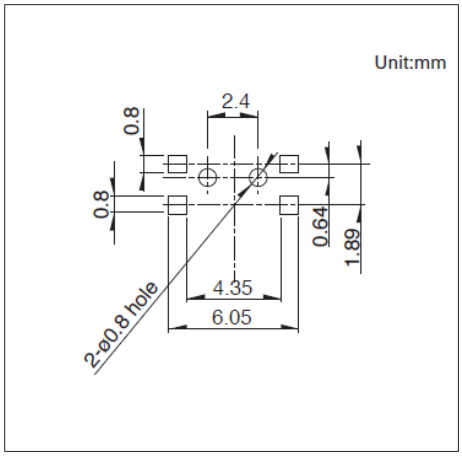


Drawing No.1

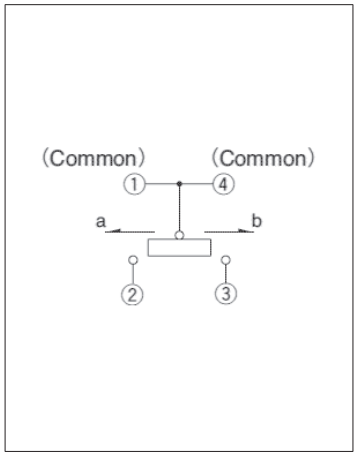
■ Dimensions



■ Land Dimensions



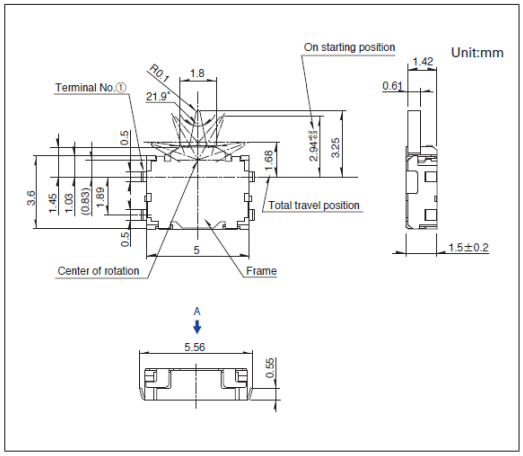
■ Circuit Diagram



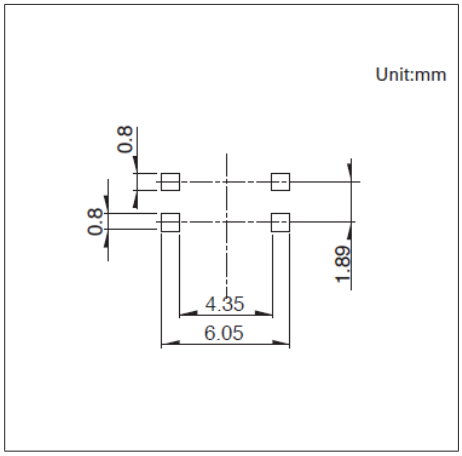
Viewed from direction A in the dimensions.

Drawing No.2

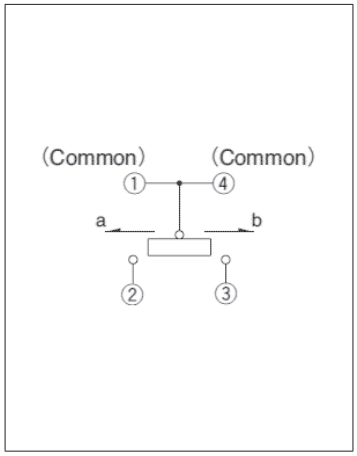
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



Viewed from direction A in the dimensions.

Low-profile Tri-directional Operation

SPVL Series

Thin-profile type with a body height of 1.0mm, offering 180° flexible operation.

Automotive

- Rating(max.)/(min.)(Resistive load):1mA 5V DC/50μA 3V DC
- Contact resistance(Initial/After operating life):2Ω max./5Ω max.
- Operating life without load:50,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  50,000 cycles 5Ω max.

Applications:Mobile:Smartphones, tablets,Notebooks, peripherals
Healthcare:Healthcare equipment
Audio_TV:Cameras
Automotive:Navigation/audio systems, HVAC

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Location lug	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVL110102	1	1	0.35N max.	For PC board (Reflow)	With	6.6×5.55×1.0	—	—	●	1
SPVL120101	1	1	0.35N max.	For PC board (Reflow)	Without	6.6×5.55×1.0	—	—	●	2

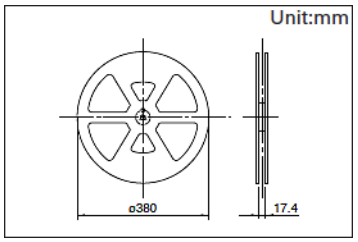
Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.
4. For the Terminal Layout, please check our website.

■ Packing Specifications

Taping

Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
5,000	10,000	20,000	16	417 x 409 x 139

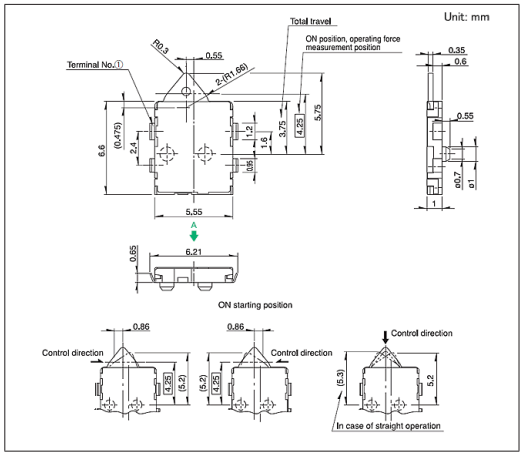


Low-profile Tri-directional Operation

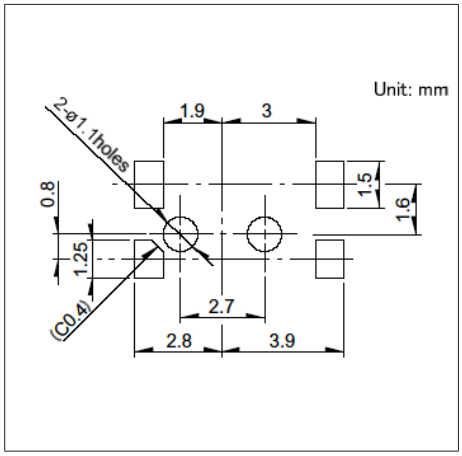
SPVL Series

Drawing No.1

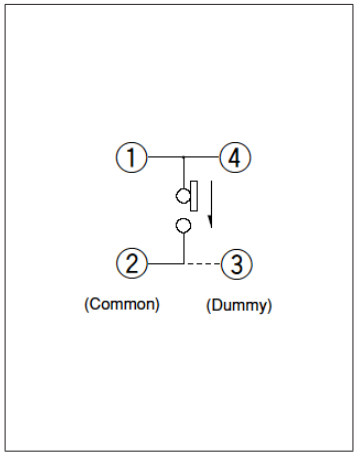
■ Dimensions



■ Land Dimensions



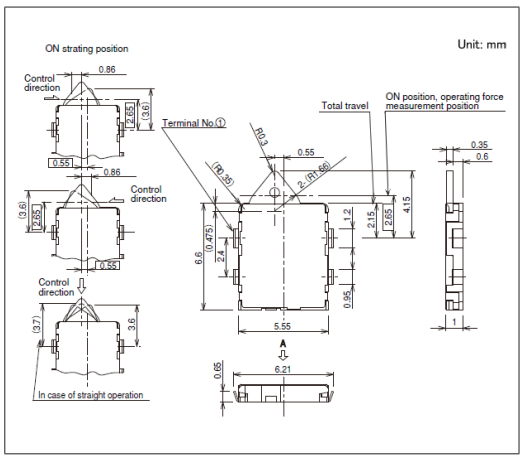
■ Circuit Diagram



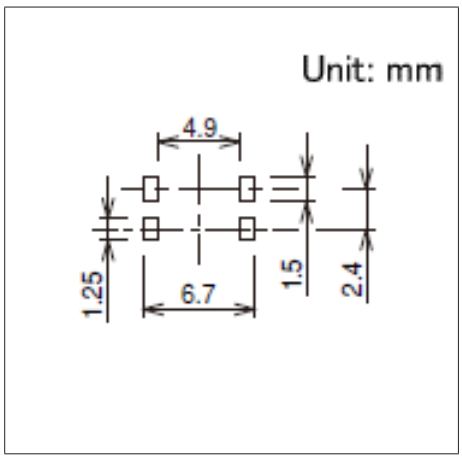
Viewed from direction A in the dimensions.

Drawing No.2

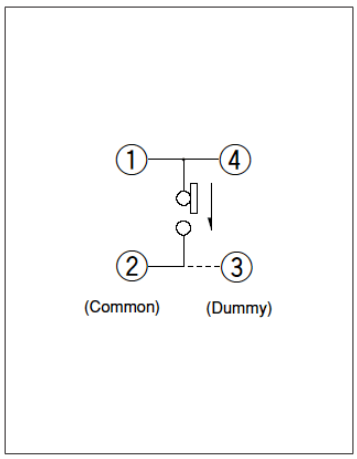
■ Dimensions



■ Land Dimensions



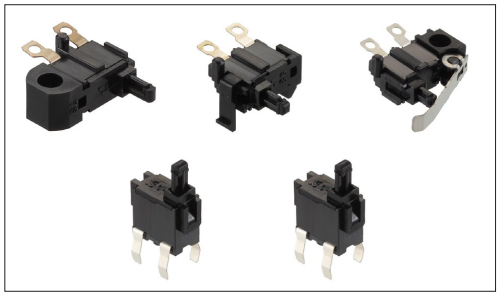
■ Circuit Diagram



Viewed from direction A in the dimensions.

General-purpose Type
SPPB Series

Wide product variety supporting various digital devices.



Automotive

- Rating(max.)/(min.)(Resistive load):0.1A 30V DC/50μA 3V DC
- Contact resistance(Initial/After operating life):1Ω max./2Ω max.
- Operating life without load:50,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  50,000 cycles 2Ω max.

Applications:Healthcare:Healthcare equipment
Home:Major home appliances
Audio_TV:Audio
Automotive:Navigation/audio systems, HVAC

■ Product List

Products No.	Poles	Positions	Operating force	Operation part shape	Terminal type	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPPB110300	1	1	0.35N max.	Push	For Lead	9.7×3.75×5.1	—	—	●	1
SPPB120200	1	1	0.35N max.	Push	For Lead	9.7×3.75×5.1	—	—	●	2
SPPB310400	1	1	0.35N max.	Push	For Lead	8.8×3.5×5.1	—	—	●	3
SPPB320100	1	1	0.35N max.	Push	For Lead	8.8×3.5×5.1	—	—	●	4
SPPB1A0100	1	1	0.35N max.	Actuator A	For Lead	9.75×3.75×5.7	—	—	●	5
SPPB1A0101	1	1	0.35N max.	Actuator A	For Lead	9.75×3.75×5.7	—	—	●	6
SPPB2A0100	1	1	0.35N max.	Actuator C	For Lead	9.75×3.75×5.7	—	—	●	7
SPPB2A0101	1	1	0.35N max.	Actuator C	For Lead	9.75×3.75×5.7	—	—	●	8
SPPB512300	1	1	0.35N max.	Push	For PC board (Dip)	6.3×3.0×4.9	—	—	●	9
SPPB610400	1	1	0.35N max.	Push	For PC board (Dip)	6.3×5.1×3.7	—	—	●	10
SPPB620300	1	1	0.35N max.	Push	For PC board (Dip)	6.3×5.1×3.7	—	—	●	11
SPPB5A0100	1	1	0.35N max.	Actuator A	For PC board (Dip)	9.15×3.75×5.5	—	—	●	12
SPPB6A0100	1	1	0.35N max.	Actuator A	For PC board (Dip)	10.0×6.1×5.25	—	—	●	13
SPPB6A0400	1	1	0.35N max.	Actuator A	For PC board (Dip)	10.0×6.1×5.25	—	—	●	14
SPPB530701	1	1	0.35N max.	Push	For PC board (Reflow)	6.5×3.1×4.9	—	—	●	15
SPPB530601	1	1	0.35N max.	Push	For PC board (Reflow)	6.4×3.0×4.9	—	—	●	16
SPPB630101	1	1	0.35N max.	Push	For PC board (Reflow)	6.3×6.1×4.25	—	—	●	17
SPPB640201	1	1	0.35N max.	Push	For PC board (Reflow)	6.3×6.1×4.25	—	—	●	18

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. Please place purchase orders for taping products per minimum order unit (1 reel or a case).
4. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

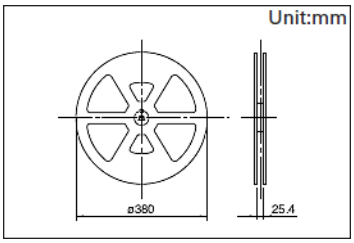
■ Packing Specifications

Bulk

Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SPPB110300 SPPB120200 SPPB310400 SPPB320100 SPPB610400 SPPB620300	2,000	10,000	400 x 270 x 290
SPPB1A0100 SPPB1A0101 SPPB2A0100 SPPB2A0101 SPPB5A0100 SPPB6A0100 SPPB6A0400	1,000	5,000	400 x 270 x 290
SPPB512300	4,000	20,000	400 x 270 x 290

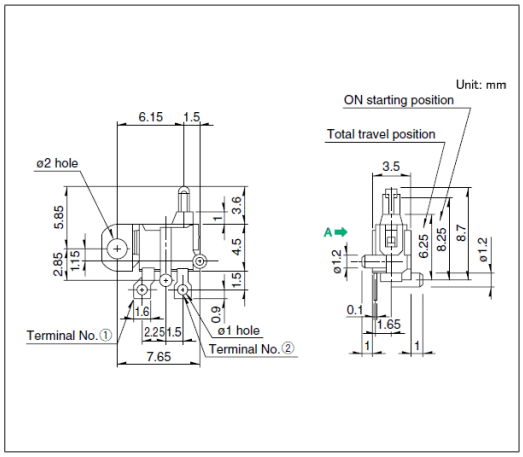
Taping

Products No.	Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case / Japan	1 case / export packing		
SPPB530701	1,500	3,000	6,000	24	406×406×160
SPPB530601	600	1,200	2,400	24	406×406×160
SPPB630101 SPPB640201	1,300	2,600	5,200	24	406×406×160

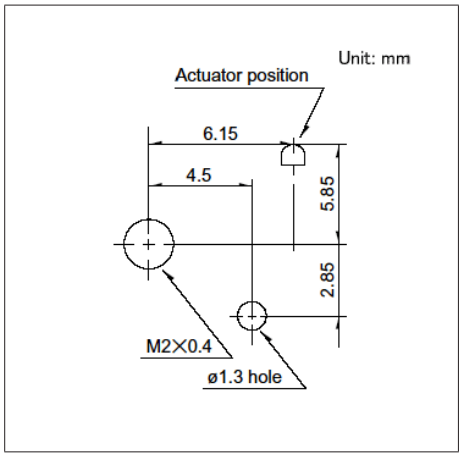


Drawing No.1

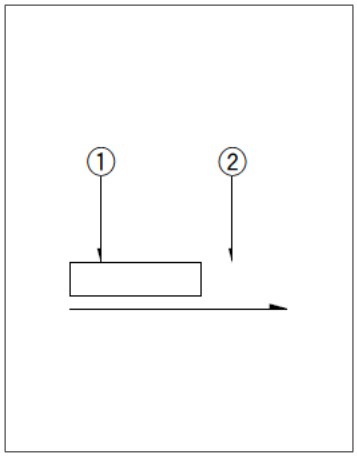
■ Dimensions



■ Mounting Hole Dimensions



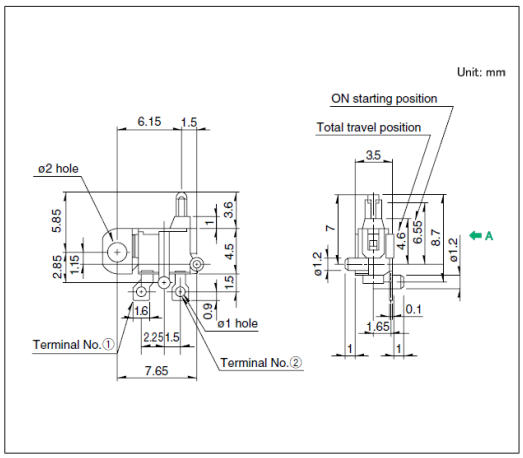
■ Circuit Diagram



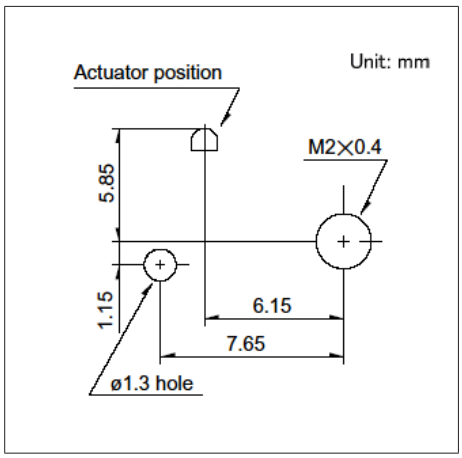
Viewed from direction A in the dimensions.

Drawing No.2

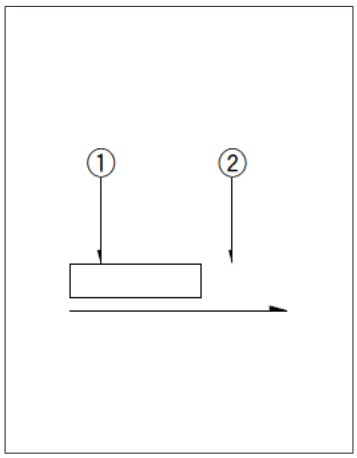
■ Dimensions



■ Mounting Hole Dimensions



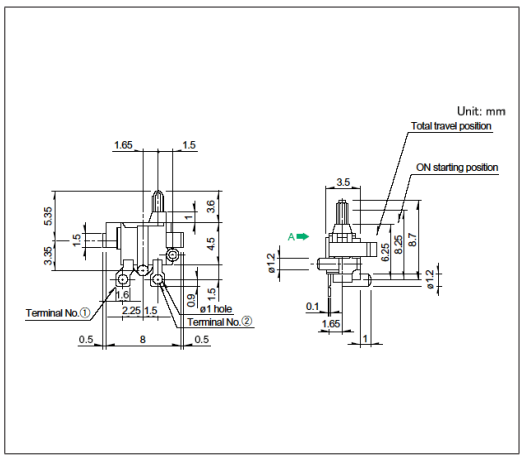
■ Circuit Diagram



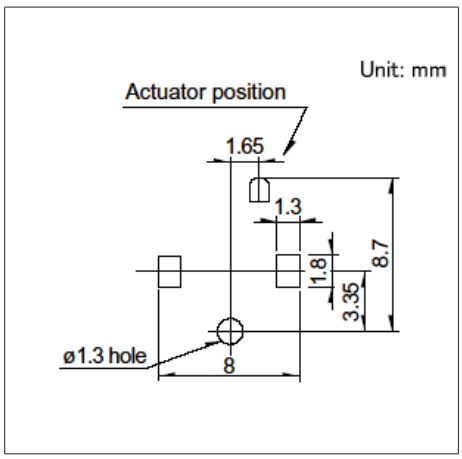
Viewed from direction A in the dimensions.

Drawing No.3

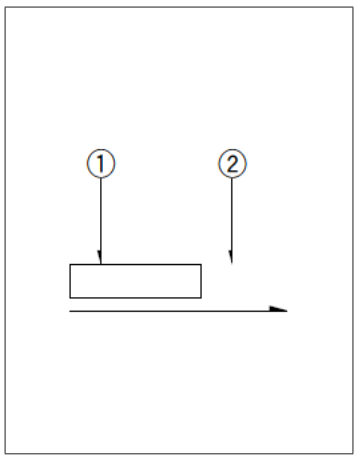
■ Dimensions



■ Mounting Hole Dimensions



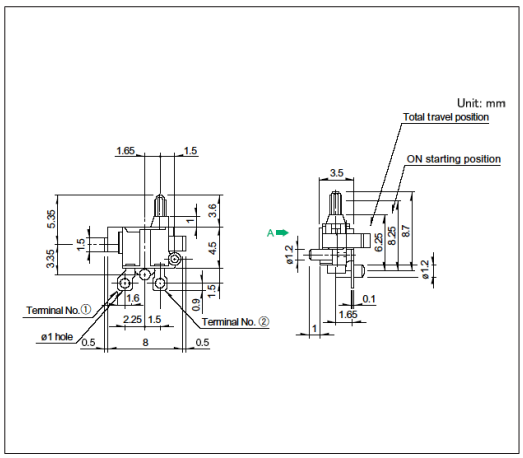
■ Circuit Diagram



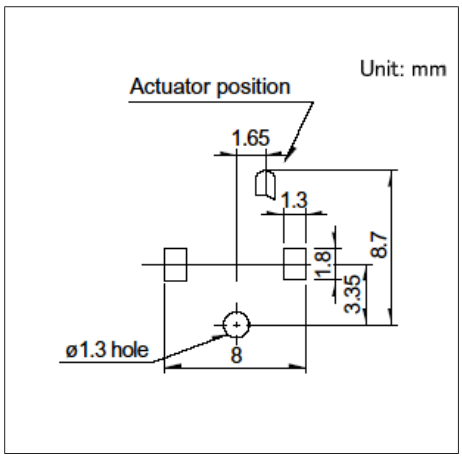
Viewed from direction A in the dimensions.

Drawing No.4

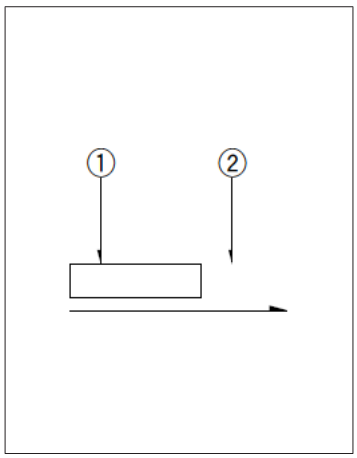
■ Dimensions



■ Mounting Hole Dimensions



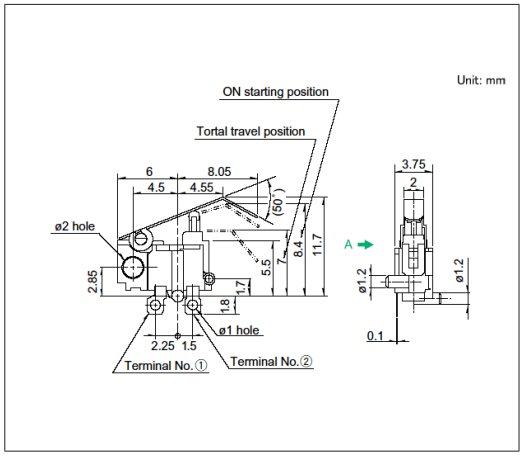
■ Circuit Diagram



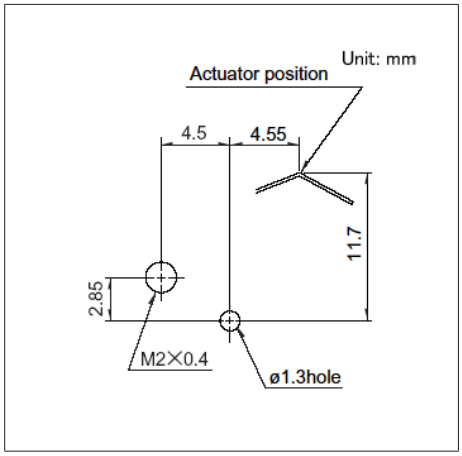
Viewed from direction A in the dimensions.

Drawing No.5

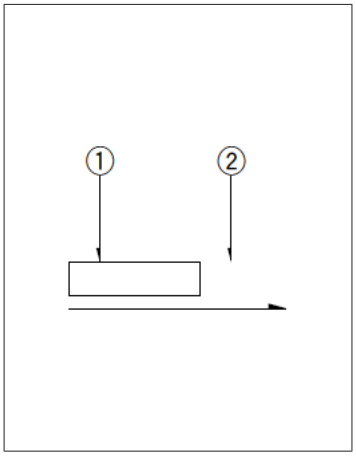
■ Dimensions



■ Mounting Hole Dimensions



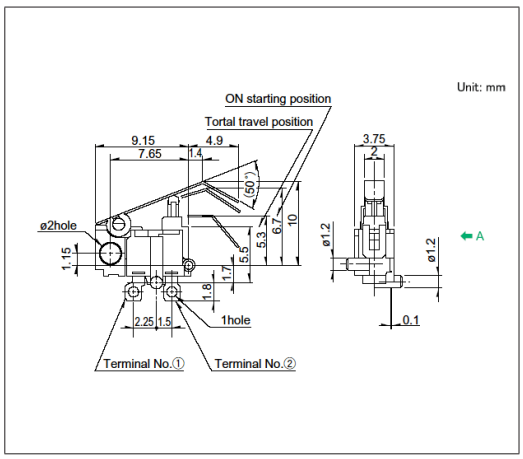
■ Circuit Diagram



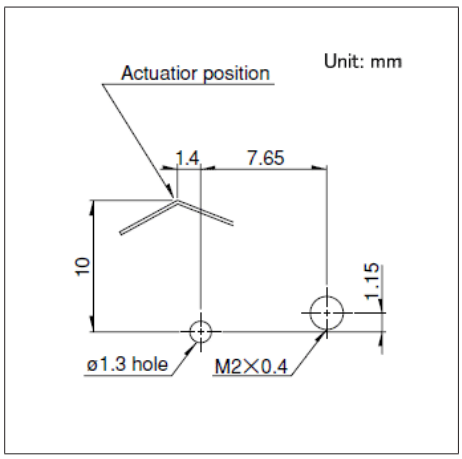
Viewed from direction A in the dimensions.

Drawing No.6

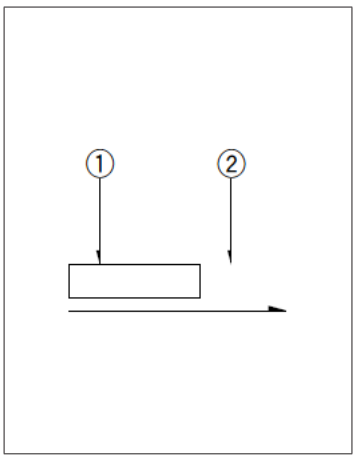
■ Dimensions



■ Mounting Hole Dimensions



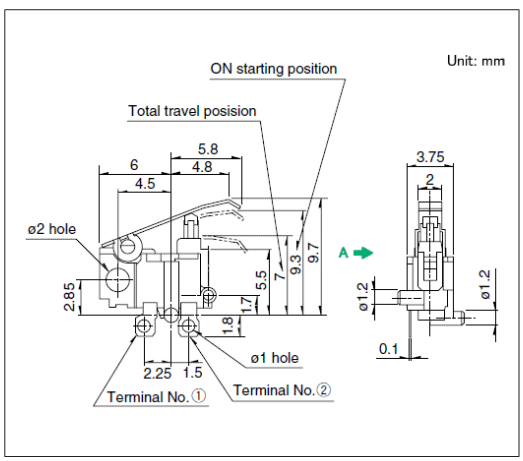
■ Circuit Diagram



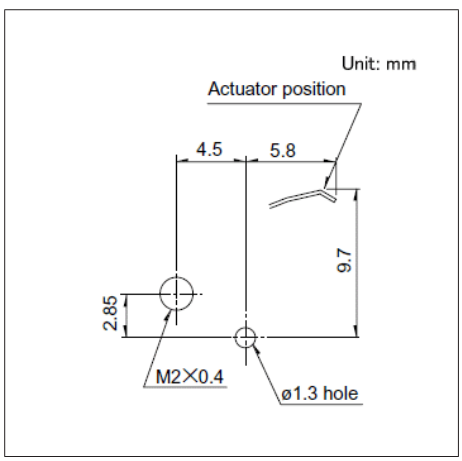
Viewed from direction A in the dimensions.

Drawing No.7

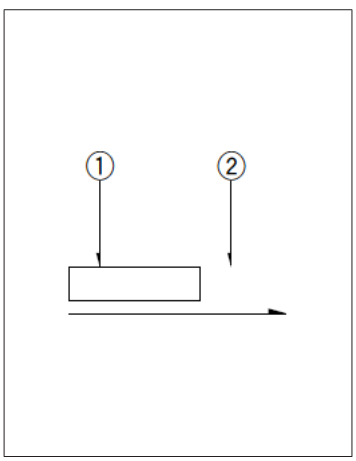
■ Dimensions



■ Mounting Hole Dimensions



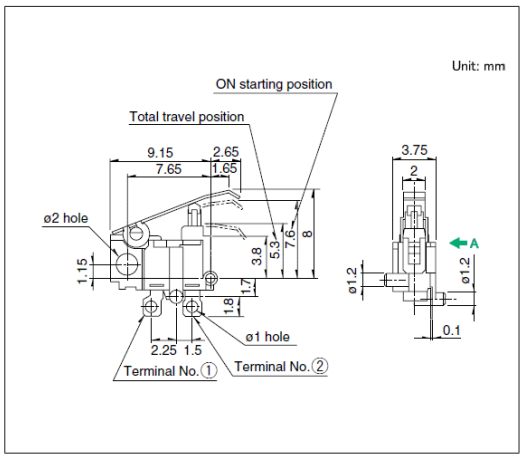
■ Circuit Diagram



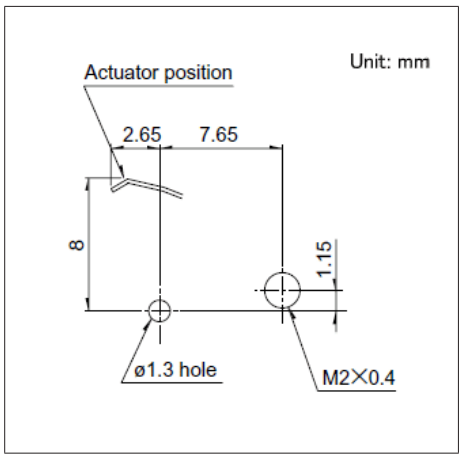
Viewed from direction A in the dimensions.

Drawing No.8

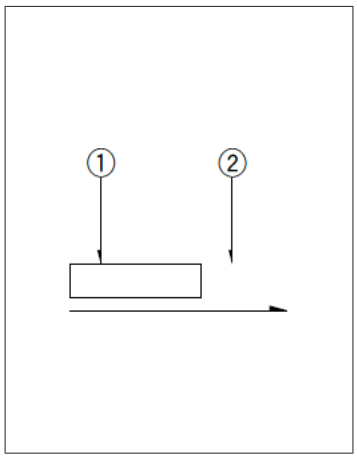
■ Dimensions



■ Mounting Hole Dimensions



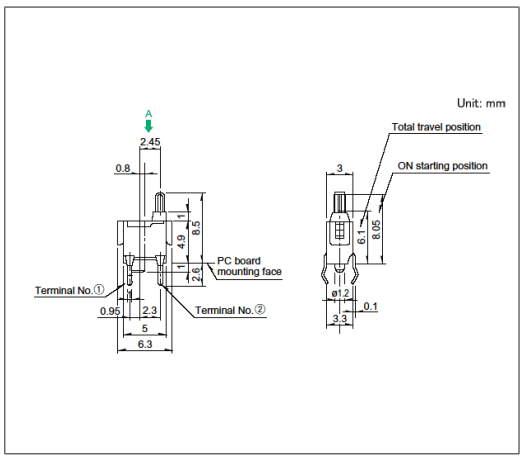
■ Circuit Diagram



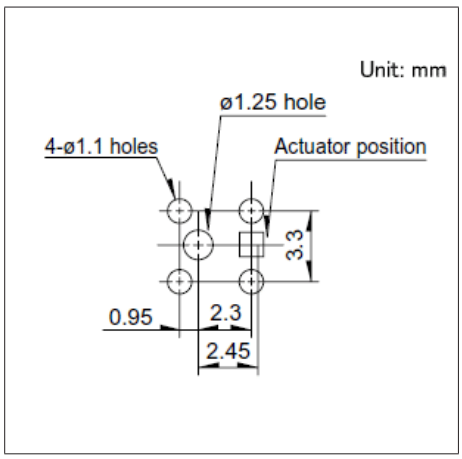
Viewed from direction A in the dimensions.

Drawing No.9

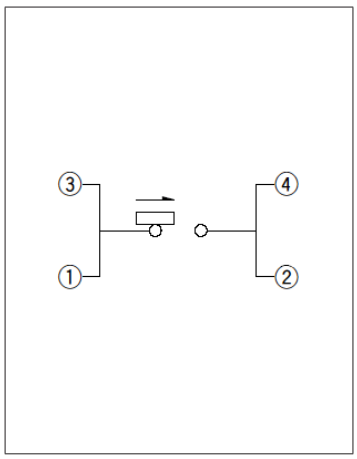
■ Dimensions



■ Mounting Hole Dimensions



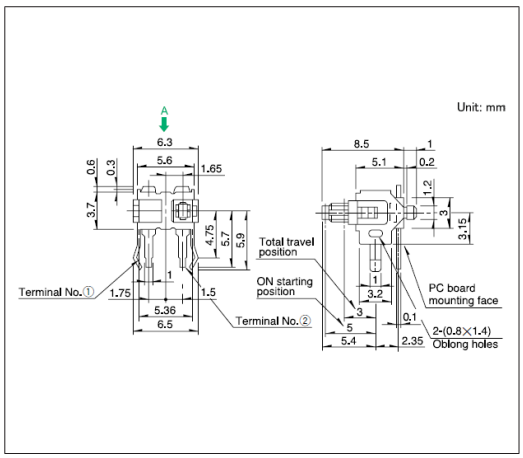
■ Circuit Diagram



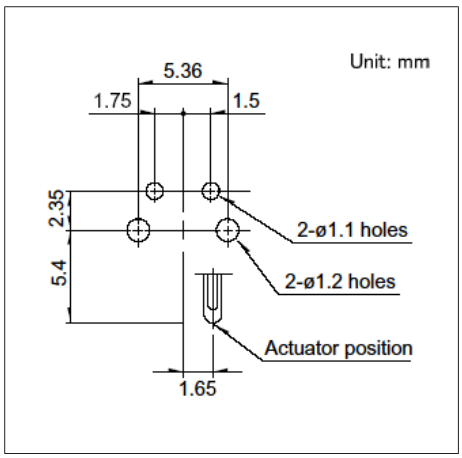
Viewed from direction A in the dimensions.

Drawing No.10

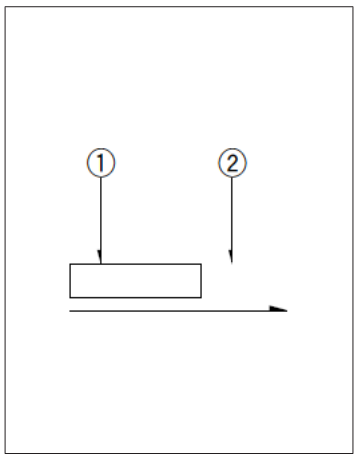
■ Dimensions



■ Mounting Hole Dimensions



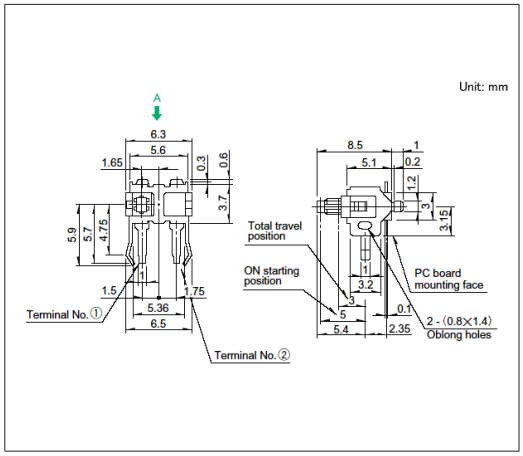
■ Circuit Diagram



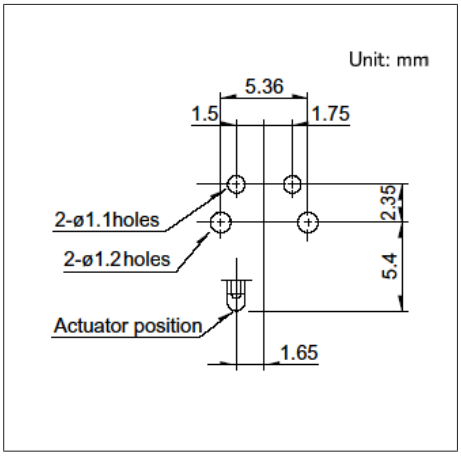
Viewed from direction A in the dimensions.

Drawing No.11

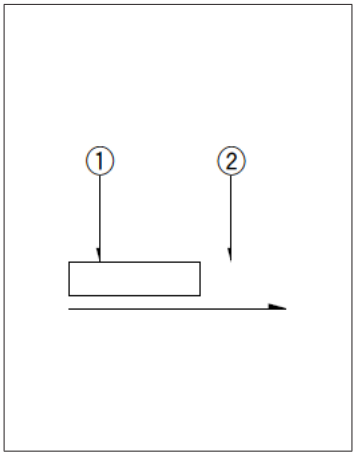
■ Dimensions



■ Mounting Hole Dimensions



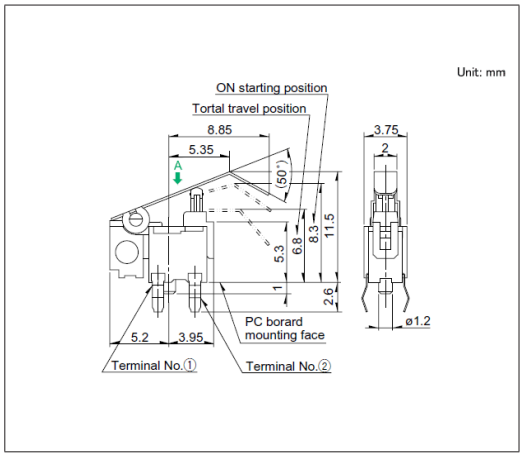
■ Circuit Diagram



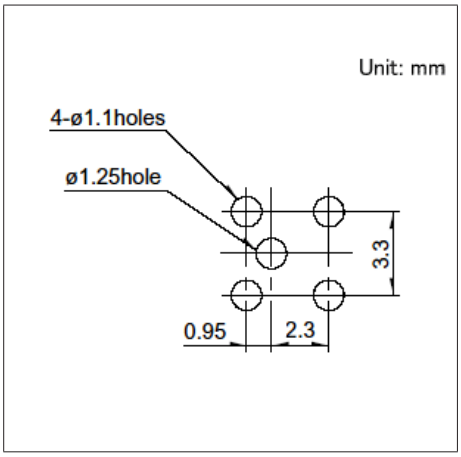
Viewed from direction A in the dimensions.

Drawing No.12

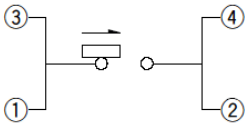
■ Dimensions



■ Mounting Hole Dimensions



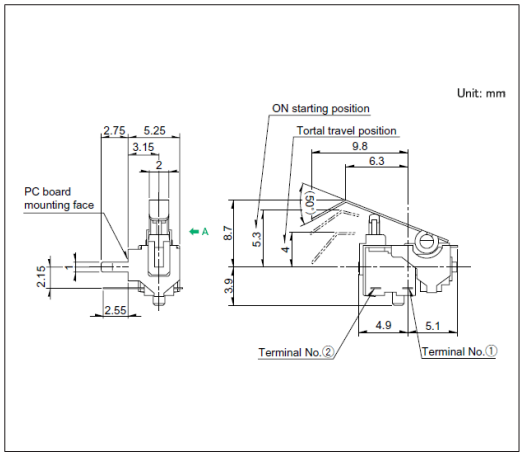
■ Circuit Diagram



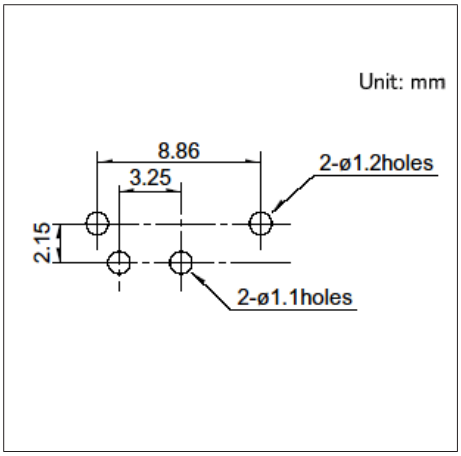
Viewed from direction A in the dimensions.

Drawing No.13

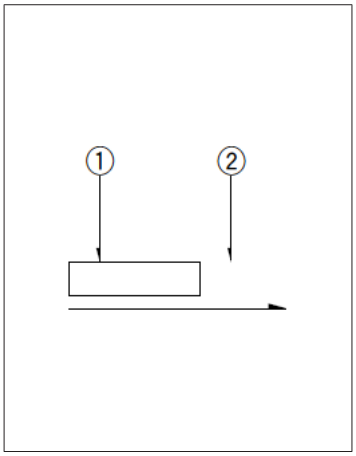
■ Dimensions



■ Mounting Hole Dimensions



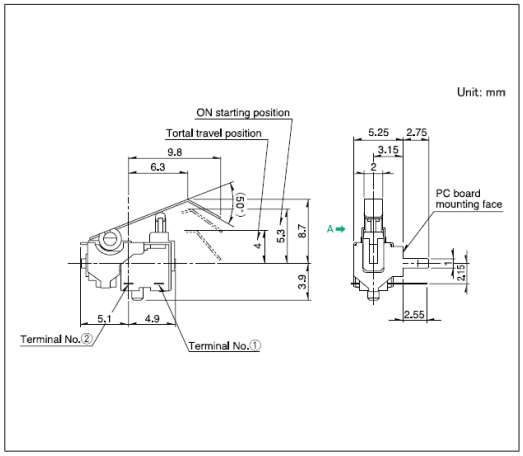
■ Circuit Diagram



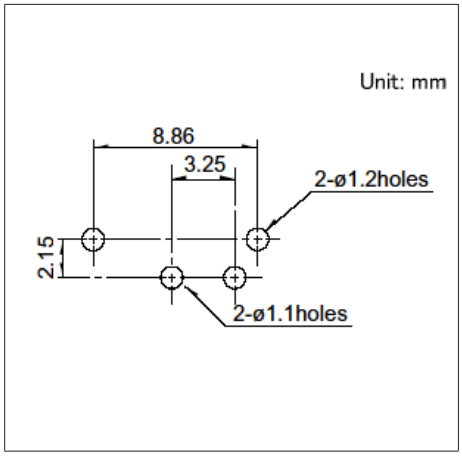
Viewed from direction A in the dimensions.

Drawing No.14

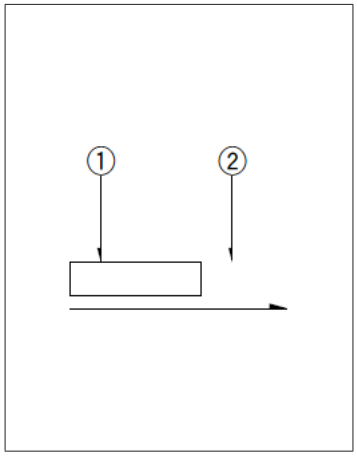
■ Dimensions



■ Mounting Hole Dimensions



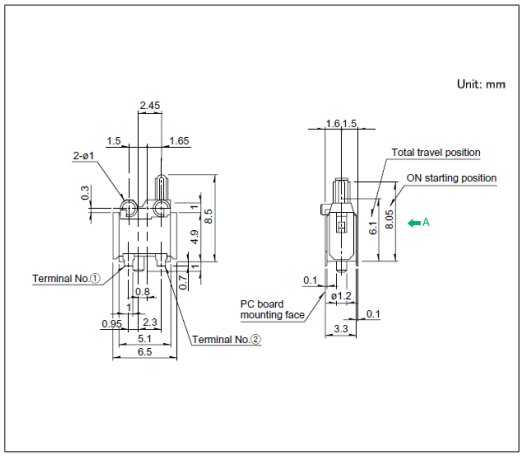
■ Circuit Diagram



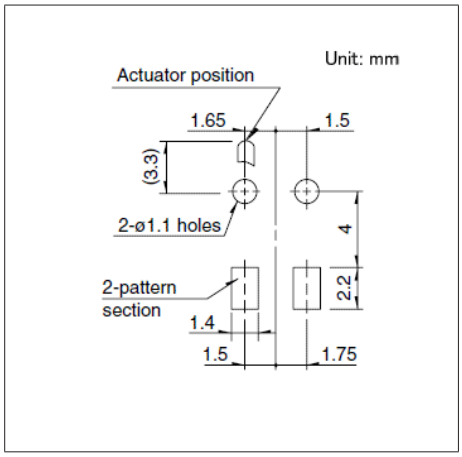
Viewed from direction A in the dimensions.

Drawing No.15

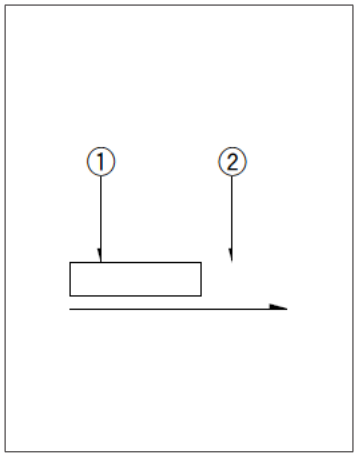
■ Dimensions



■ Land Dimensions



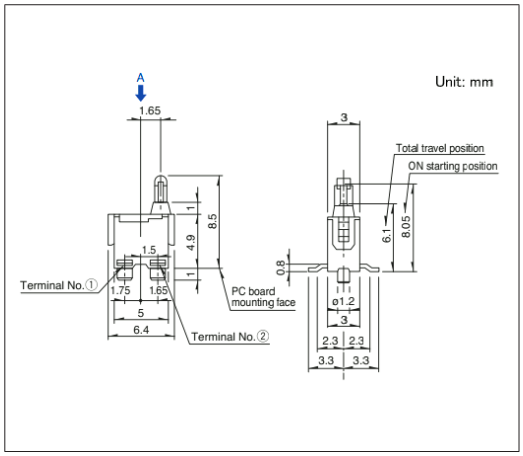
■ Circuit Diagram



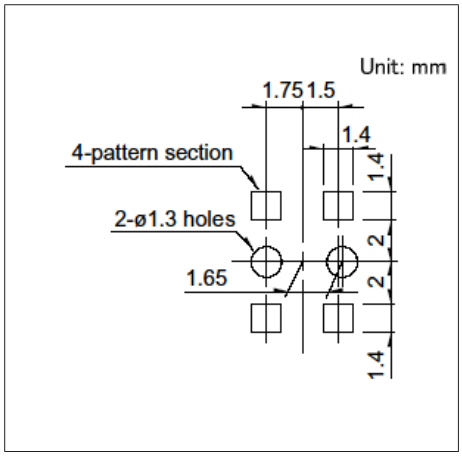
Viewed from direction A in the dimensions.

Drawing No.16

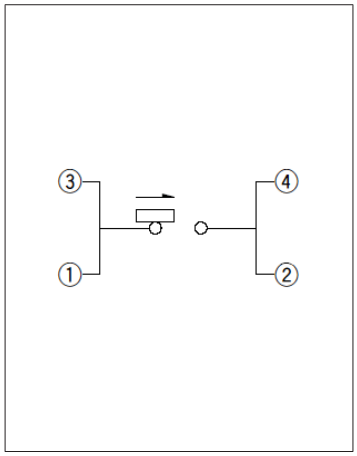
■ Dimensions



■ Land Dimensions



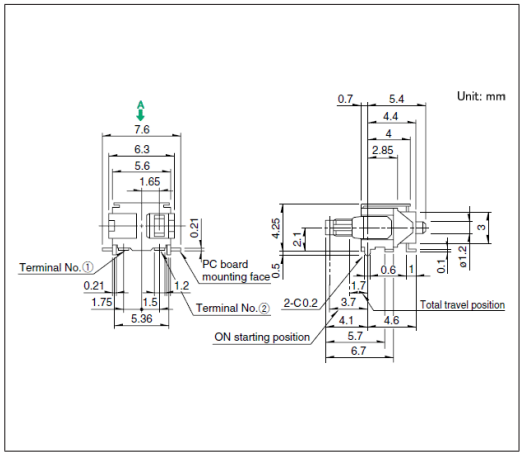
■ Circuit Diagram



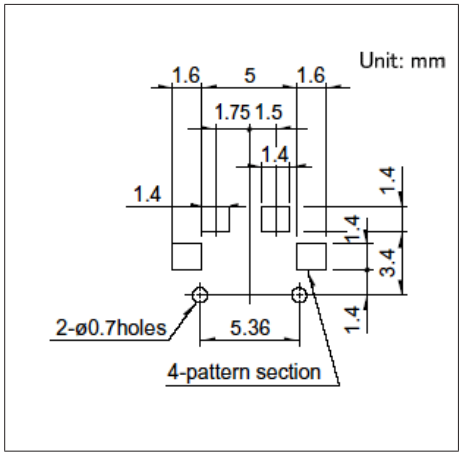
Viewed from direction A in the dimensions.

Drawing No.17

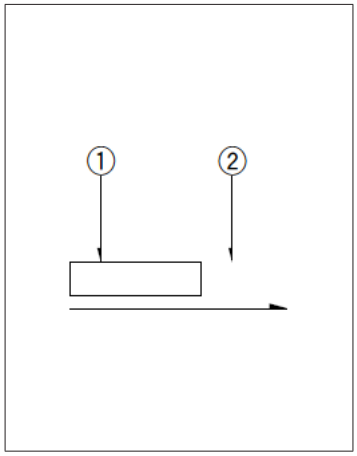
■ Dimensions



■ Land Dimensions



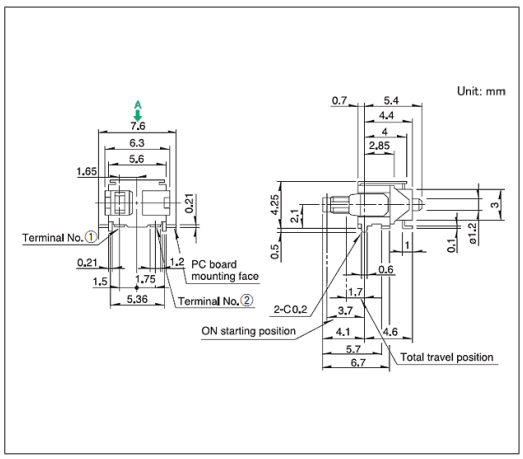
■ Circuit Diagram



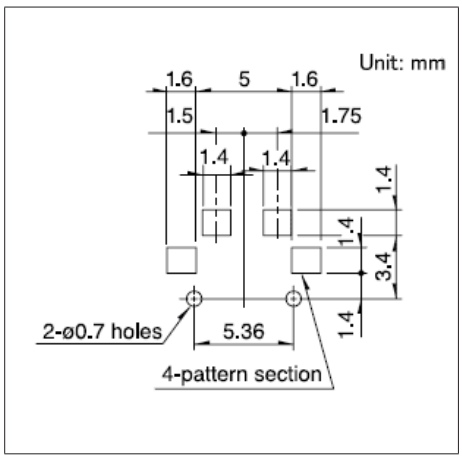
Viewed from direction A in the dimensions.

Drawing No.18

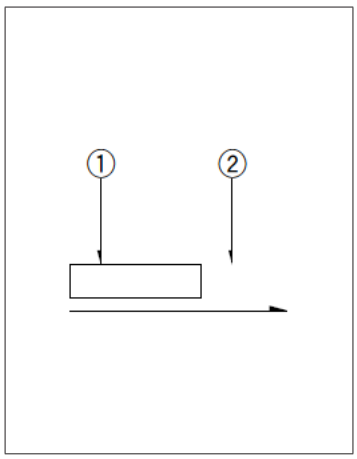
■ Dimensions



■ Land Dimensions



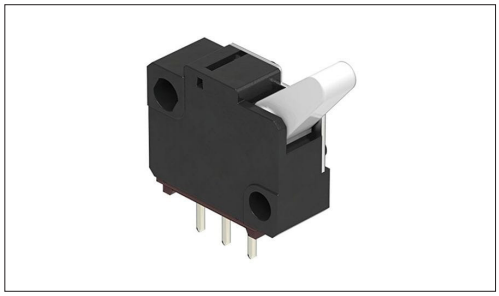
■ Circuit Diagram



Viewed from direction A in the dimensions.

Micro Switch Type
SSCT Series

Micro switch type with printable or lead wiring, mountable on panels with screws.



Automotive

- Rating(max.)/(min.)(Resistive load):0.1A 12V DC/50μA 3V DC
- Contact resistance(Initial/After operating life):200mΩ max./500mΩ max.
- Operating life without load:10,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  10,000 cycles 500mΩ max.

Applications:Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Poles	Positions	Operating force	Changeover timing	Operation part shape	Terminal type	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SSCTL10600	1	2	0.7±0.3N	Non shorting	Lever	For PC board	12.5×5.0×11.5	—	—	●	1
SSCTL10400	1	2	0.7±0.3N	Non shorting	Lever	For Lead	12.5×5.0×11.5	—	—	●	2

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.
4. For the Timing Lag Diagram and Terminal Style, please check our website.

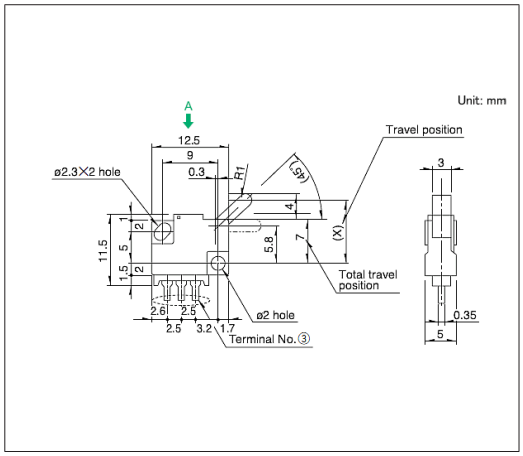
■ Packing Specifications

Bulk

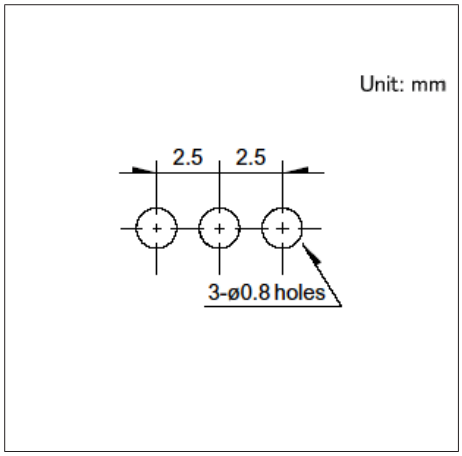
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
1,000	5,000	400 x 270 x 290

Drawing No.1

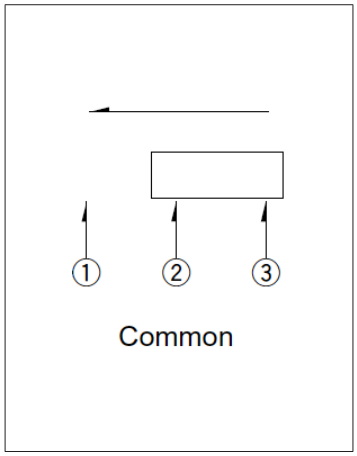
■ Dimensions



■ Mounting Hole Dimensions



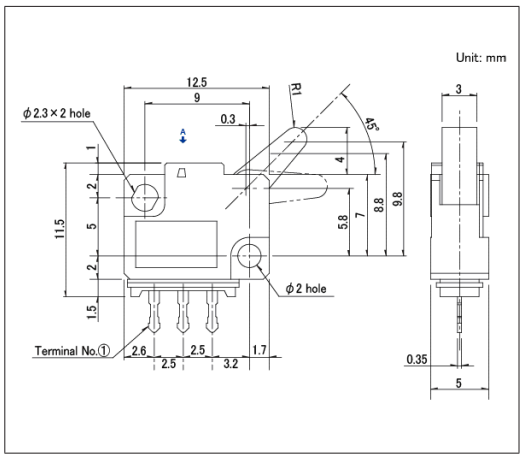
■ Circuit Diagram



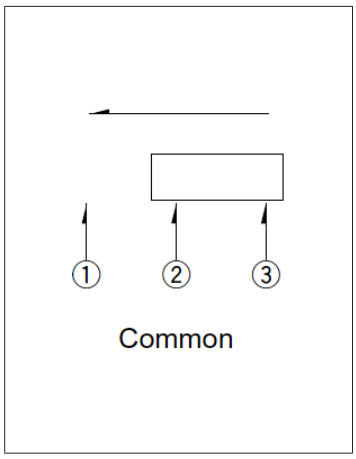
Viewed from direction A in the dimensions.

Drawing No.2

■ Dimensions

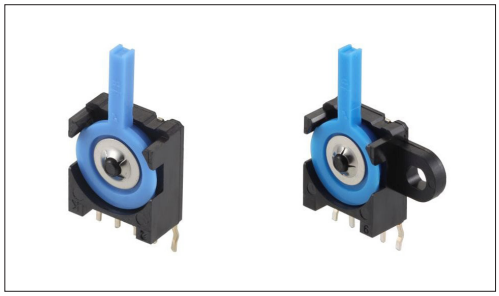


■ Circuit Diagram



Two-way Detection
SSCF Series

Improved design freedom around set mechanisms with left-right detection capability.



Automotive

- Rating(max.)/(min.)(Resistive load):0.1A 12V DC/50μA 3V DC
- Contact resistance(Initial/After operating life):100mΩ max./300mΩ max.
- Operating life without load:50,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  50,000 cycles 300mΩ max.

Applications:Audio_TV:Audio
Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Poles	Positions	Operating force	Changeover timing	Terminal type	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SSCF110100	1	2	0.7N max.	Non shorting	For PC board	11.0×5.8×12.4	—	—	●	1
SSCF210100	1	2	0.7N max.	Non shorting	For PC board	15.5×5.8×12.4	—	—	●	2
SSCF210300	1	2	0.7N max.	Non shorting	For Lead	15.5×5.8×12.4	—	—	●	3
SSCF310100	1	2	0.7N max.	Non shorting	For PC board	11.0×5.8×12.4	—	—	●	4

⚠Note

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2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.
4. For the Terminal Style, please check our website.

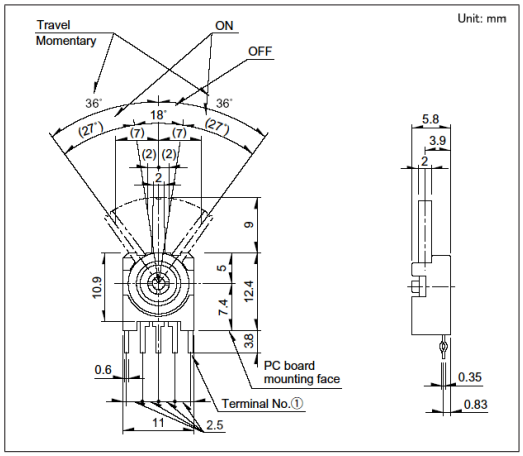
■ Packing Specifications

Bulk

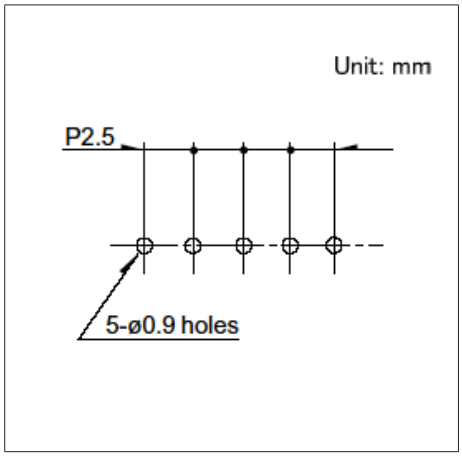
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
600	3,000	400 x 270 x 290

Drawing No.1

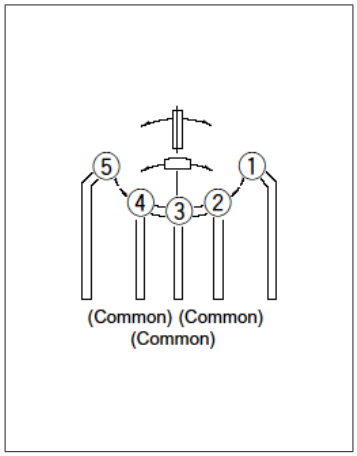
■ Dimensions



■ Mounting Hole Dimensions

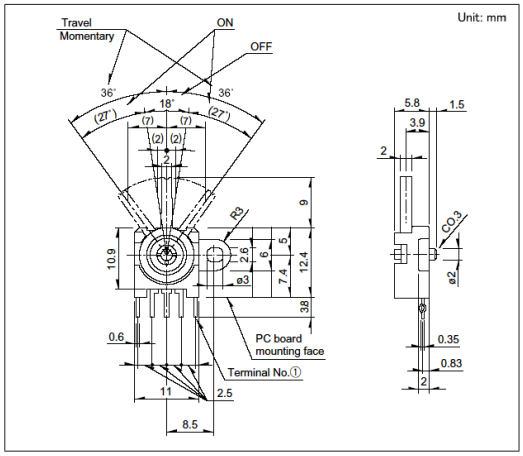


■ Circuit Diagram

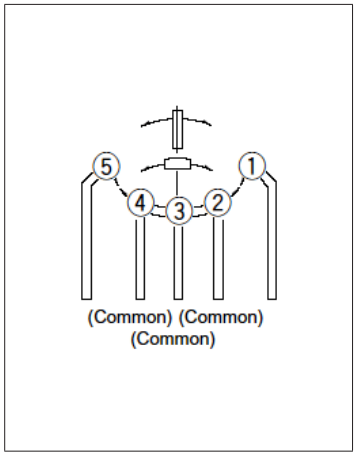


Drawing No.2

■ Dimensions

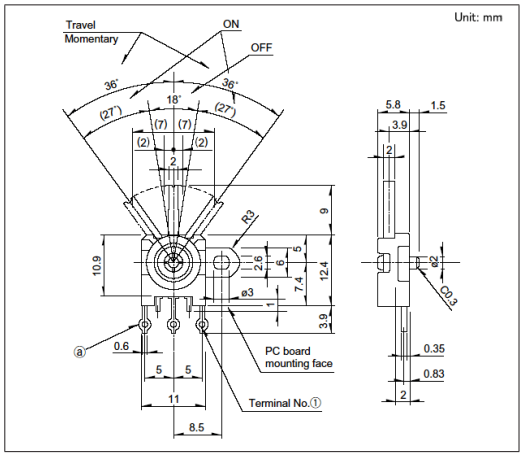


■ Circuit Diagram

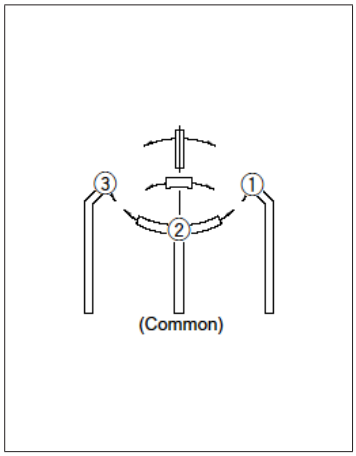


Drawing No.3

■ Dimensions

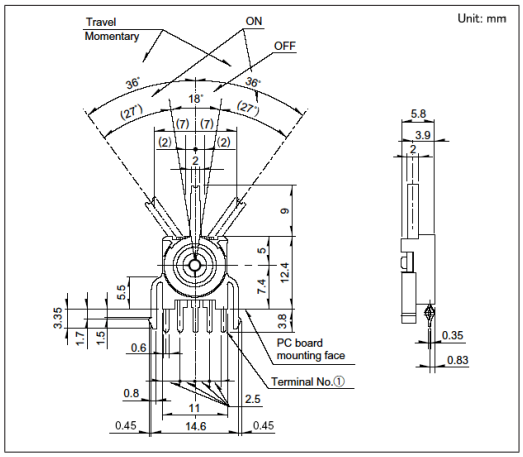


■ Circuit Diagram

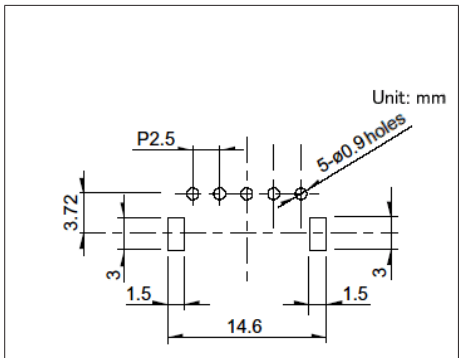


Drawing No.4

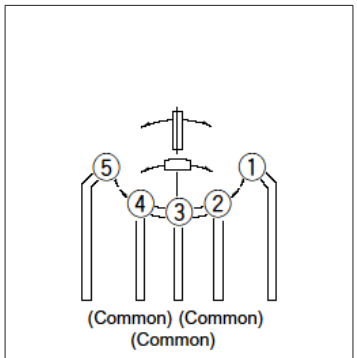
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



Two-way Operation with Female Connector Terminal

SSCW Series

Single-circuit, single-contact design with connector connection, eliminating soldering.

Automotive

- Rating(max.)/(min.)(Resistive load):0.1A 12V DC/100μA 3V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:100,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  100,000 cycles 1Ω max.

Applications:Energy_Industrial:Robots, drones,Industrial equipment
Home:Major home appliances
Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SSCW110102	1	1	1N max.	Female connector type	5.3×13.1×11.35	—	—	●	1

Note

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3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

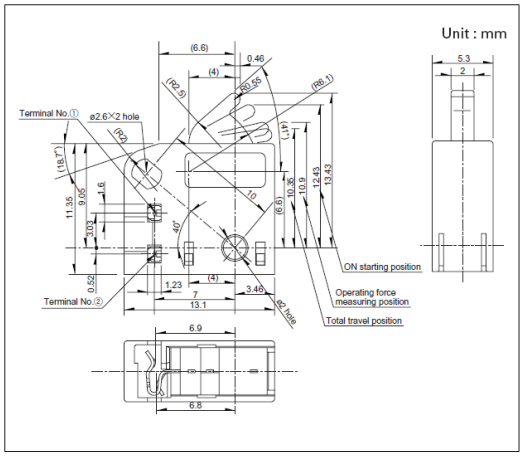
■ Packing Specifications

Bulk

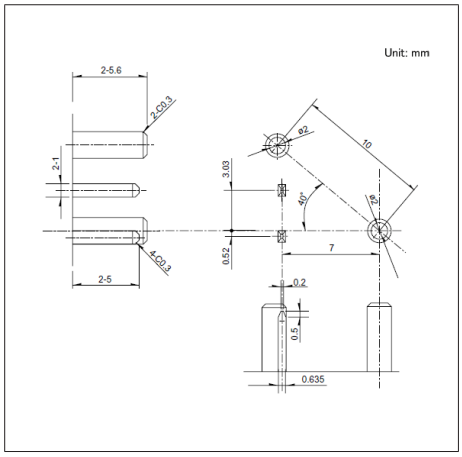
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
2,000	10,000	389 x 276 x 380

Drawing No.1

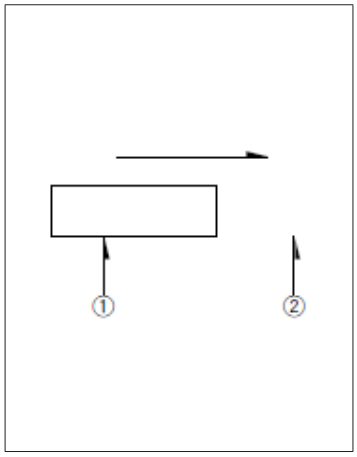
■ Dimensions



■ Recommended Unit Terminal style



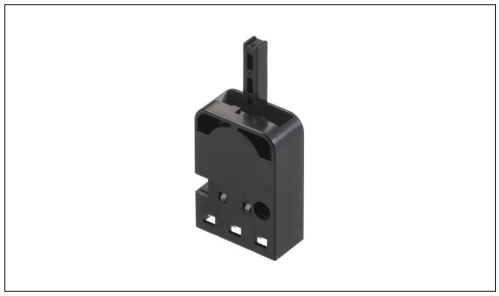
■ Circuit Diagram



Two-way Detection with Female Connector Terminal

SSCL Series

One-touch connection with female connector terminals, achieving solderless assembly.



Automotive

- Rating(max.)/(min.)(Resistive load):0.1A 12V DC/50μA 5V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:50,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  50,000 cycles 1Ω max.

Applications:Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SSCL110101	1	2	0.7N max.	Female connector type	5.3×11.0×16.1	—	—	●	1

Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

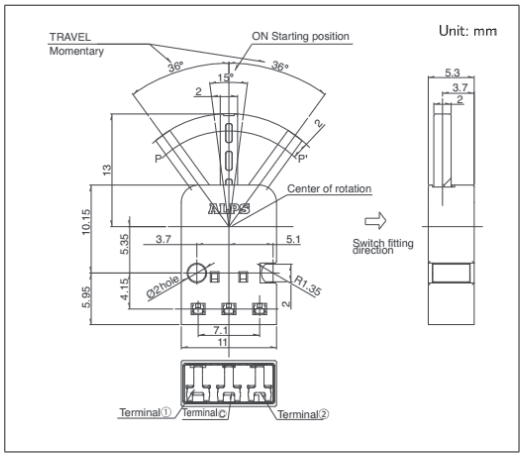
■ Packing Specifications

Bulk

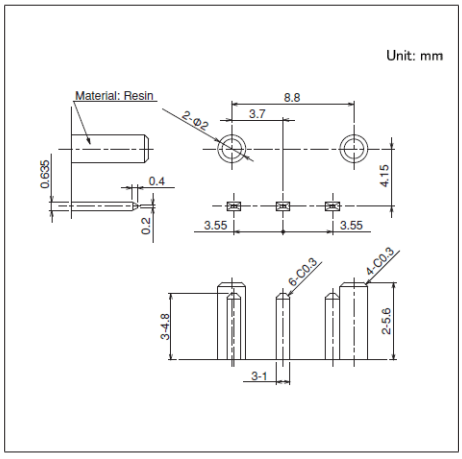
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
1,000	5,000	400 x 270 x 290

Drawing No.1

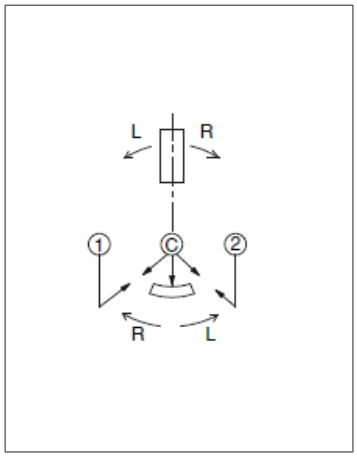
■ Dimensions



■ Recommended Unit Terminal style



■ Circuit Diagram



Switches | Detector Switches

With Connector Terminal Two-way Operation
SSCZ Series

Connector connection eliminates the need for soldering.

Automotive

- Rating(max.)/(min.)(Resistive load):0.1A 16V DC/100μA 3V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:300,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  300,000 cycles 1Ω max.

Applications:Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SSCZ110101	1	2	1.1N max.	Connector type	13.84×5.4×15.4	—	—	●	1

Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

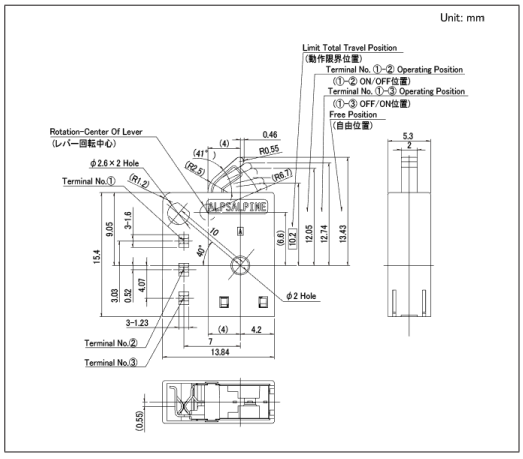
■ Packing Specifications

Bulk

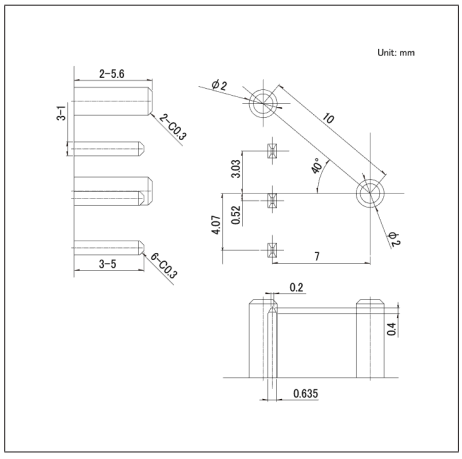
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
1,200	6,000	389 x 276 x 380

Drawing No.1

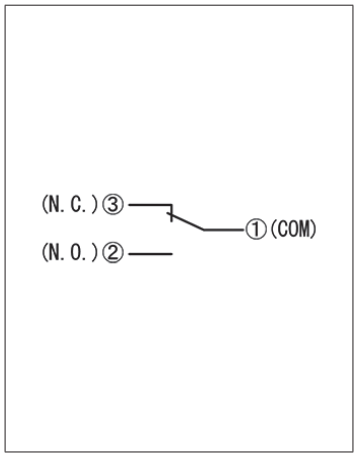
■ Dimensions



■ Recommended Unit Terminal style



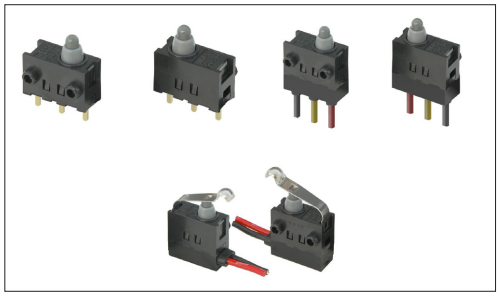
■ Circuit Diagram



Water-proof Type

SPVQ3 Series

Wide product variety including long-stroke types pressable diagonally without an actuator.



Automotive | Water-proof Type | Dust-proof Type

- Rating(max.)/(min.)(Resistive load):0.1A 12V DC/50μA 5V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:300,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  300,000 cycles 1Ω max.

Applications:Energy_Industrial:Robots, drones,Industrial equipment
Home:Major home appliances
Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Poles	Positions	Operating force	Changeover timing	Operation part shape	Terminal type	Main body form	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVQ380400	1	2	1±0.5N	Non shorting	Push	For PC board	Without boss	5.3×13.0×8.35	●	●	●	1
SPVQ380300	1	2	1±0.5N	Non shorting	Push	For PC board	Boss - right side	5.3×13.0×8.35	●	●	●	2
SPVQ380201	1	2	1±0.5N	Non shorting	Push	For PC board	Boss - left side	5.3×13.0×8.35	●	●	●	3
SPVQ380100	1	2	1±0.5N	Non shorting	Push	For PC board	Boss - both sides	5.3×13.0×8.35	●	●	●	4
SPVQ380700	1	2	1±0.5N	Non shorting	Push	For Lead	Boss - right side	5.3×13.0×8.35	●	●	●	5
SPVQ380600	1	2	1±0.5N	Non shorting	Push	For Lead	Boss - left side	5.3×13.0×8.35	●	●	●	6
SPVQ380500	1	2	1±0.5N	Non shorting	Push	For Lead	Boss - both sides	5.3×13.0×8.35	●	●	●	7
SPVQ380900	1	2	1±0.5N	Non shorting	Push	Angle (Right)	Boss - right side	5.3×13.0×8.35	●	●	●	8
SPVQ380800	1	2	1±0.5N	Non shorting	Push	Angle (Left)	Boss - left side	5.3×13.0×8.35	●	●	●	9
SPVQ361000	1	2	1±0.5N	Non shorting	Push	With wire (Downwards)	With a screw hole	5.3×13.0×8.35	●	●	●	10
SPVQ361100	1	2	1±0.5N	Non shorting	Push	With wire (Downwards)	Boss - right side	5.3×13.0×8.35	●	●	●	11
SPVQ361200	1	2	1±0.5N	Non shorting	Push	With wire (Downwards)	Boss - left side	5.3×13.0×8.35	●	●	●	12
SPVQ361300	1	2	1±0.5N	Non shorting	Push	With wire (Downwards)	Boss - both sides	5.3×13.0×8.35	●	●	●	13
SPVQ361400	1	1	1±0.5N	Non shorting	Push	With wire (Right side)	With a screw hole	5.3×13.0×8.35	●	●	●	14
SPVQ361500	1	1	1±0.5N	Non shorting	Push	With wire (Right side)	Boss - right side	5.3×13.0×8.35	●	●	●	15
SPVQ361600	1	1	1±0.5N	Non shorting	Push	With wire (Right side)	Boss - left side	5.3×13.0×8.35	●	●	●	16
SPVQ361700	1	1	1±0.5N	Non shorting	Push	With wire (Right side)	Boss - both sides	5.3×13.0×8.35	●	●	●	17
SPVQ361800	1	1	1±0.5N	Non shorting	Push	With wire (Left side)	Boss - right side	5.3×13.0×8.35	●	●	●	18
SPVQ361900	1	1	1±0.5N	Non shorting	Push	With wire (Left side)	Boss - left side	5.3×13.0×8.35	●	●	●	19
SPVQ362000	1	1	1±0.5N	Non shorting	Push	With wire (Left side)	Boss - both sides	5.3×13.0×8.35	●	●	●	20
SPVQ370400	1	2	3N max.	Non shorting	Actuator A	For PC board	Without boss	5.3×13.0×8.35	●	●	●	21
SPVQ370300	1	2	3N max.	Non shorting	Actuator A	For PC board	Boss - right side	5.3×13.0×8.35	●	●	●	22
SPVQ370200	1	2	3N max.	Non shorting	Actuator A	For PC board	Boss - left side	5.3×13.0×8.35	●	●	●	23
SPVQ370100	1	2	3N max.	Non shorting	Actuator A	For PC board	Boss - both sides	5.3×13.0×8.35	●	●	●	24

Water-proof Type

SPVQ3 Series

Products No.	Poles	Positions	Operating force	Changeover timing	Operation part shape	Terminal type	Main body form	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVQ370700	1	2	3N max.	Non shorting	Actuator A	For Lead	Boss - right side	5.3×13.0×8.35	●	●	●	25
SPVQ370600	1	2	3N max.	Non shorting	Actuator A	For Lead	Boss - left side	5.3×13.0×8.35	●	●	●	26
SPVQ370500	1	2	3N max.	Non shorting	Actuator A	For Lead	Boss - both sides	5.3×13.0×8.35	●	●	●	27
SPVQ370900	1	2	3N max.	Non shorting	Actuator A	Angle (Right)	Boss - right side	5.3×13.0×8.35	●	●	●	28
SPVQ370800	1	2	3N max.	Non shorting	Actuator A	Angle (Left)	Boss - left side	5.3×13.0×8.35	●	●	●	29
SPVQ350100	1	2	3N max.	Non shorting	Actuator A	With wire (Downwards)	With a screw hole	5.3×13.0×8.35	●	●	●	30
SPVQ350200	1	2	3N max.	Non shorting	Actuator A	With wire (Downwards)	Boss - right side	5.3×13.0×8.35	●	●	●	31
SPVQ350300	1	2	3N max.	Non shorting	Actuator A	With wire (Downwards)	Boss - left side	5.3×13.0×8.35	●	●	●	32
SPVQ350400	1	2	3N max.	Non shorting	Actuator A	With wire (Downwards)	Boss - both sides	5.3×13.0×8.35	●	●	●	33
SPVQ350600	1	1	3N max.	Non shorting	Actuator A	With wire (Right side)	Boss - right side	5.3×13.0×8.35	●	●	●	34
SPVQ350700	1	1	3N max.	Non shorting	Actuator A	With wire (Right side)	Boss - left side	5.3×13.0×8.35	●	●	●	35
SPVQ350800	1	1	3N max.	Non shorting	Actuator A	With wire (Right side)	Boss - both sides	5.3×13.0×8.35	●	●	●	36
SPVQ350900	1	1	3N max.	Non shorting	Actuator A	With wire (Left side)	Boss - right side	5.3×13.0×8.35	●	●	●	37
SPVQ351000	1	1	3N max.	Non shorting	Actuator A	With wire (Left side)	Boss - left side	5.3×13.0×8.35	●	●	●	38
SPVQ351100	1	1	3N max.	Non shorting	Actuator A	With wire (Left side)	Boss - both sides	5.3×13.0×8.35	●	●	●	39
SPVQ371300	1	2	3N max.	Non shorting	Actuator B	For PC board	Without boss	5.3×13.0×8.35	●	●	●	40
SPVQ371200	1	2	3N max.	Non shorting	Actuator B	For PC board	Boss - right side	5.3×13.0×8.35	●	●	●	41
SPVQ371100	1	2	3N max.	Non shorting	Actuator B	For PC board	Boss - left side	5.3×13.0×8.35	●	●	●	42
SPVQ371000	1	2	3N max.	Non shorting	Actuator B	For PC board	Boss - both sides	5.3×13.0×8.35	●	●	●	43
SPVQ371600	1	2	3N max.	Non shorting	Actuator B	For Lead	Boss - right side	5.3×13.0×8.35	●	●	●	44
SPVQ371500	1	2	3N max.	Non shorting	Actuator B	For Lead	Boss - left side	5.3×13.0×8.35	●	●	●	45
SPVQ371400	1	2	3N max.	Non shorting	Actuator B	For Lead	Boss - both sides	5.3×13.0×8.35	●	●	●	46
SPVQ371800	1	2	3N max.	Non shorting	Actuator B	Angle (Right)	Boss - right side	5.3×13.0×8.35	●	●	●	47
SPVQ371700	1	2	3N max.	Non shorting	Actuator B	Angle (Left)	Boss - left side	5.3×13.0×8.35	●	●	●	48
SPVQ351200	1	2	3N max.	Non shorting	Actuator B	With wire (Downwards)	With a screw hole	5.3×13.0×8.35	●	●	●	49
SPVQ351300	1	2	3N max.	Non shorting	Actuator B	With wire (Downwards)	Boss - right side	5.3×13.0×8.35	●	●	●	50
SPVQ351400	1	2	3N max.	Non shorting	Actuator B	With wire (Downwards)	Boss - left side	5.3×13.0×8.35	●	●	●	51
SPVQ351500	1	2	3N max.	Non shorting	Actuator B	With wire (Downwards)	Boss - both sides	5.3×13.0×8.35	●	●	●	52
SPVQ351700	1	1	3N max.	Non shorting	Actuator B	With wire (Right side)	Boss - right side	5.3×13.0×8.35	●	●	●	53
SPVQ351800	1	1	3N max.	Non shorting	Actuator B	With wire (Right side)	Boss - left side	5.3×13.0×8.35	●	●	●	54
SPVQ351900	1	1	3N max.	Non shorting	Actuator B	With wire (Right side)	Boss - both sides	5.3×13.0×8.35	●	●	●	55
SPVQ352000	1	1	3N max.	Non shorting	Actuator B	With wire (Left side)	Boss - right side	5.3×13.0×8.35	●	●	●	56
SPVQ352100	1	1	3N max.	Non shorting	Actuator B	With wire (Left side)	Boss - left side	5.3×13.0×8.35	●	●	●	57
SPVQ352200	1	1	3N max.	Non shorting	Actuator B	With wire (Left side)	Boss - both sides	5.3×13.0×8.35	●	●	●	58

Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Unless specified, the length of the lead wire is 250mm. Color is either Red, Black or Yellow. For length modification, please contact us.
3. This unit cannnot be used in water (IP6K7 rating, except for terminal).
4. Unless circuit is specified, wired (downward) types will apply three wires.
5. Please specify circuit (N. O. or N. C.) for wired (side) types. Unless specified, the circuit will apply N. O.
6. Please place purchase orders per minimum order unit (integer).
7. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

■ Packing Specifications

Tray

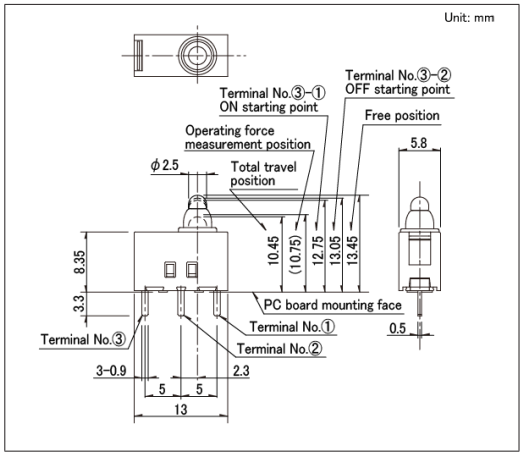
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SPVQ380400 **SPVQ380300** **SPVQ380201** **SPVQ380100** **SPVQ380700** **SPVQ380600** **SPVQ380500** **SPVQ380900** **SPVQ380800** **SPVQ370400** **SPVQ370300** **SPVQ370200** **SPVQ370100** **SPVQ370700** **SPVQ370600** **SPVQ370500** **SPVQ370900** **SPVQ370800** **SPVQ371300** **SPVQ371200** **SPVQ371100** **SPVQ371000** **SPVQ371600** **SPVQ371500** **SPVQ371400** **SPVQ371800** **SPVQ371700**	1,300	5,200	540 x 360 x 290

Bulk

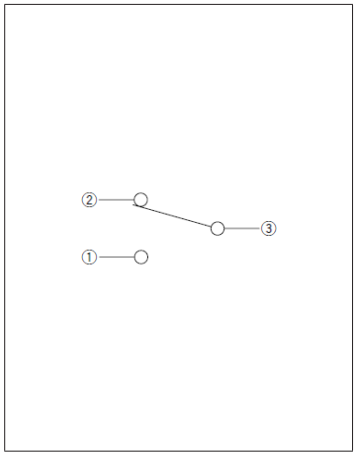
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SPVQ361000 **SPVQ361100** **SPVQ361200** **SPVQ361300** **SPVQ361400** **SPVQ361500** **SPVQ361600** **SPVQ361700** **SPVQ361800** **SPVQ361900** **SPVQ362000**	400	1,600	555 x 375 x 223
SPVQ350100 **SPVQ350200** **SPVQ350300** **SPVQ350400** **SPVQ351200** **SPVQ351300** **SPVQ351400** **SPVQ351500**	180	720	540 x 360 x 270
SPVQ350600 **SPVQ350700** **SPVQ350800** **SPVQ350900** **SPVQ351000** **SPVQ351100** **SPVQ351700** **SPVQ351800** **SPVQ351900** **SPVQ352000** **SPVQ352100** **SPVQ352200**	168	672	555 x 375 x 223

Drawing No.1

■ Dimensions

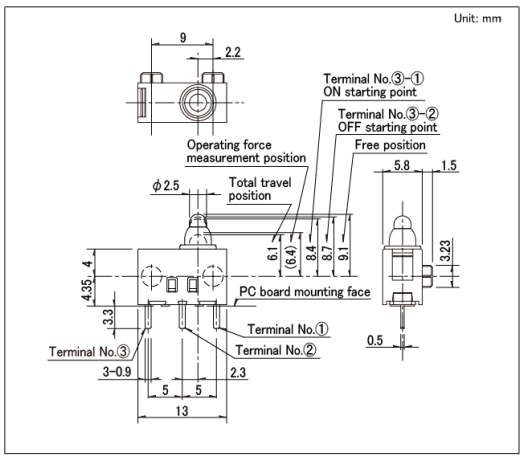


■ Circuit Diagram

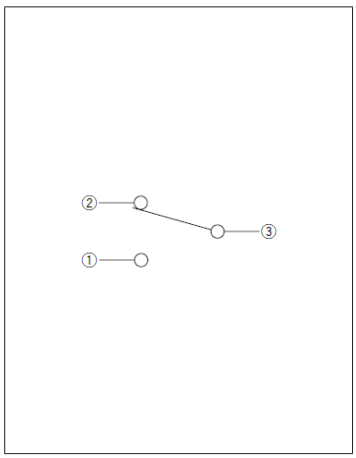


Drawing No.2

■ Dimensions

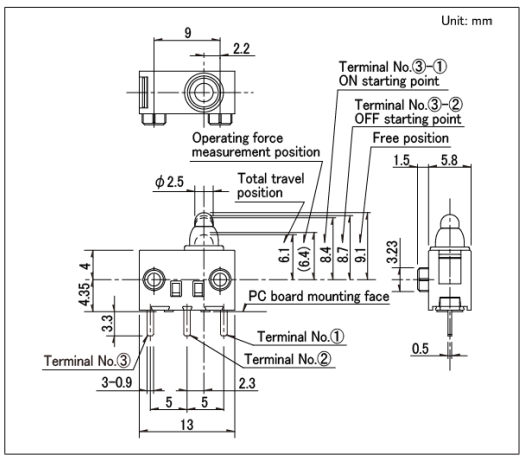


■ Circuit Diagram

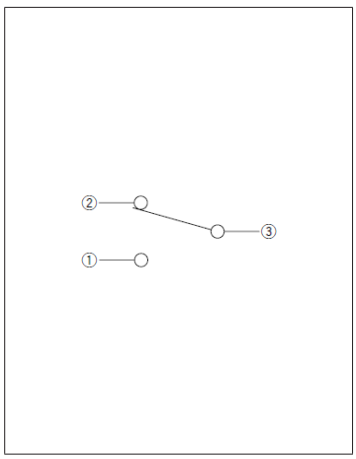


Drawing No.3

■ Dimensions

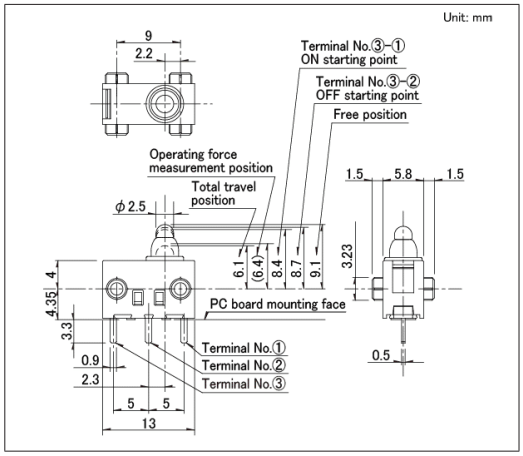


■ Circuit Diagram

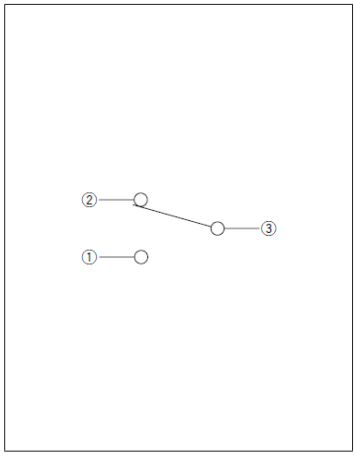


Drawing No.4

■ Dimensions

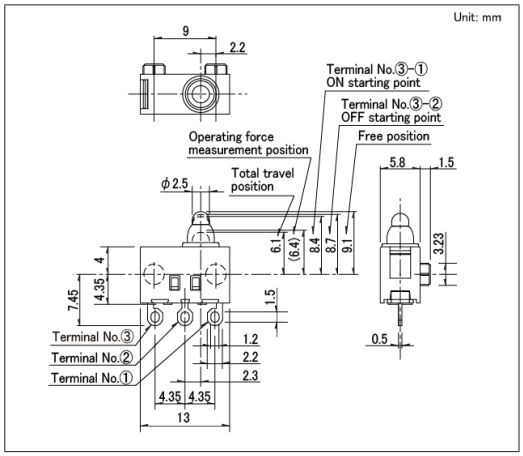


■ Circuit Diagram

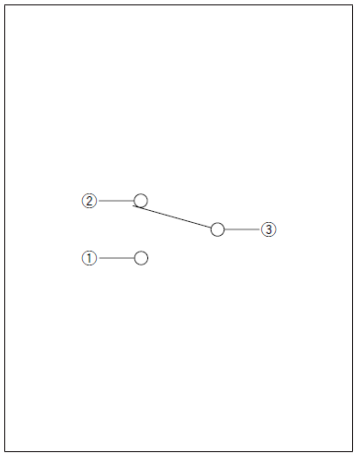


Drawing No.5

■ Dimensions

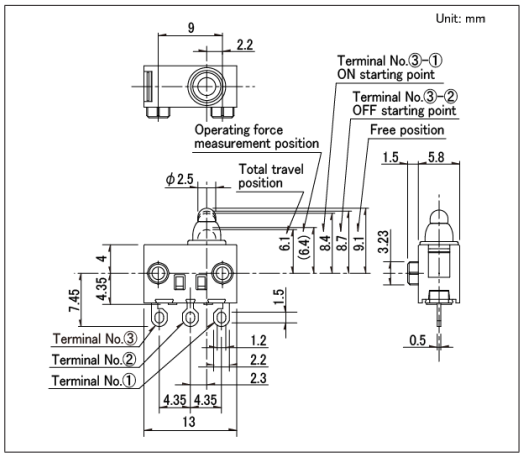


■ Circuit Diagram

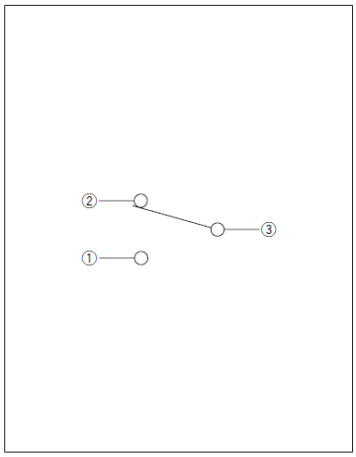


Drawing No.6

■ Dimensions

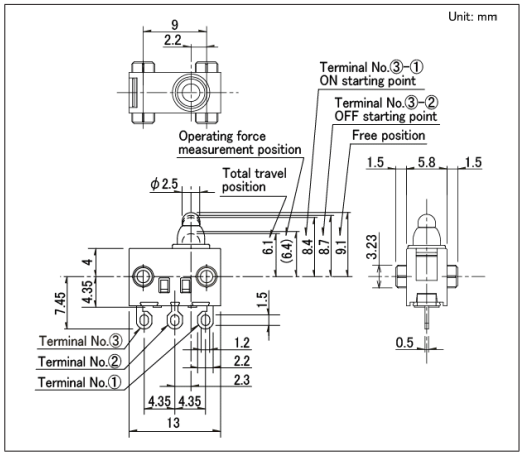


■ Circuit Diagram

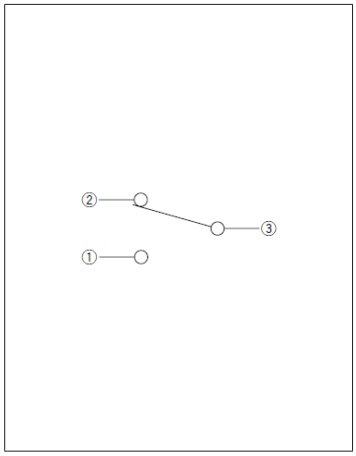


Drawing No.7

■ Dimensions

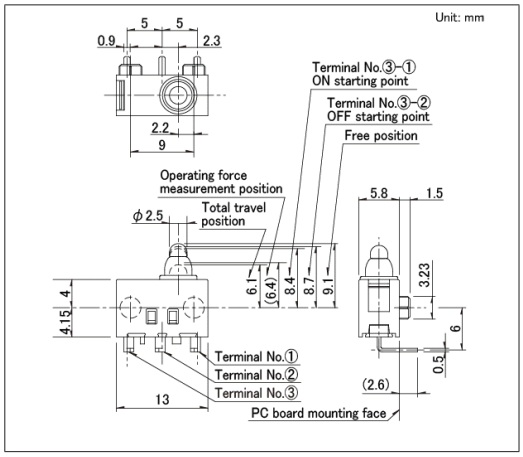


■ Circuit Diagram

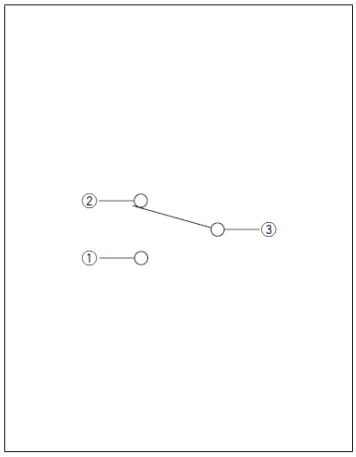


Drawing No.8

■ Dimensions

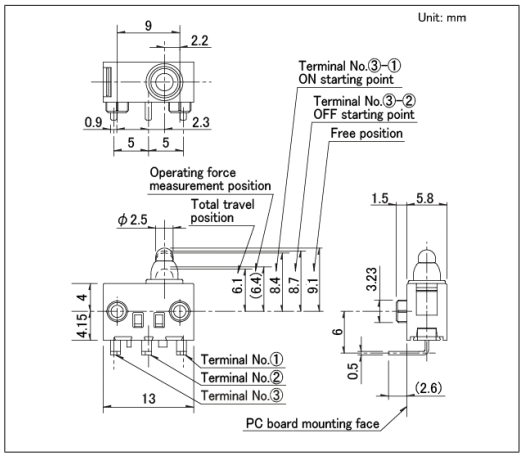


■ Circuit Diagram

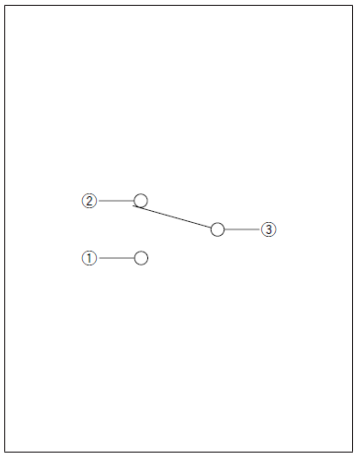


Drawing No.9

■ Dimensions

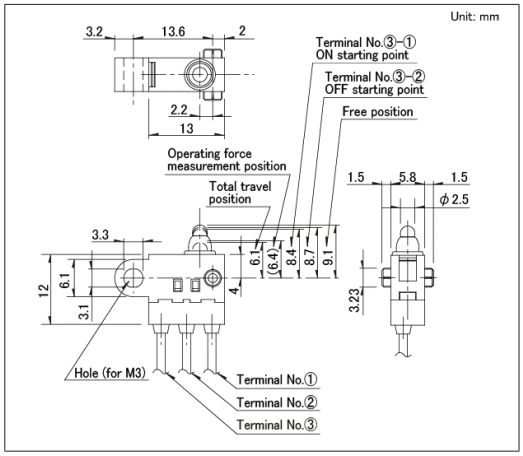


■ Circuit Diagram

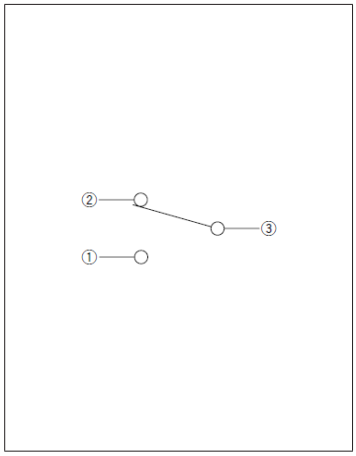


Drawing No.10

■ Dimensions

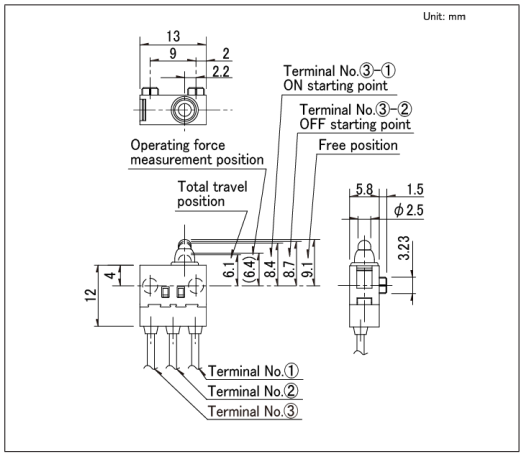


■ Circuit Diagram

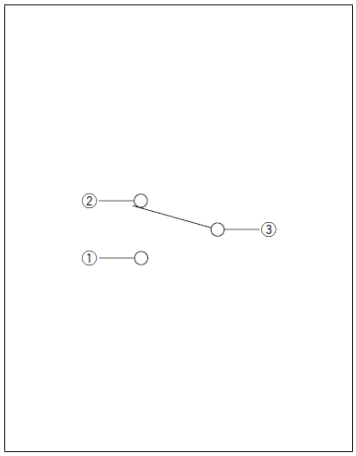


Drawing No.11

■ Dimensions

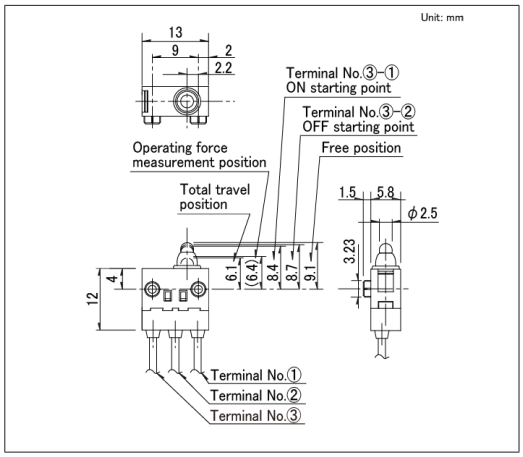


■ Circuit Diagram

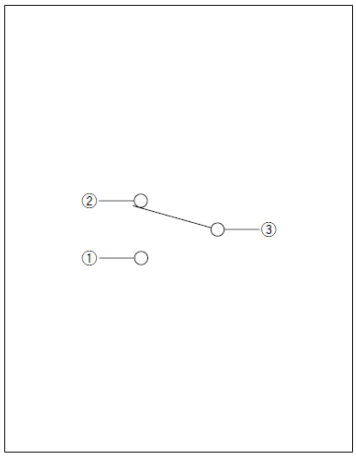


Drawing No.12

■ Dimensions

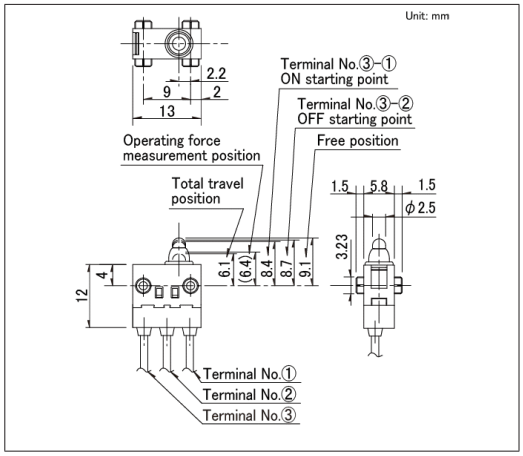


■ Circuit Diagram

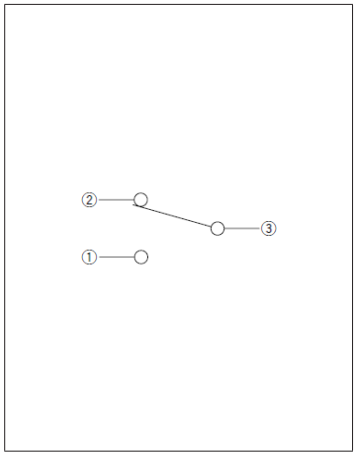


Drawing No.13

■ Dimensions

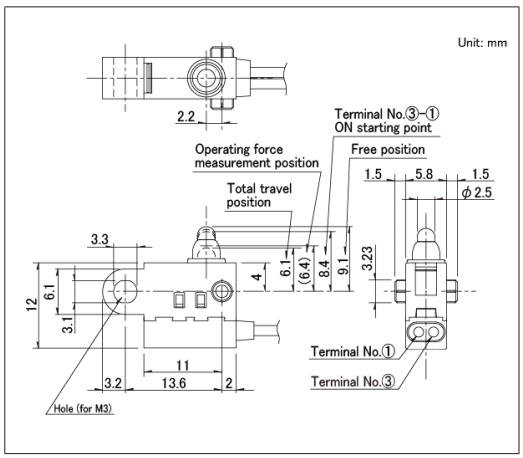


■ Circuit Diagram

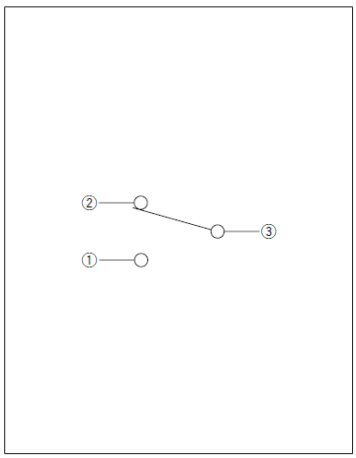


Drawing No.14

■ Dimensions

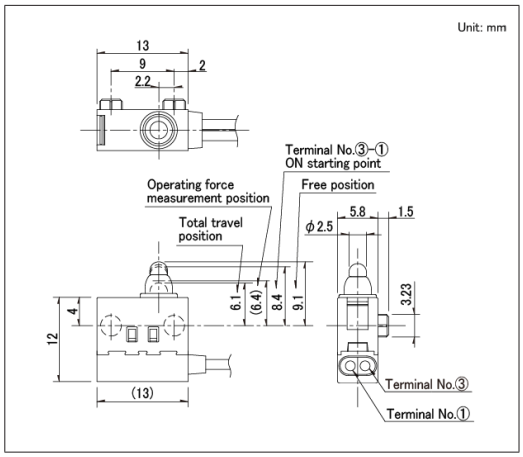


■ Circuit Diagram

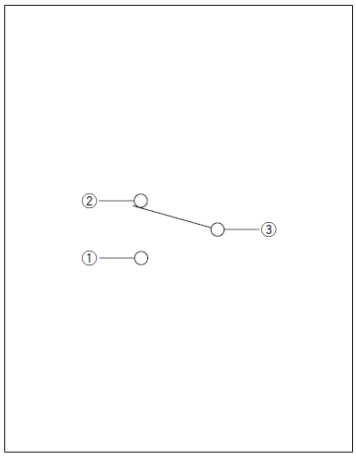


Drawing No.15

■ Dimensions

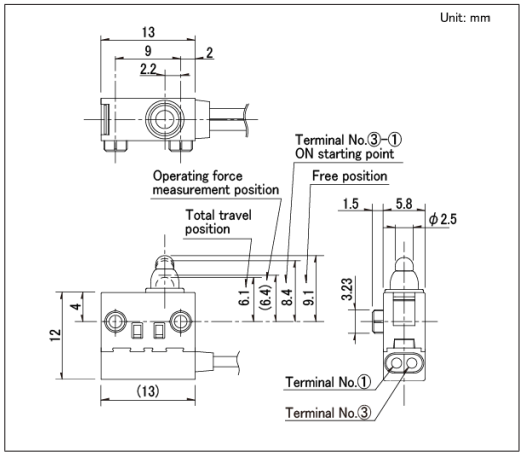


■ Circuit Diagram

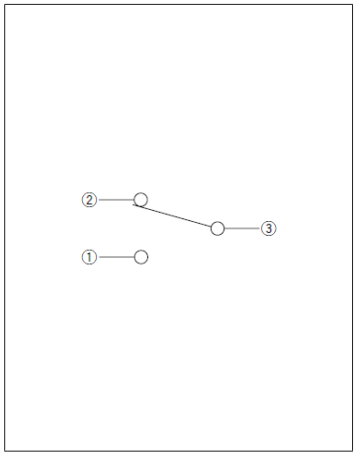


Drawing No.16

■ Dimensions

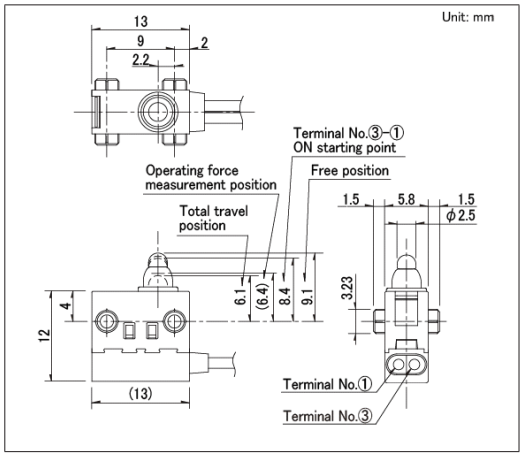


■ Circuit Diagram

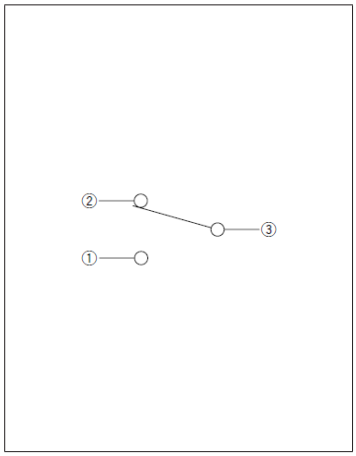


Drawing No.17

■ Dimensions

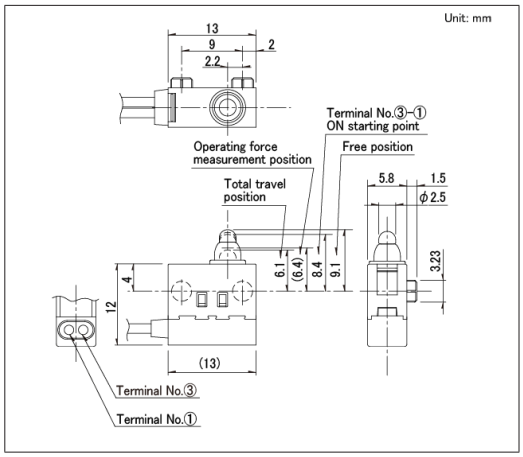


■ Circuit Diagram

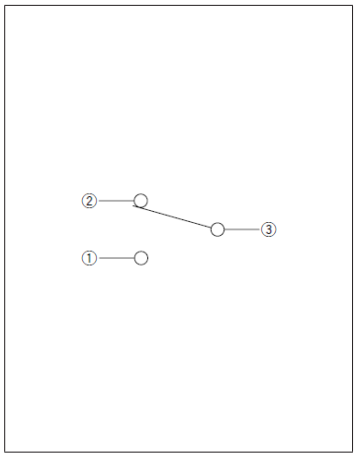


Drawing No.18

■ Dimensions

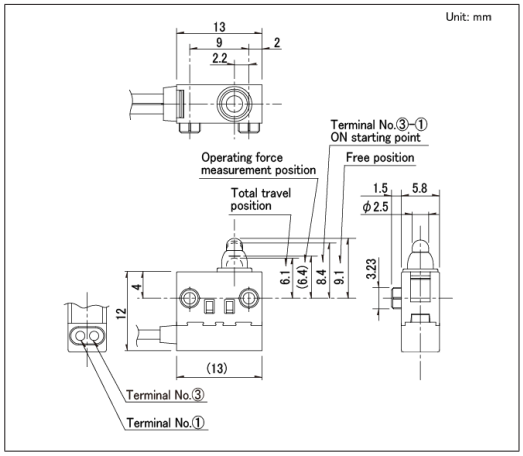


■ Circuit Diagram

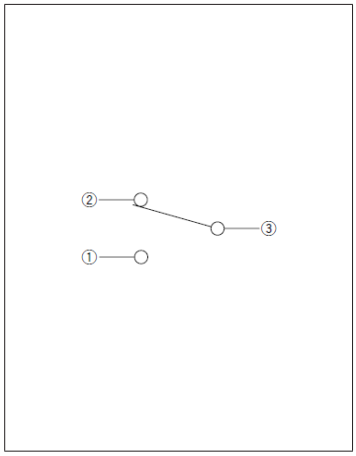


Drawing No.19

■ Dimensions

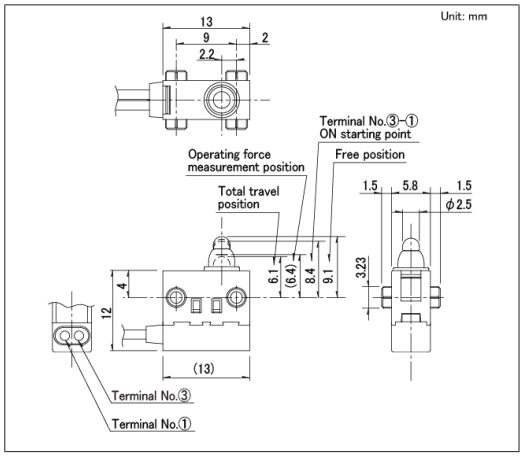


■ Circuit Diagram

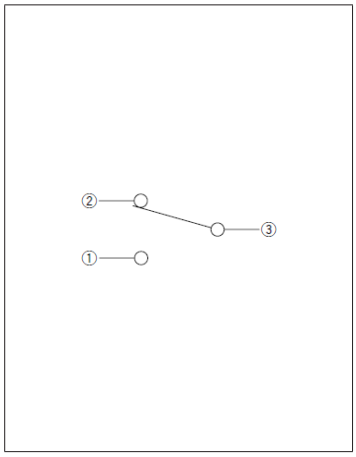


Drawing No.20

■ Dimensions

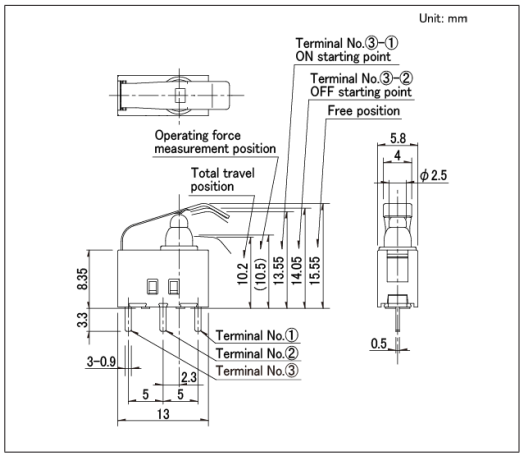


■ Circuit Diagram

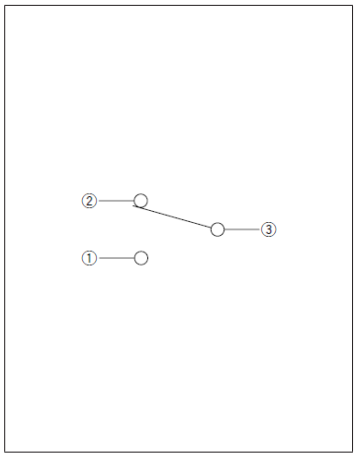


Drawing No.21

■ Dimensions



■ Circuit Diagram

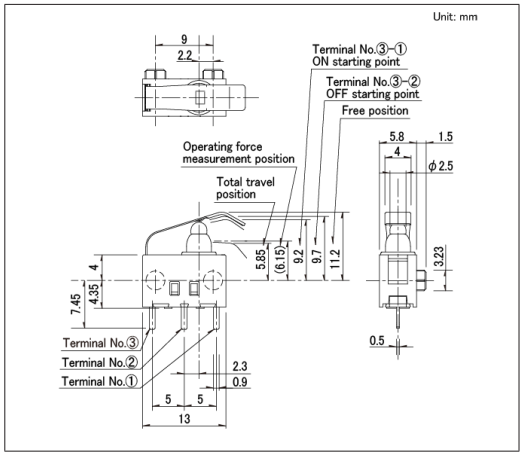


Water-proof Type

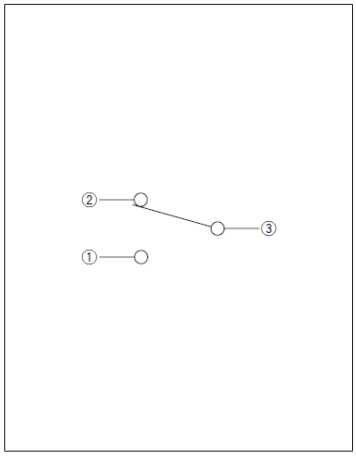
SPVQ3 Series

Drawing No.22

■ Dimensions

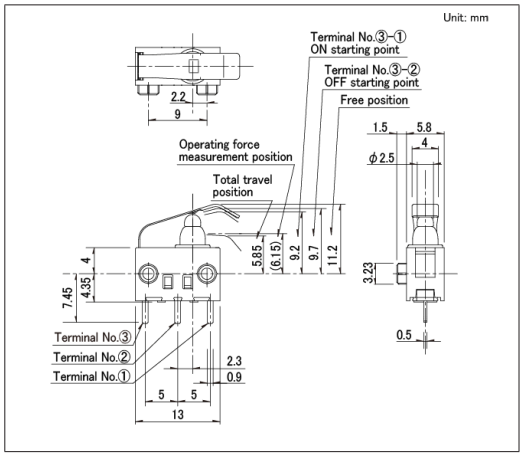


■ Circuit Diagram

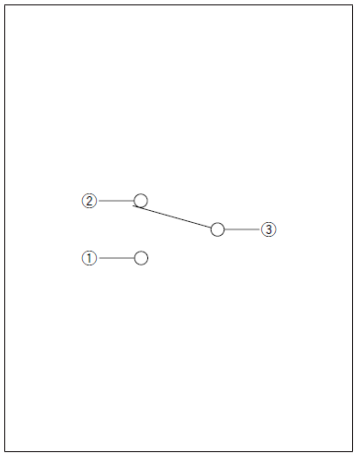


Drawing No.23

■ Dimensions

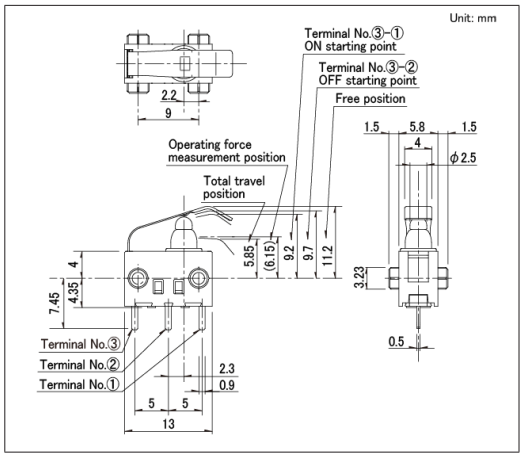


■ Circuit Diagram

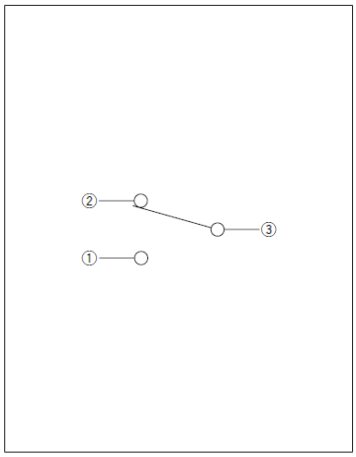


Drawing No.24

■ Dimensions

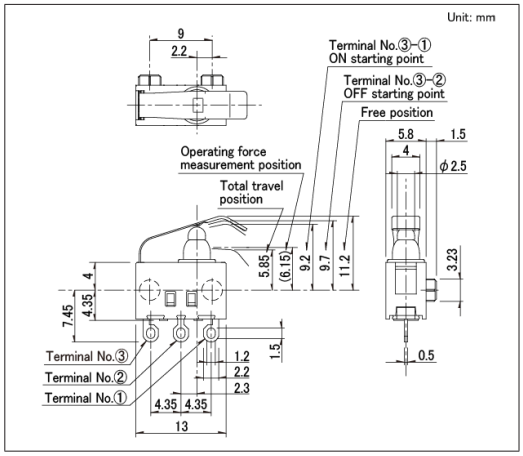


■ Circuit Diagram

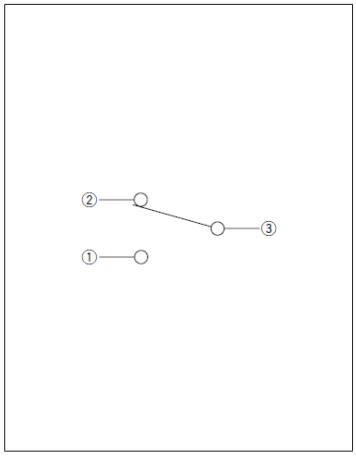


Drawing No.25

■ Dimensions

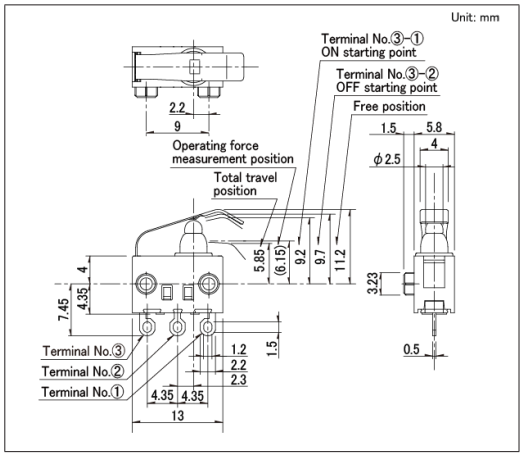


■ Circuit Diagram

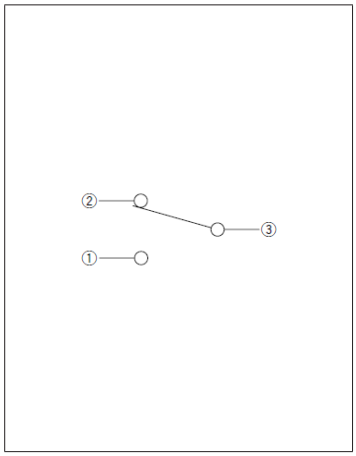


Drawing No.26

■ Dimensions

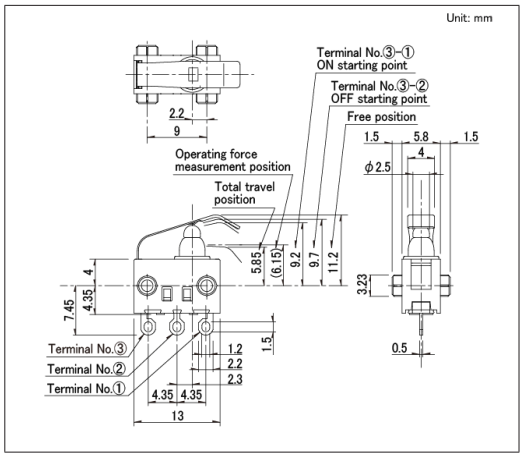


■ Circuit Diagram

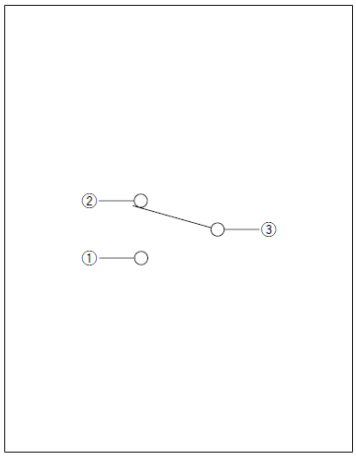


Drawing No.27

■ Dimensions

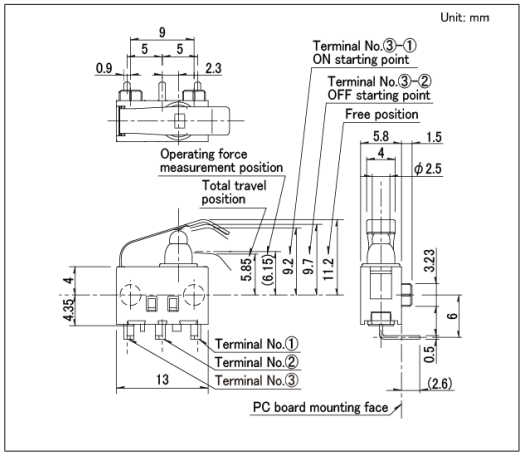


■ Circuit Diagram

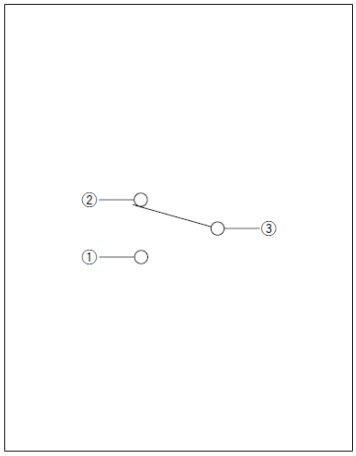


Drawing No.28

■ Dimensions

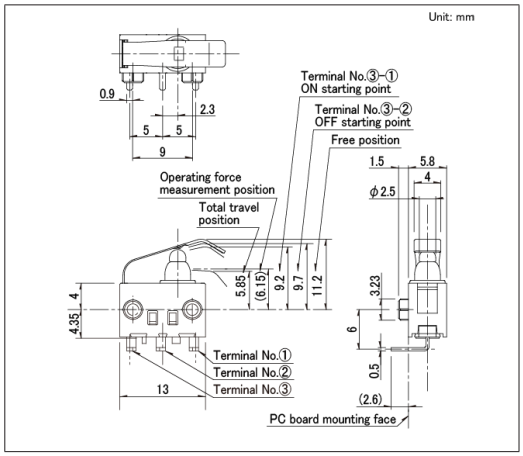


■ Circuit Diagram

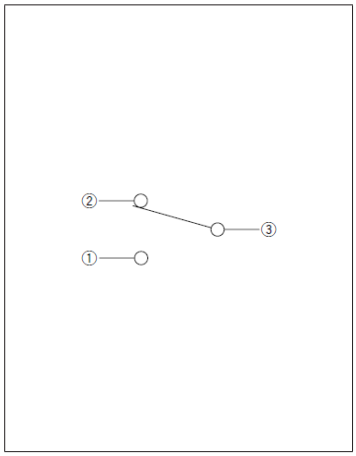


Drawing No.29

■ Dimensions

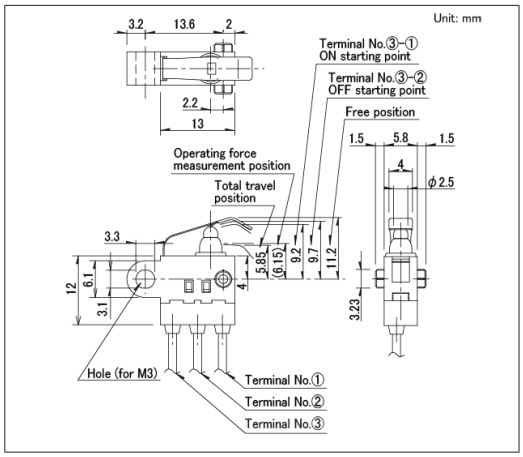


■ Circuit Diagram

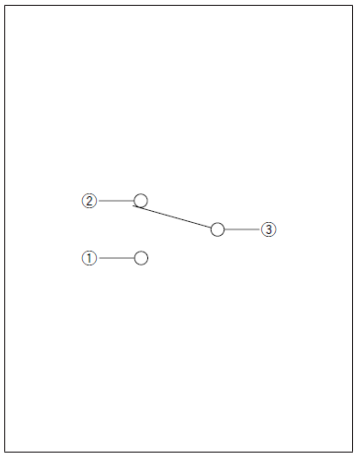


Drawing No.30

■ Dimensions



■ Circuit Diagram

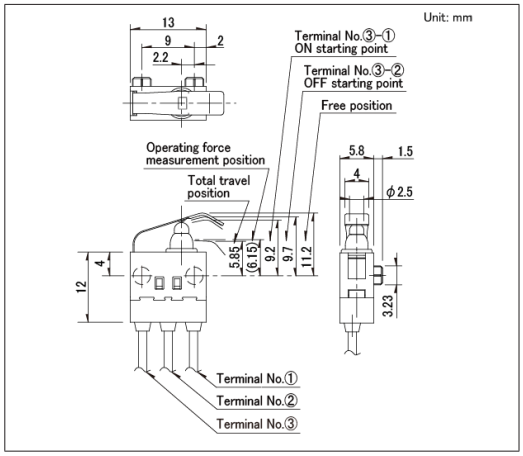


Water-proof Type

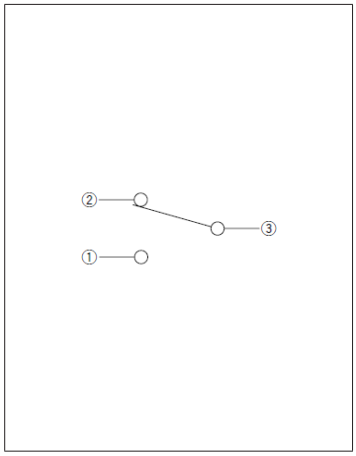
SPVQ3 Series

Drawing No.31

■ Dimensions

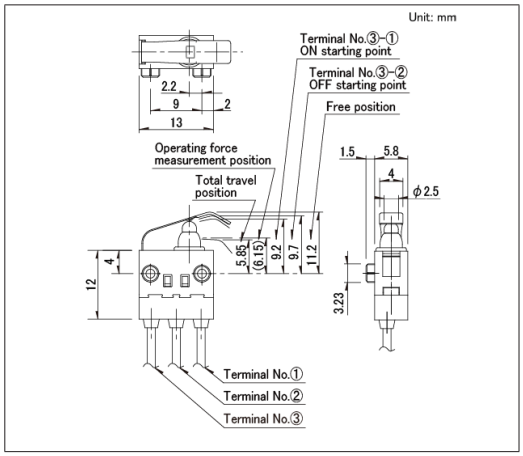


■ Circuit Diagram

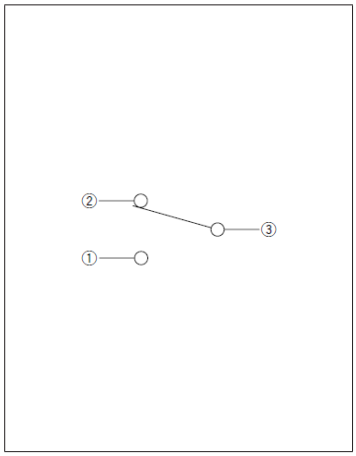


Drawing No.32

■ Dimensions

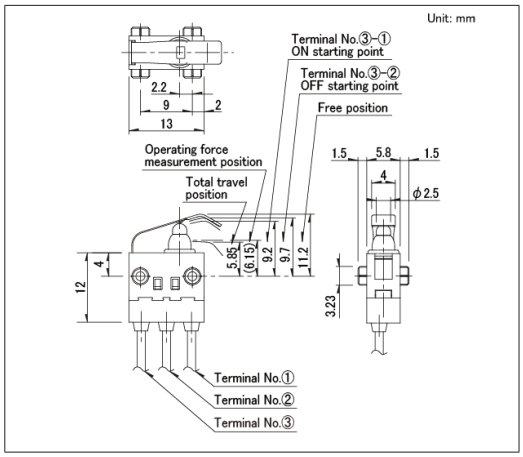


■ Circuit Diagram

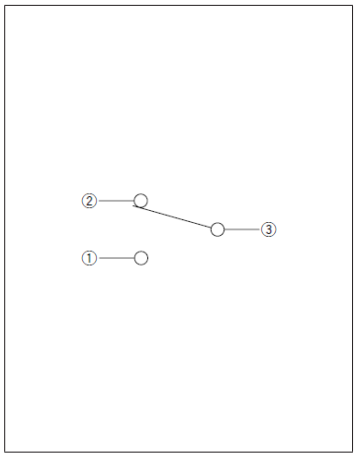


Drawing No.33

■ Dimensions

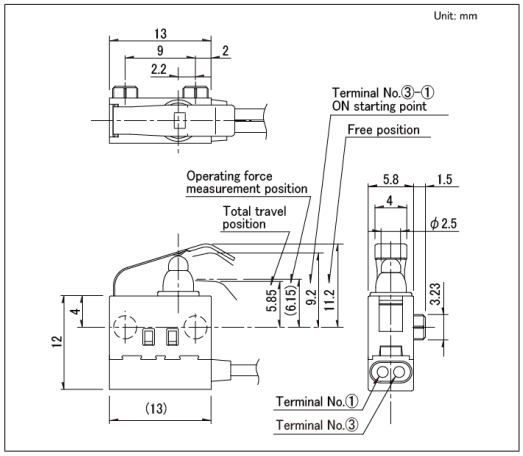


■ Circuit Diagram

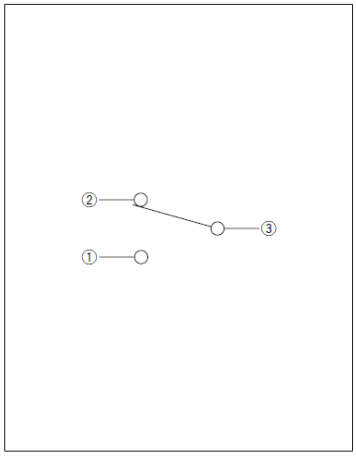


Drawing No.34

■ Dimensions

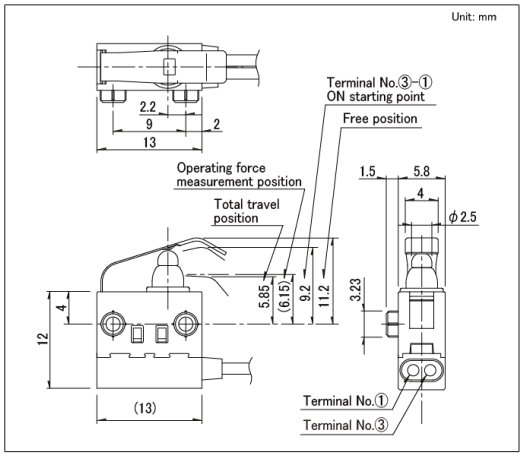


■ Circuit Diagram

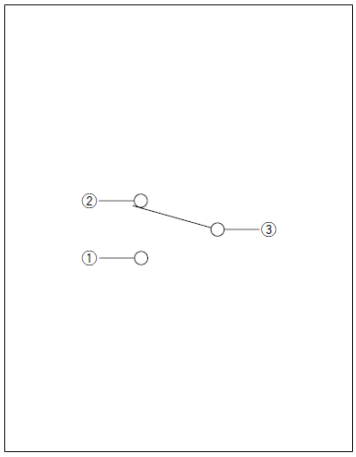


Drawing No.35

■ Dimensions

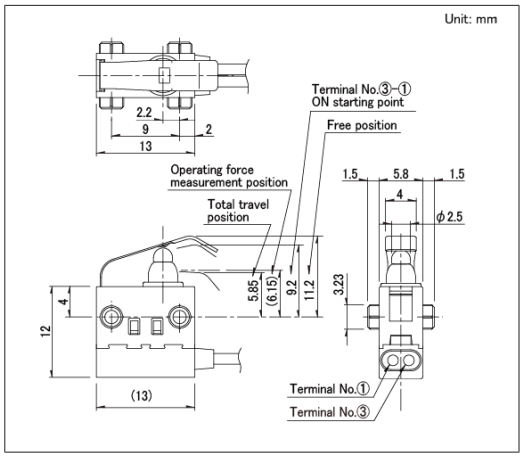


■ Circuit Diagram

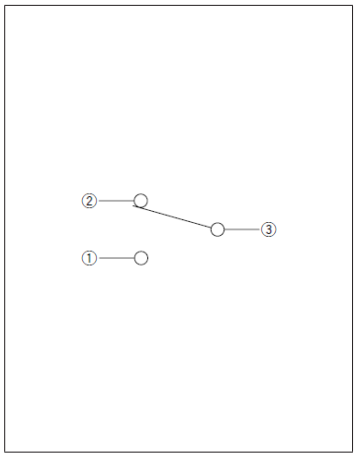


Drawing No.36

■ Dimensions

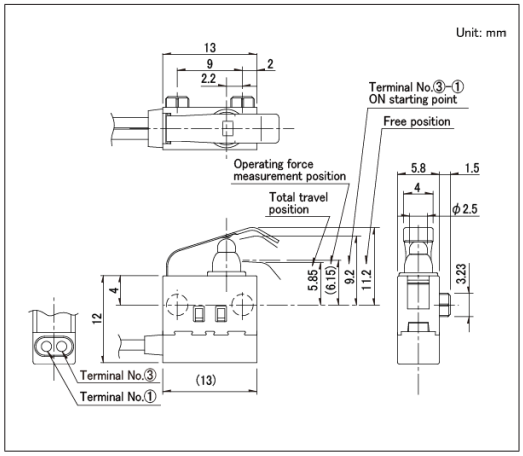


■ Circuit Diagram

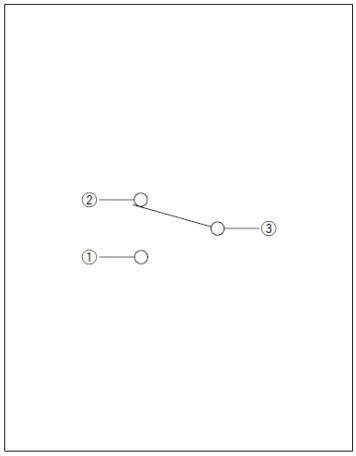


Drawing No.37

■ Dimensions

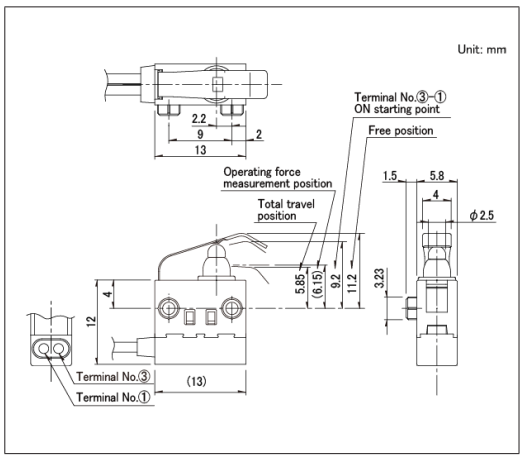


■ Circuit Diagram

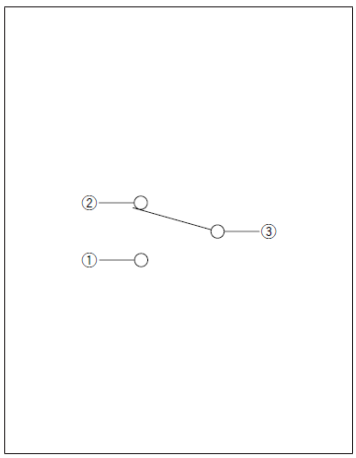


Drawing No.38

■ Dimensions

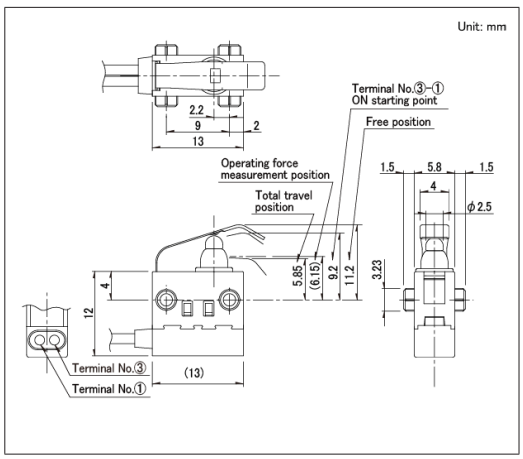


■ Circuit Diagram

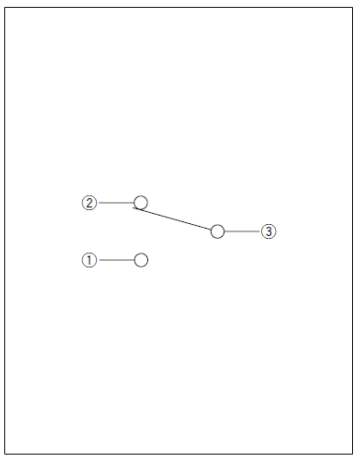


Drawing No.39

■ Dimensions

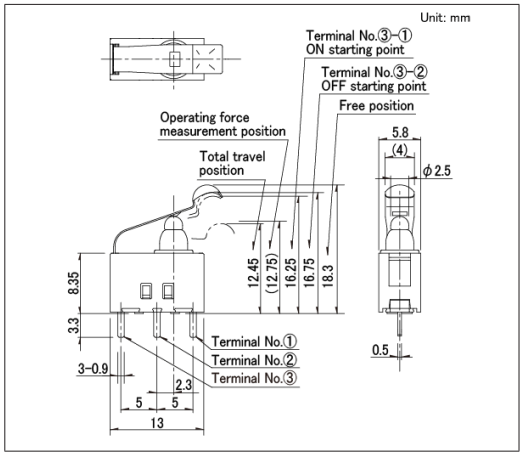


■ Circuit Diagram

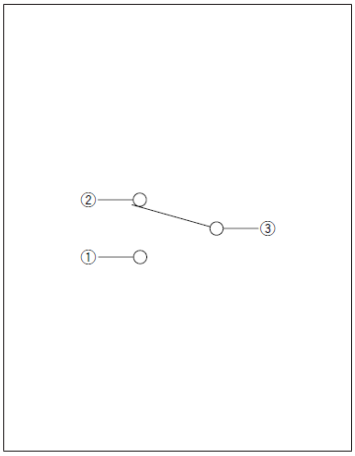


Drawing No.40

■ Dimensions

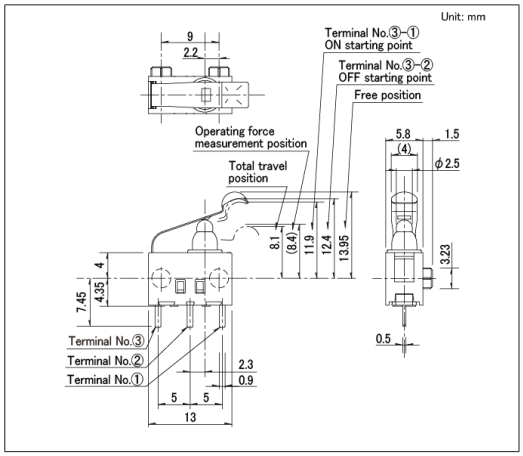


■ Circuit Diagram

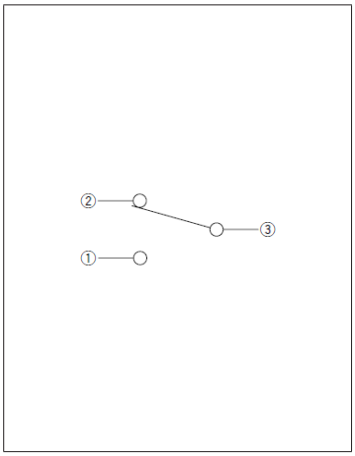


Drawing No.41

■ Dimensions

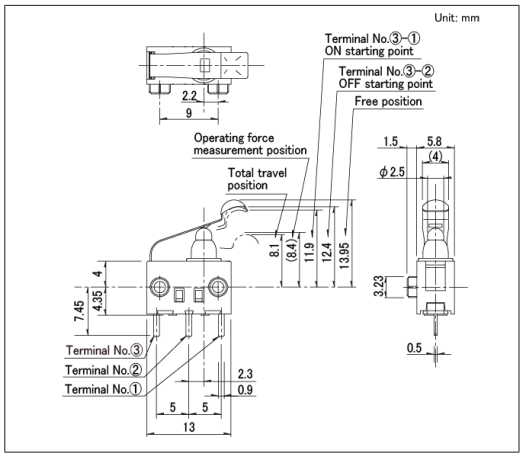


■ Circuit Diagram

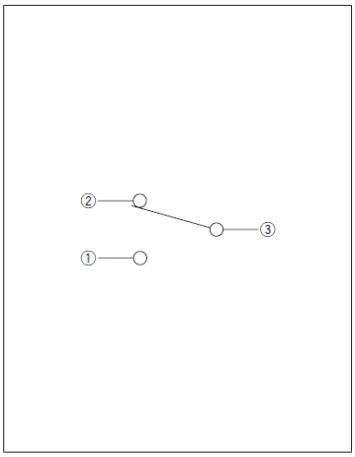


Drawing No.42

■ Dimensions

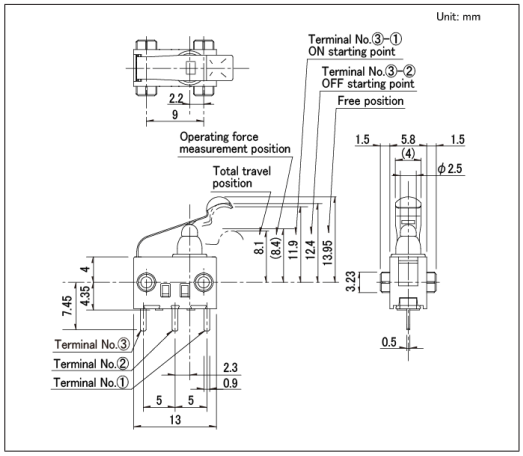


■ Circuit Diagram

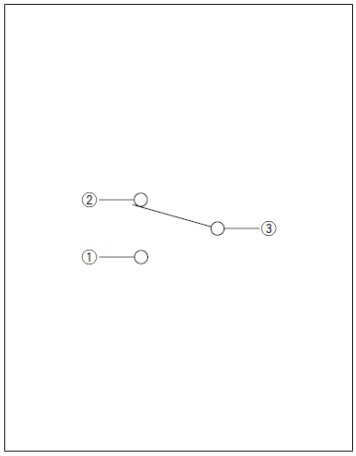


Drawing No.43

■ Dimensions

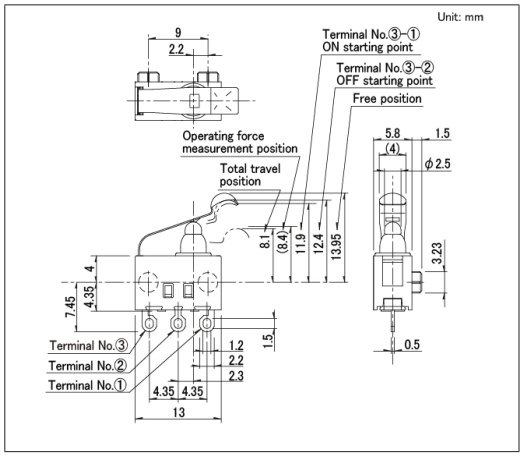


■ Circuit Diagram

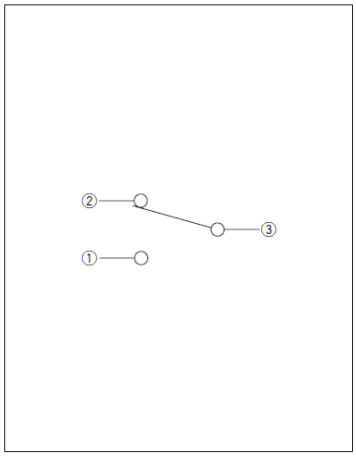


Drawing No.44

■ Dimensions

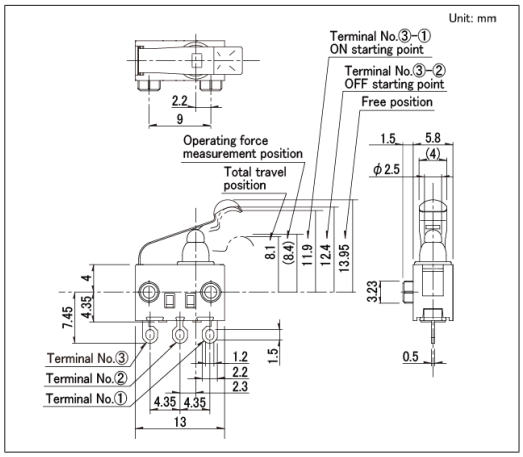


■ Circuit Diagram

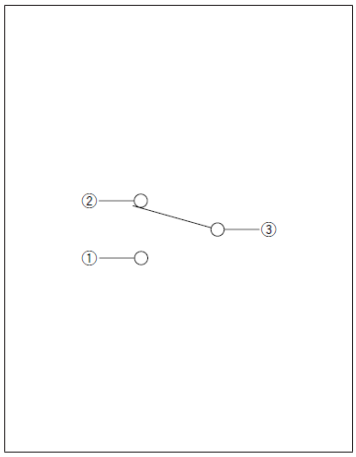


Drawing No.45

■ Dimensions



■ Circuit Diagram

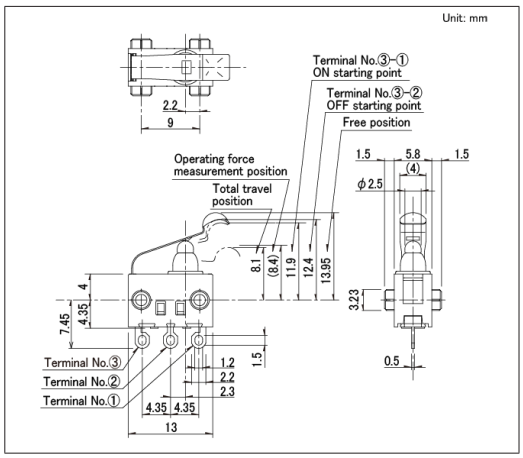


Water-proof Type

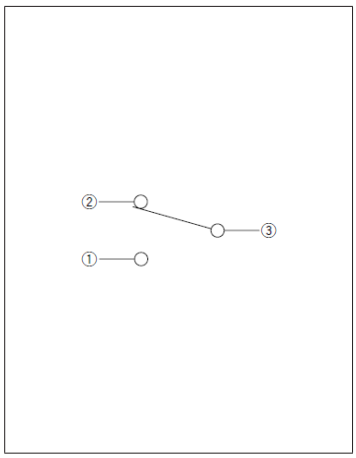
SPVQ3 Series

Drawing No.46

■ Dimensions

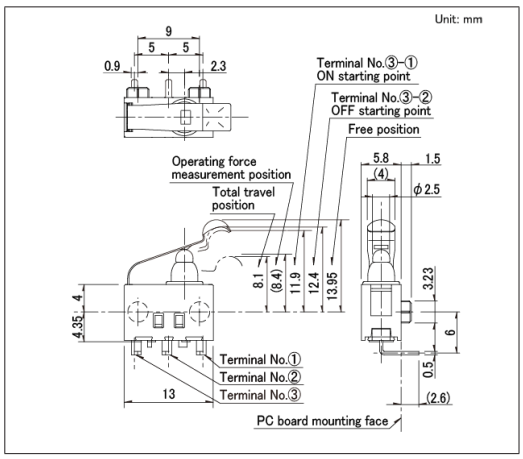


■ Circuit Diagram

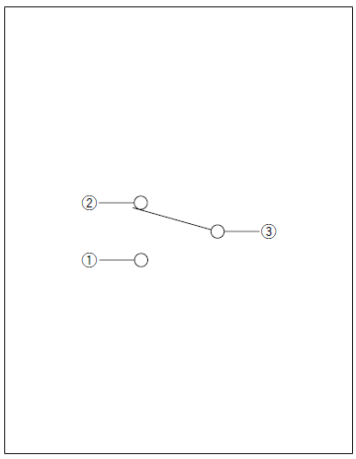


Drawing No.47

■ Dimensions

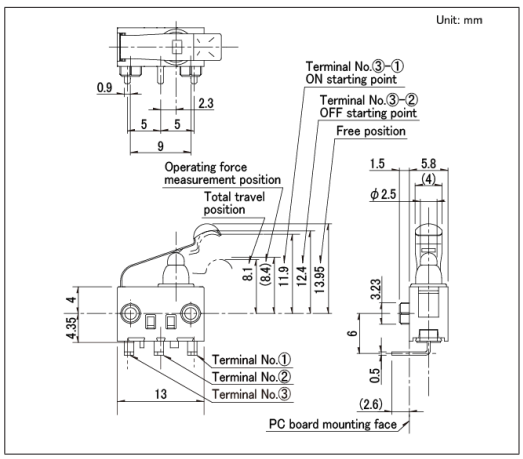


■ Circuit Diagram

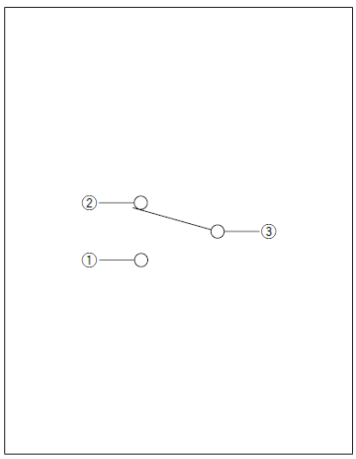


Drawing No.48

■ Dimensions

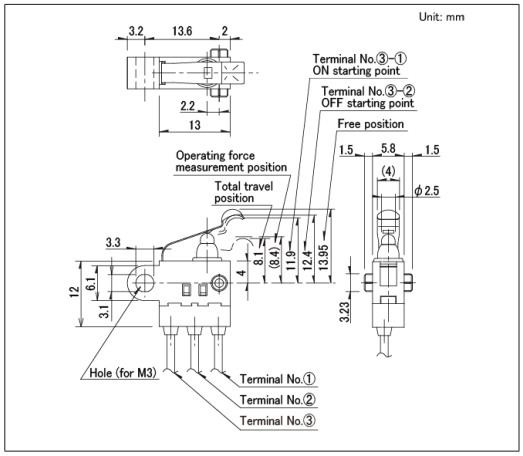


■ Circuit Diagram

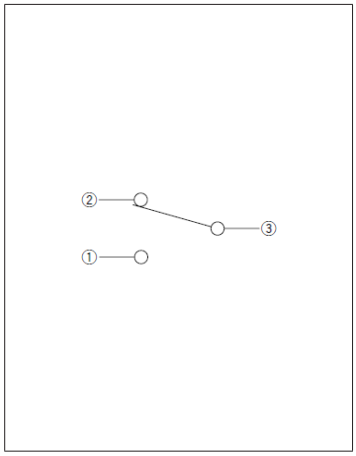


Drawing No.49

■ Dimensions

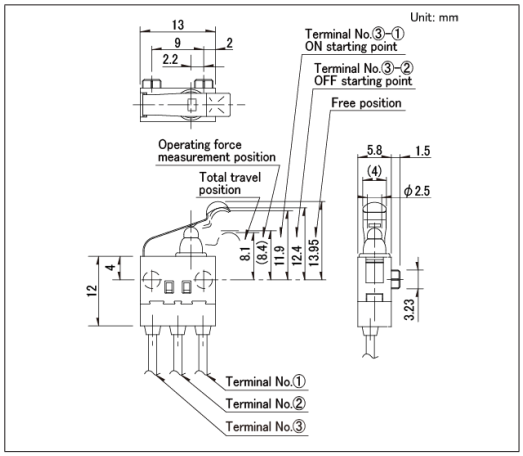


■ Circuit Diagram

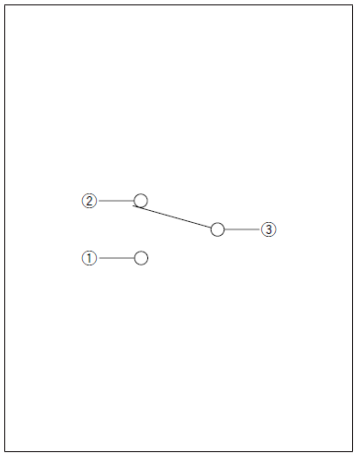


Drawing No.50

■ Dimensions

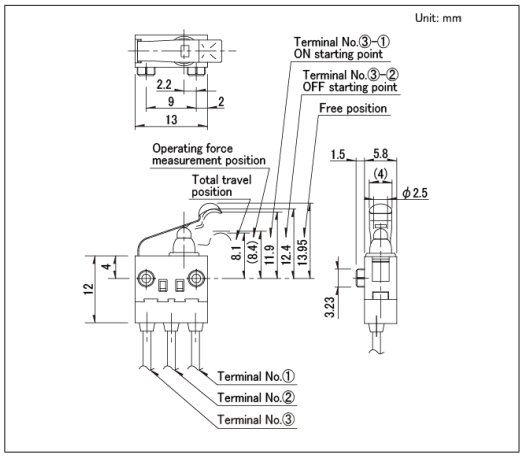


■ Circuit Diagram

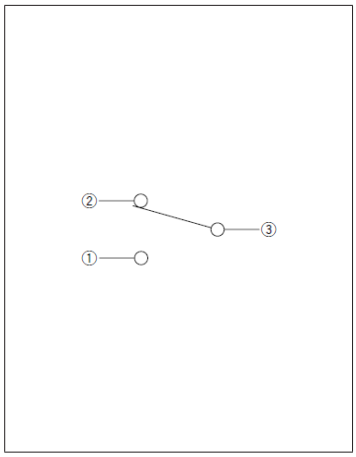


Drawing No.51

■ Dimensions



■ Circuit Diagram

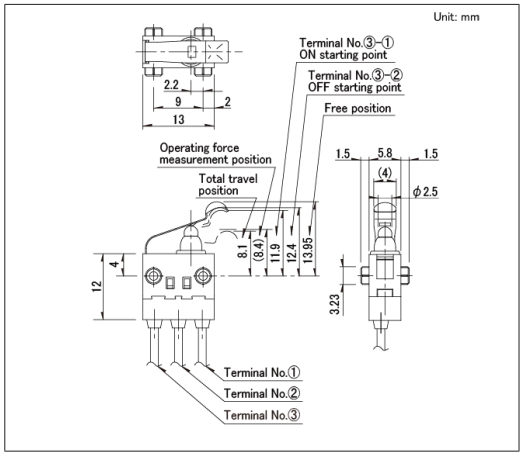


Water-proof Type

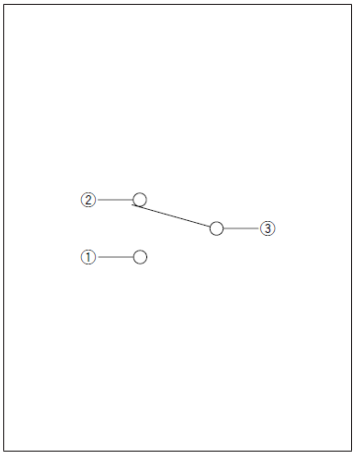
SPVQ3 Series

Drawing No.52

■ Dimensions

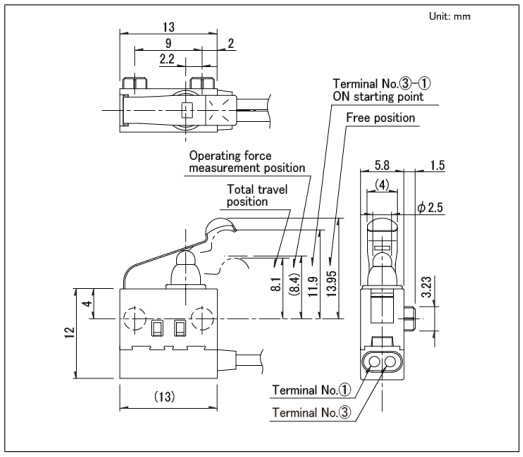


■ Circuit Diagram

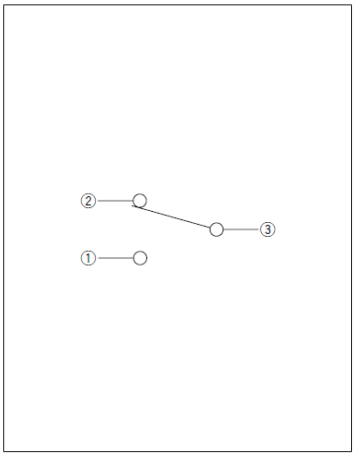


Drawing No.53

■ Dimensions

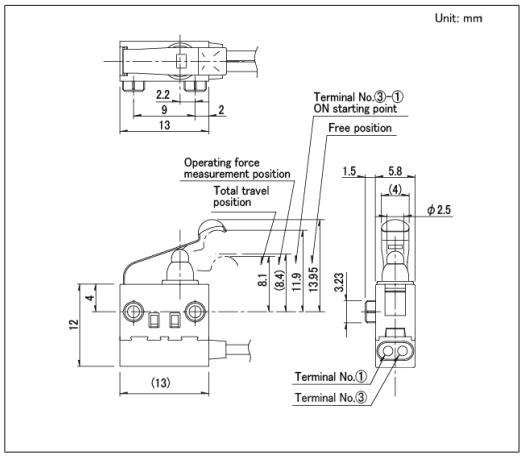


■ Circuit Diagram

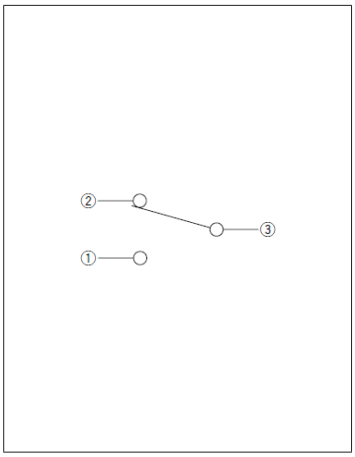


Drawing No.54

■ Dimensions

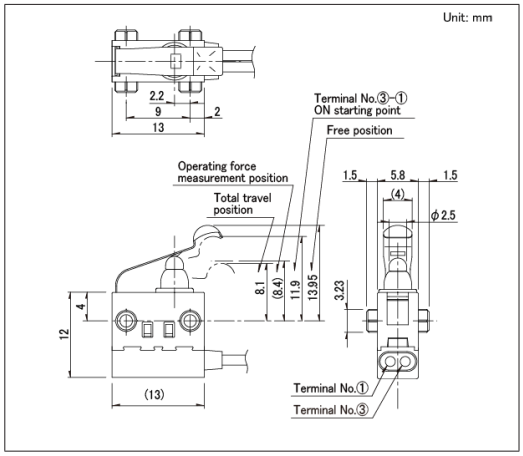


■ Circuit Diagram

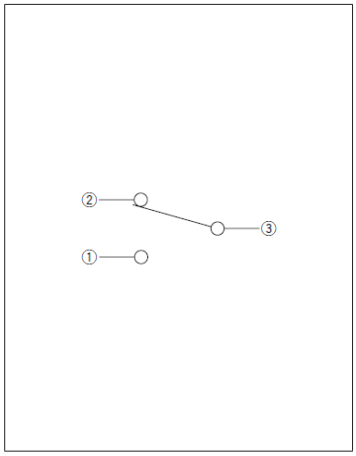


Drawing No.55

■ Dimensions

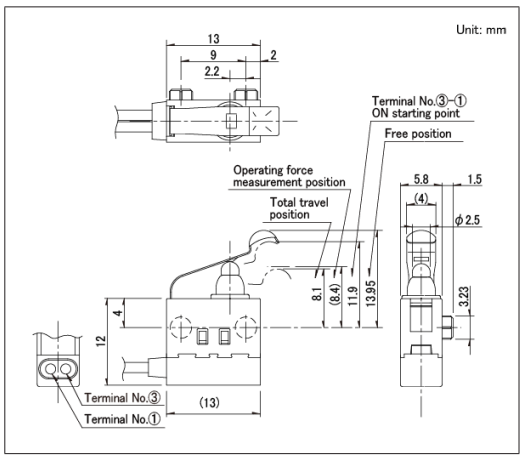


■ Circuit Diagram

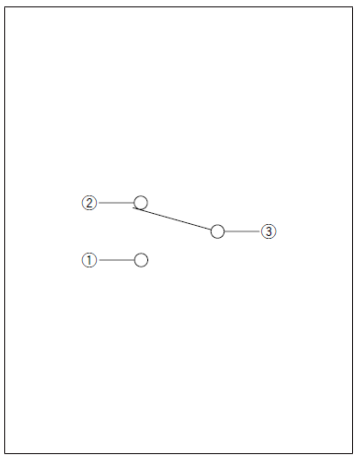


Drawing No.56

■ Dimensions

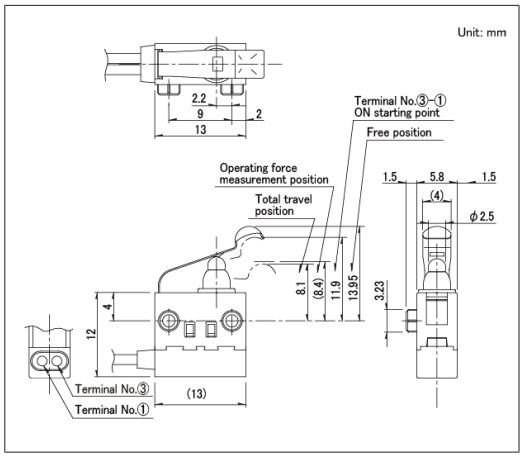


■ Circuit Diagram

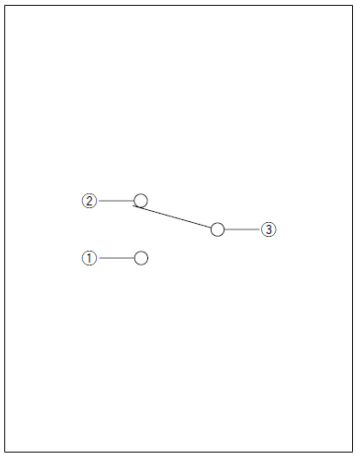


Drawing No.57

■ Dimensions

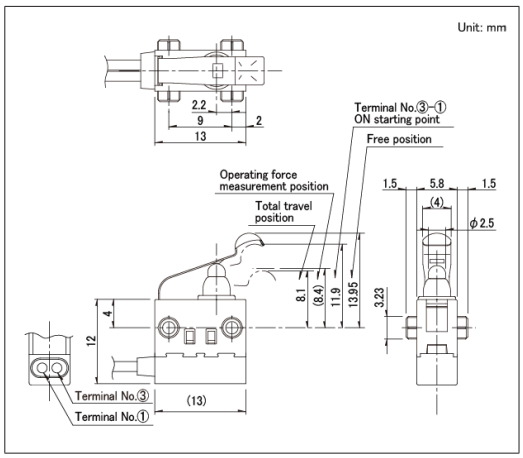


■ Circuit Diagram

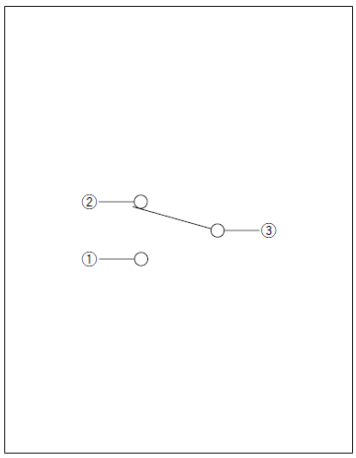


Drawing No.58

■ Dimensions

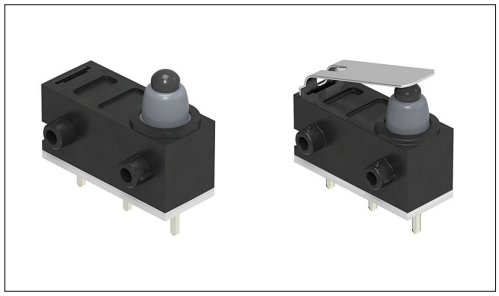


■ Circuit Diagram



Water-proof Type
SPVQ6 Series

Compact type with body dimensions of 13.3×5.3mm and a height of 7.0mm.



Automotive | Water-proof Type | Dust-proof Type

- Rating(max.)/(min.)(Resistive load):0.1A 12V DC/50μA 5V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:300,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  300,000 cycles 1Ω max.

Applications:Energy_Industrial:Robots, drones,Industrial equipment
Home:Major home appliances
Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Type	Poles	Positions	Operating force	Changeover timing	Operation part shape	Terminal type	Main body form	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVQ640102	—	1	2	1±0.5N	Non shorting	Push	For PC board	Boss - right side	5.3×13.3×6.5	●	●	●	1
SPVQ640202		1	2	1±0.5N	Non shorting	Push	For PC board	Boss - left side	5.3×13.3×6.5	●	●	●	2
SPVQ630104		1	2	3N max.	Non shorting	Actuator	For PC board	Boss - right side	5.3×13.3×6.5	●	●	●	3
SPVQ630203		1	2	3N max.	Non shorting	Actuator	For PC board	Boss - left side	5.3×13.3×6.5	●	●	●	4
SPVQ6R	With internal resistor type	1	1	3N max.	Non shorting	Actuator	Press-fit (normal type)	Without boss / Left bending	5.3×13.3×6.5	●	●	●	5

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. This unit cannnot be used in water (IP6K7 rating, except for terminal).
3. Please place purchase orders per minimum order unit (integer).
4. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.
5. For the Recommended Unit Terminal Shape for Press-Fit Terminals (Normally Open) for SPVQ6R, please check our website.

■ Packing Specifications

Tray

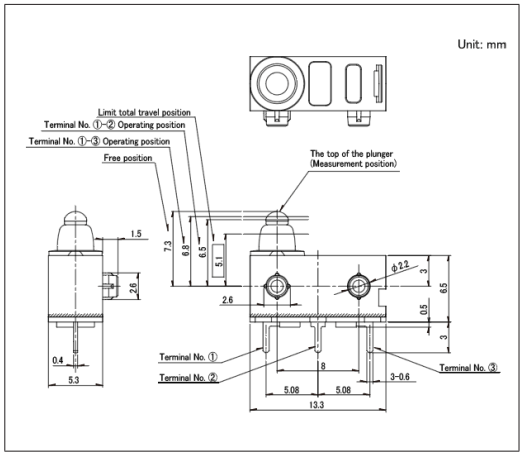
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
1,500	6,000	540×360×270

Water-proof Type

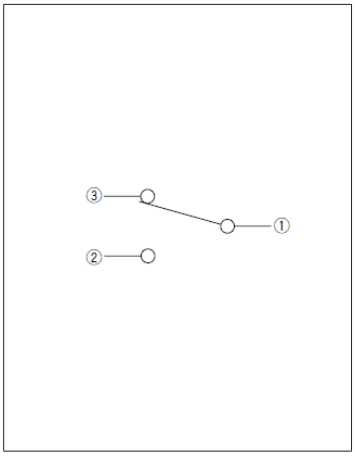
SPVQ6 Series

Drawing No.1

■ Dimensions

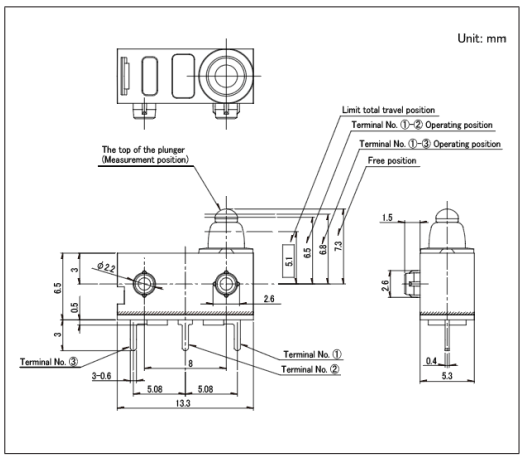


■ Circuit Diagram

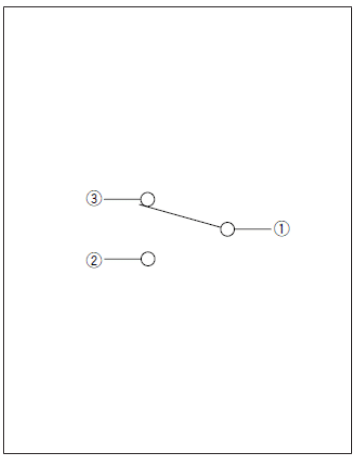


Drawing No.2

■ Dimensions

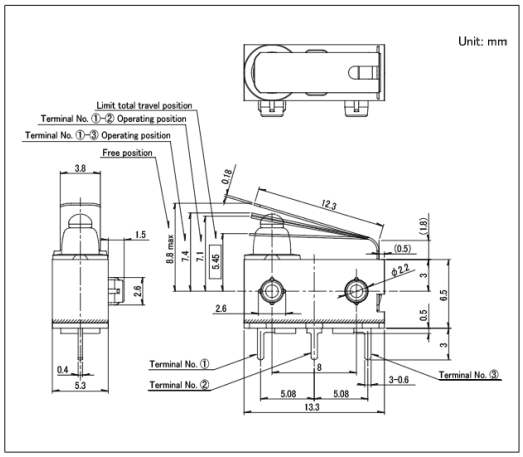


■ Circuit Diagram

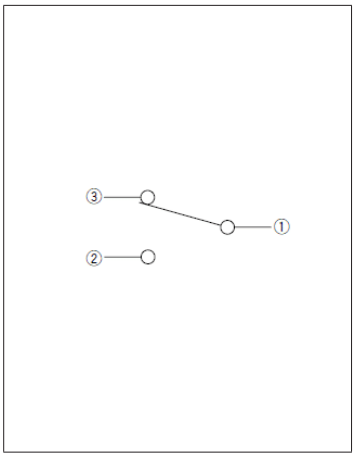


Drawing No.3

■ Dimensions

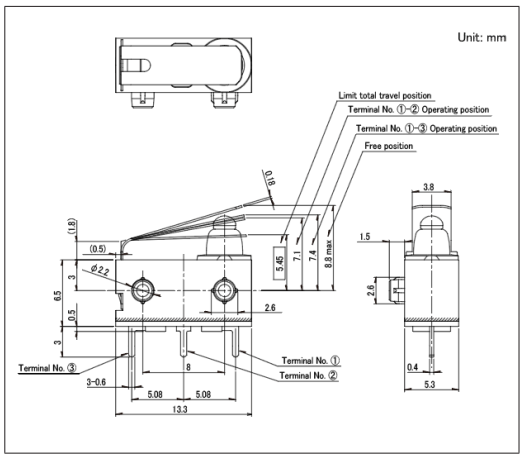


■ Circuit Diagram

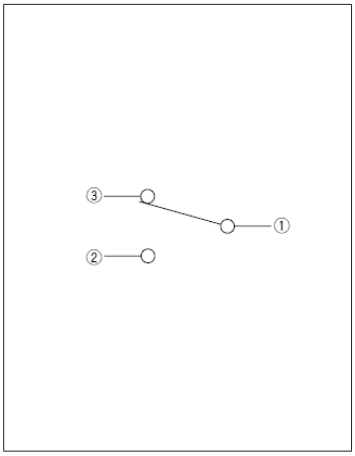


Drawing No.4

■ Dimensions

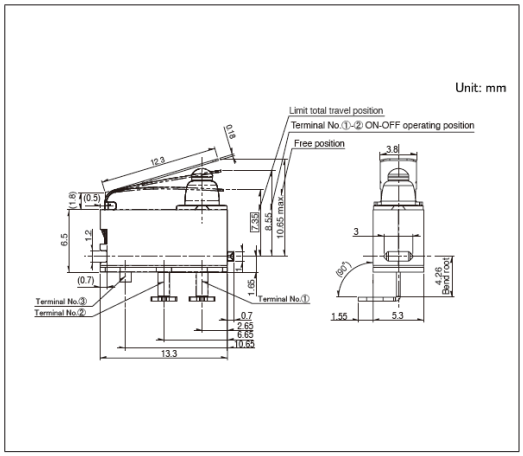


■ Circuit Diagram

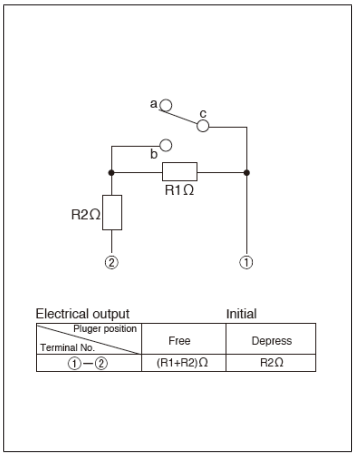


Drawing No.5

■ Dimensions



■ Circuit Diagram



Electrical output Initial

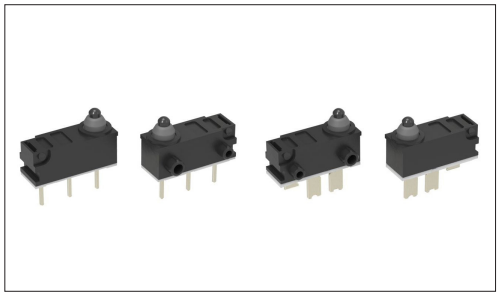
Pluger position / Terminal No.	Free	Depress
①—②	(R1+R2)Ω	R2Ω

Please contact us for resistance specifications and rated power.

Water-proof Type

SPVQ7 Series

Low-profile type with a body height of 6.7mm.



Automotive | Water-proof Type | Dust-proof Type

- Rating(max.)/(min.)(Resistive load):0.1A 12V DC/50μA 5V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:300,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  300,000 cycles 1Ω max.

Applications:Energy_Industrial:Robots, drones,Industrial equipment
Home:Major home appliances
Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Poles	Positions	Operating force	Changeover timing	Operation part shape	Terminal type	Main body form	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVQ710103	1	2	1±0.5N	Non shorting	Push	For PC board	Boss - left side	5.4×14.7×6.7	●	●	●	1
SPVQ710203	1	2	1±0.5N	Non shorting	Push	For PC board	Boss - right side	5.4×14.7×6.7	●	●	●	2
SPVQ710304	1	1	1±0.5N	Non shorting	Push	For PC board	Boss - left side	5.4×14.7×6.7	●	●	●	3
SPVQ710404	1	1	1±0.5N	Non shorting	Push	For PC board	Boss - right side	5.4×14.7×6.7	●	●	●	4
SPVQ740303	1	1	1±0.5N	Non shorting	Push	For Lead	Boss - left side	5.4×14.7×6.7	●	●	●	5
SPVQ740403	1	1	1±0.5N	Non shorting	Push	For Lead	Boss - right side	5.4×14.7×6.7	●	●	●	6
SPVQ740103	1	2	1±0.5N	Non shorting	Push	For Lead	Boss - left side	5.4×14.7×6.7	●	●	●	7
SPVQ740203	1	2	1±0.5N	Non shorting	Push	For Lead	Boss - right side	5.4×14.7×6.7	●	●	●	8

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. This unit cannnot be used in water (IP6K7 rating, except for terminal).
3. Please place purchase orders per minimum order unit (integer).
4. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

■ Packing Specifications

Tray

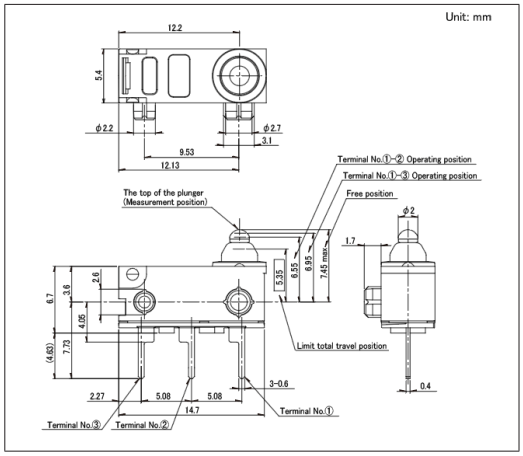
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
1,350	5,400	540 x 360 x 270

Water-proof Type

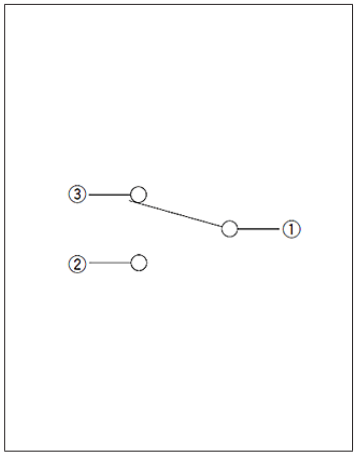
SPVQ7 Series

Drawing No.1

■ Dimensions

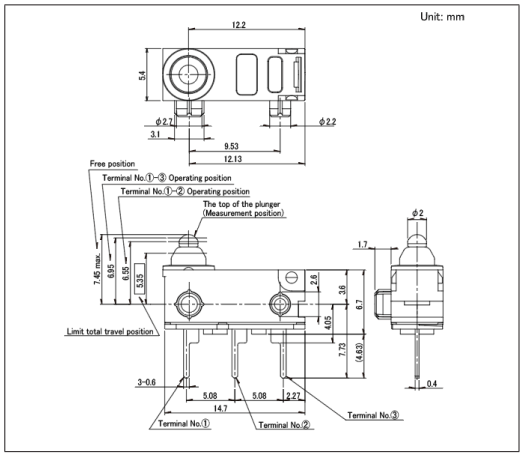


■ Circuit Diagram

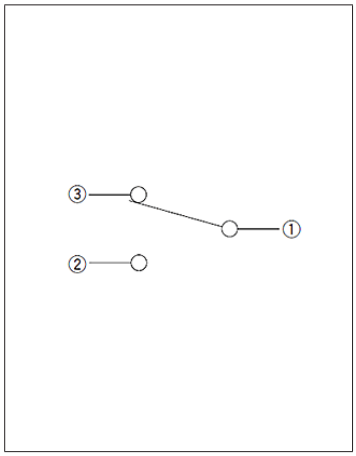


Drawing No.2

■ Dimensions

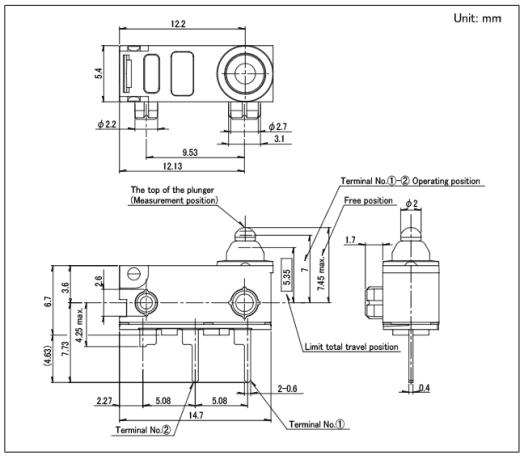


■ Circuit Diagram

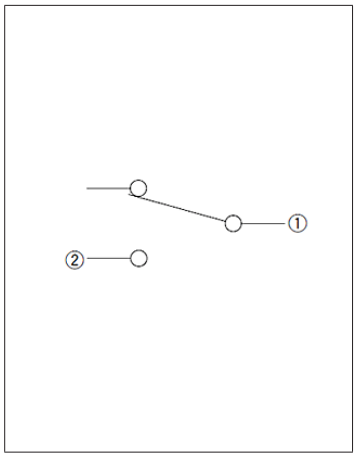


Drawing No.3

■ Dimensions

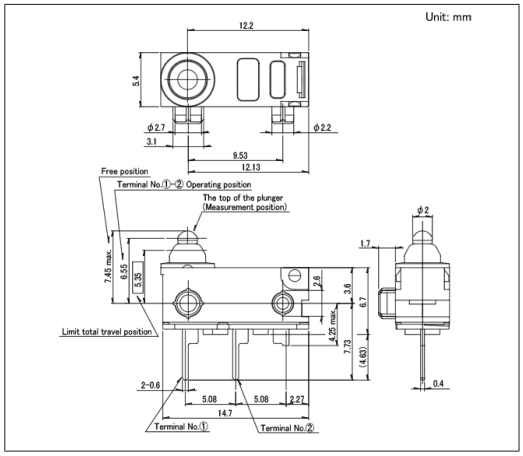


■ Circuit Diagram

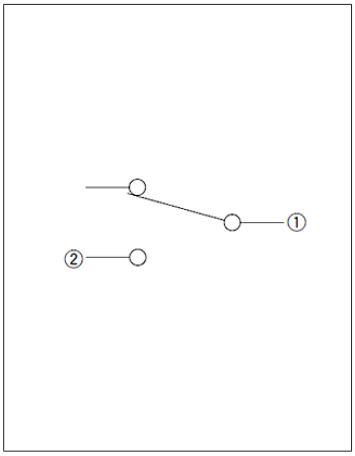


Drawing No.4

■ Dimensions

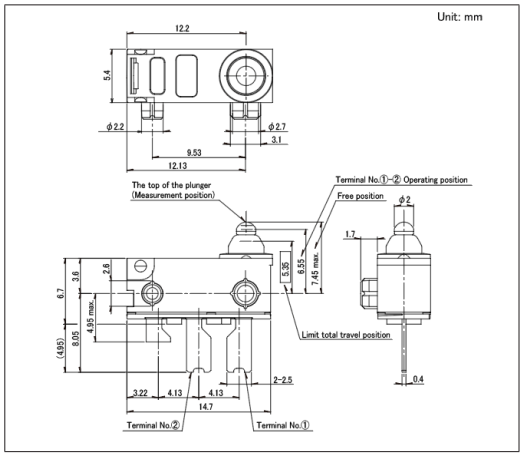


■ Circuit Diagram

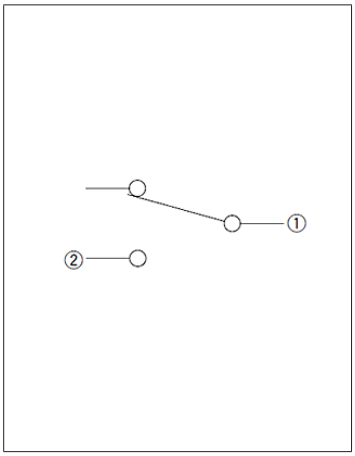


Drawing No.5

■ Dimensions

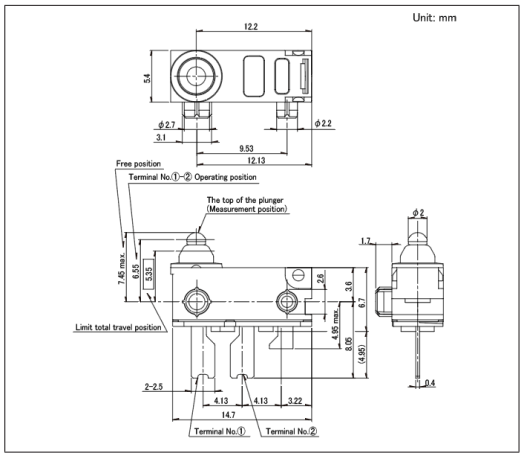


■ Circuit Diagram

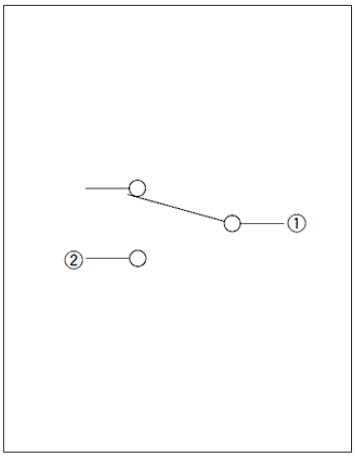


Drawing No.6

■ Dimensions

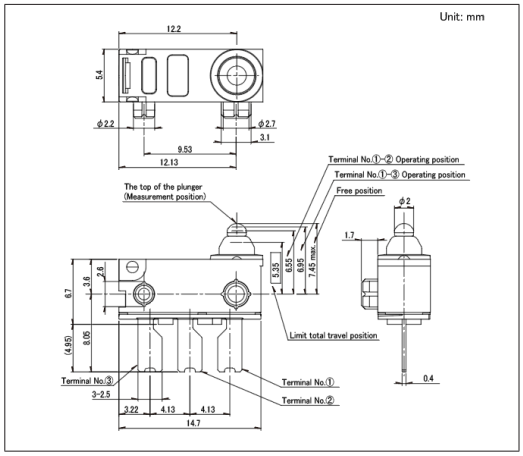


■ Circuit Diagram

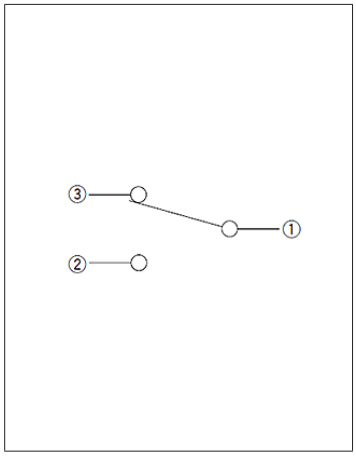


Drawing No.7

■ Dimensions

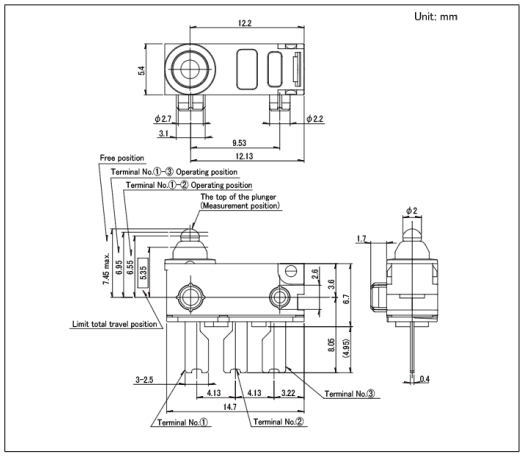


■ Circuit Diagram

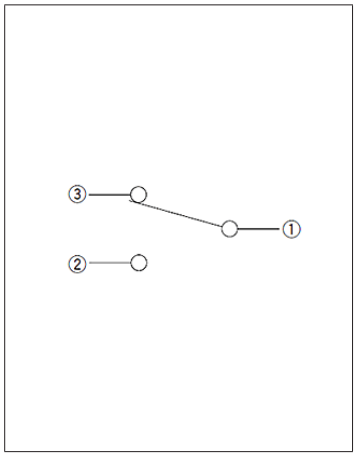


Drawing No.8

■ Dimensions

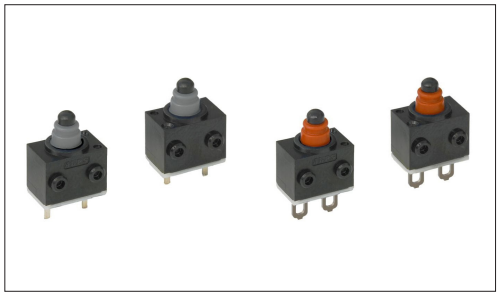


■ Circuit Diagram



Water-proof Type
SPVQ8 Series

Offers a wide product variety with an industry-leading compact size of 8.3×5.3×7.0mm body dimensions.



Automotive | Water-proof Type | Dust-proof Type

- Rating(max.)/(min.)(Resistive load):0.1A 16V DC/50μA 5V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:300,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  300,000 cycles 1Ω max.

Applications:Energy_Industrial:Robots, drones,Industrial equipment
Home:Major home appliances
Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Type	Poles	Positions	Operating force	Terminal type	Circuit	Main body form	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVQ810102	Standard type	1	1	1±0.5N	For PC board	N/O	Boss - both sides	5.3×8.3×6.5	●	●	●	1
SPVQ810302		1	1	1±0.5N	Angle	N/O	Boss - single side	5.3×8.3×6.5	●	●	●	2
SPVQ810402		1	1	1±0.5N	Angle	N/O	Without boss	5.3×8.3×6.5	●	●	●	3
SPVQ810502		1	1	1±0.5N	For PC board	N/O	Without boss	5.3×8.3×6.5	●	●	●	4
SPVQ810602		1	1	1±0.5N	For PC board	N/O	Boss - single side	5.3×8.3×6.5	●	●	●	5
SPVQ810704		1	1	1±0.5N	For Lead	N/O	Boss - single side	5.3×8.3×6.5	●	●	●	6
SPVQ810802		1	1	1±0.5N	For Lead	N/O	Boss - both sides	5.3×8.3×6.5	●	●	●	7
SPVQ811006		1	1	1±0.5N	Press-fit (normal type)	N/O	Boss - single side	5.3×8.3×6.5	●	●	●	8
SPVQ820102		1	1	1±0.5N	For PC board	N/C	Boss - both sides	5.3×8.3×6.5	●	●	●	9
SPVQ820302		1	1	1±0.5N	Angle	N/C	Boss - single side	5.3×8.3×6.5	●	●	●	10
SPVQ820402		1	1	1±0.5N	Angle	N/C	Without boss	5.3×8.3×6.5	●	●	●	11
SPVQ820502		1	1	1±0.5N	For PC board	N/C	Without boss	5.3×8.3×6.5	●	●	●	12
SPVQ820602		1	1	1±0.5N	For PC board	N/C	Boss - single side	5.3×8.3×6.5	●	●	●	13
SPVQ820705		1	1	1±0.5N	For Lead	N/C	Boss - single side	5.3×8.3×6.5	●	●	●	14
SPVQ820802		1	1	1±0.5N	For Lead	N/C	Boss - both sides	5.3×8.3×6.5	●	●	●	15
SPVQ821006		1	1	1±0.5N	Press-fit (normal type)	N/C	Boss - single side	5.3×8.3×6.5	●	●	●	16
SPVQ850101		1	1	1±0.5N	With wire (Downwards)	N/O	Boss - single side	5.3×8.3×6.5	●	●	●	17
SPVQ850201		1	1	1±0.5N	With wire (Downwards)	N/O	Boss - both sides	5.3×8.3×6.5	●	●	●	18
SPVQ850301		1	1	1±0.5N	With wire (Left side)	N/O	Boss - single side	5.3×8.3×6.5	●	●	●	19
SPVQ850501		1	1	1±0.5N	With wire (from side)	N/O	Boss - both sides	5.3×8.3×6.5	●	●	●	20
SPVQ860101		1	1	1±0.5N	With wire (Downwards)	N/C	Boss - single side	5.3×8.3×6.5	●	●	●	21
SPVQ860200		1	1	1±0.5N	With wire (Downwards)	N/C	Boss - both sides	5.3×8.3×6.5	●	●	●	22
SPVQ860301		1	1	1±0.5N	With wire (Left side)	N/C	Boss - single side	5.3×8.3×6.5	●	●	●	23
SPVQ860500		1	1	1±0.5N	With wire (from side)	N/C	Boss - both sides	5.3×8.3×6.5	●	●	●	24

Water-proof Type

SPVQ8 Series

Products No.	Type	Poles	Positions	Operating force	Terminal type	Circuit	Main body form	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVQ811502	Standard type	1	1	1±0.5N	Press-fit (Short type)	N/O	Boss - single side	5.3×8.3×6.5	●	●	●	25
SPVQ821500		1	1	1±0.5N	Press-fit (Short type)	N/C	Boss - single side	5.3×8.3×6.5	●	●	●	26
SPVQ812600		1	1	3N max.	For Lead	N/O	Boss - right side	5.3×8.3×6.5	●	●	●	27
SPVQ812400		1	1	3N max.	Press-fit (normal type)	N/O	Boss - right side	5.3×8.3×6.5	●	●	●	28
SPVQ812200		1	1	3N max.	Press-fit (Short type)	N/O	Boss - right side	5.3×8.3×6.5	●	●	●	29
SPVQ812700		1	1	3N max.	For Lead	N/O	Boss - left side	5.3×8.3×6.5	●	●	●	30
SPVQ812500		1	1	3N max.	Press-fit (normal type)	N/O	Boss - left side	5.3×8.3×6.5	●	●	●	31
SPVQ812300		1	1	3N max.	Press-fit (Short type)	N/O	Boss - left side	5.3×8.3×6.5	●	●	●	32
SPVQ822500		1	1	3N max.	For Lead	N/C	Boss - right side	5.3×8.3×6.5	●	●	●	33
SPVQ822300		1	1	3N max.	Press-fit (normal type)	N/C	Boss - right side	5.3×8.3×6.5	●	●	●	34
SPVQ822100		1	1	3N max.	Press-fit (Short type)	N/C	Boss - right side	5.3×8.3×6.5	●	●	●	35
SPVQ822600		1	1	3N max.	For Lead	N/C	Boss - left side	5.3×8.3×6.5	●	●	●	36
SPVQ822400		1	1	3N max.	Press-fit (normal type)	N/C	Boss - left side	5.3×8.3×6.5	●	●	●	37
SPVQ822200		1	1	3N max.	Press-fit (Short type)	N/C	Boss - left side	5.3×8.3×6.5	●	●	●	38
SPVQ830102	Long life type	1	1	1±0.5N	For PC board	N/O	Boss - both sides	5.3×8.3×6.5	●	●	●	39
SPVQ830302		1	1	1±0.5N	Angle	N/O	Boss - single side	5.3×8.3×6.5	●	●	●	40
SPVQ830402		1	1	1±0.5N	Angle	N/O	Without boss	5.3×8.3×6.5	●	●	●	41
SPVQ830502		1	1	1±0.5N	For PC board	N/O	Without boss	5.3×8.3×6.5	●	●	●	42
SPVQ830602		1	1	1±0.5N	For PC board	N/O	Boss - single side	5.3×8.3×6.5	●	●	●	43
SPVQ830702		1	1	1±0.5N	For Lead	N/O	Boss - single side	5.3×8.3×6.5	●	●	●	44
SPVQ830802		1	1	1±0.5N	For Lead	N/O	Boss - both sides	5.3×8.3×6.5	●	●	●	45
SPVQ831002		1	1	1±0.5N	Press-fit (normal type)	N/O	Boss - single side	5.3×8.3×6.5	●	●	●	46
SPVQ8R02	Normal type With internal resistor type	1	1	1±0.5N	For PC board	—	Boss - single side	5.3×8.3×6.5	●	●	●	47
SPVQ8R06		1	1	1±0.5N	Press-fit (normal type)	—	Boss - single side	5.3×8.3×6.5	●	●	●	48
SPVQ8R01		1	1	1±0.5N	Press-fit (Short type)	—	Boss - single side	5.3×8.3×6.5	●	●	●	49

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Unless specified, the length of the lead wire is 250mm. Color is either red or black. For length modification, please contact us.
3. Please specify circuits (N.O. or N.C.) for wired (side) types. Unless specified, the circuit will apply N.O.
4. This unit cannnot be used in water (IP6K7 rating, except for terminal).
5. Please place purchase orders per minimum order unit (integer).
6. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

Water-proof Type

SPVQ8 Series

■ Packing Specifications

Tray

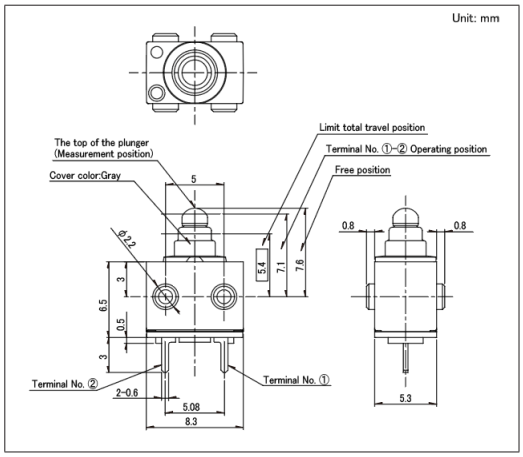
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SPVQ810102 SPVQ810302 SPVQ810402 SPVQ810502 SPVQ810602 SPVQ810704 SPVQ810802 SPVQ811006 SPVQ820102 SPVQ820302 SPVQ820402 SPVQ820502 SPVQ820602 SPVQ820705 SPVQ820802 SPVQ821006 SPVQ811502 SPVQ821500 SPVQ830102 SPVQ830302 SPVQ830402 SPVQ830502 SPVQ830602 SPVQ830702 SPVQ830802 SPVQ831002 SPVQ8R02 SPVQ8R06 SPVQ8R01	1,755	7,020	540 x 360 x 270
SPVQ812600 SPVQ812400 SPVQ812200 SPVQ812700 SPVQ812500 SPVQ812300 SPVQ822500 SPVQ822300 SPVQ822100 SPVQ822600 SPVQ822400 SPVQ822200	1,080	4,320	540 x 360 x 270

Bulk

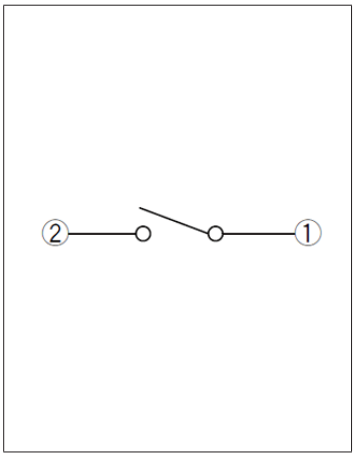
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SPVQ850101 SPVQ850201 SPVQ850301 SPVQ850501 SPVQ860101 SPVQ860200 SPVQ860301 SPVQ860500	400	1,600	555 x 375 x 223

Drawing No.1

■ Dimensions

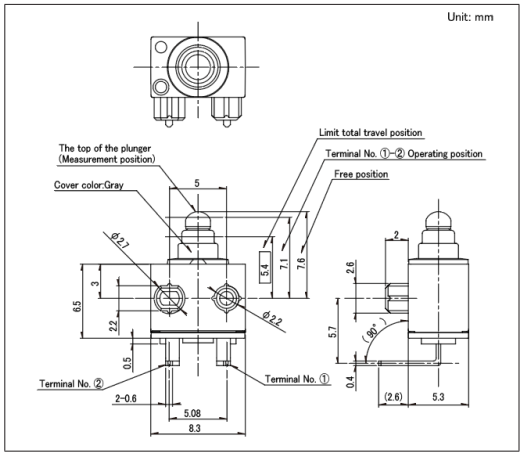


■ Circuit Diagram

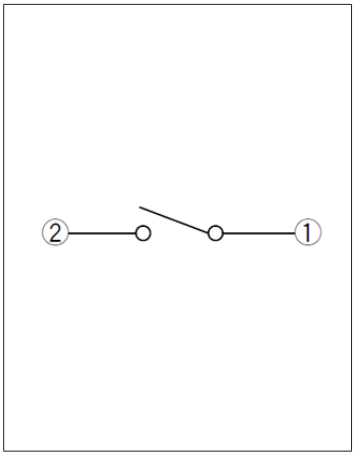


Drawing No.2

■ Dimensions

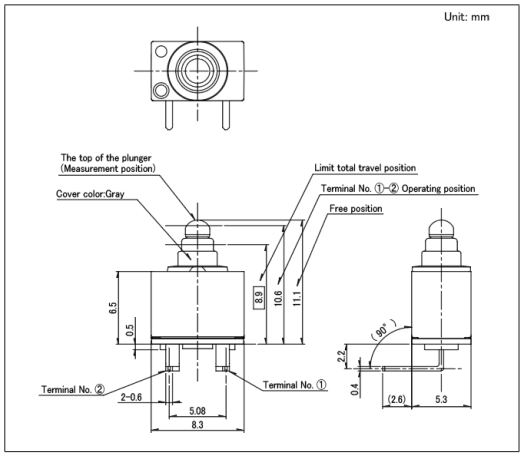


■ Circuit Diagram

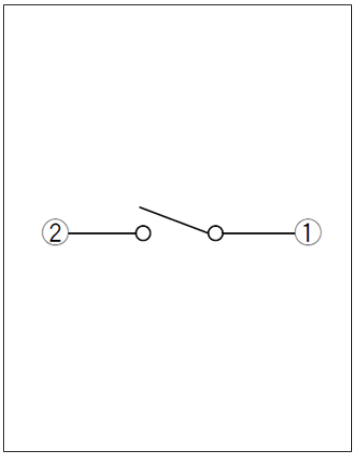


Drawing No.3

■ Dimensions

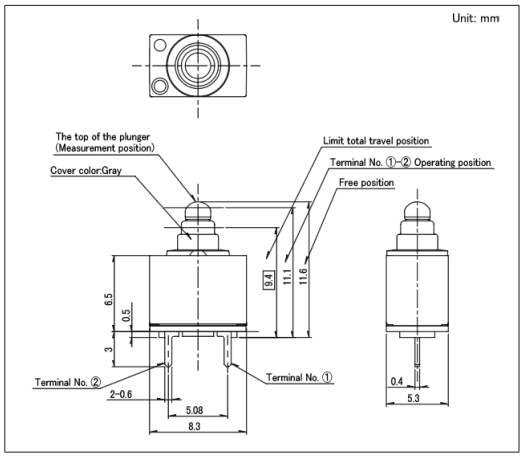


■ Circuit Diagram

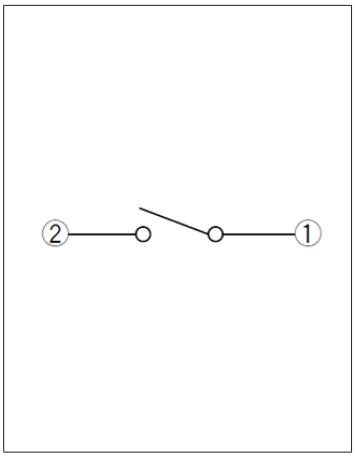


Drawing No.4

■ Dimensions

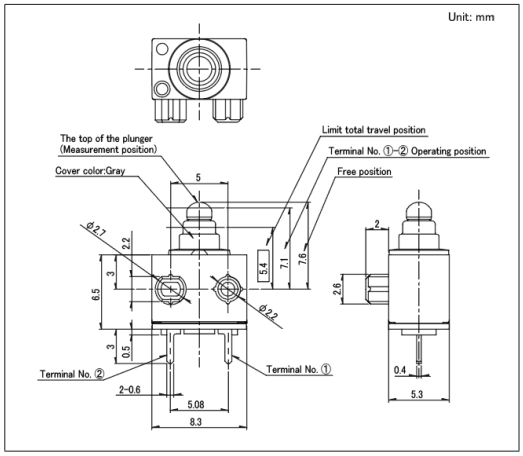


■ Circuit Diagram

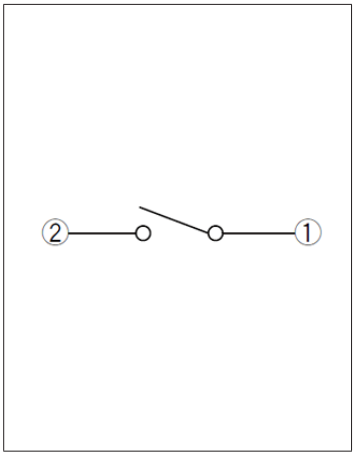


Drawing No.5

■ Dimensions

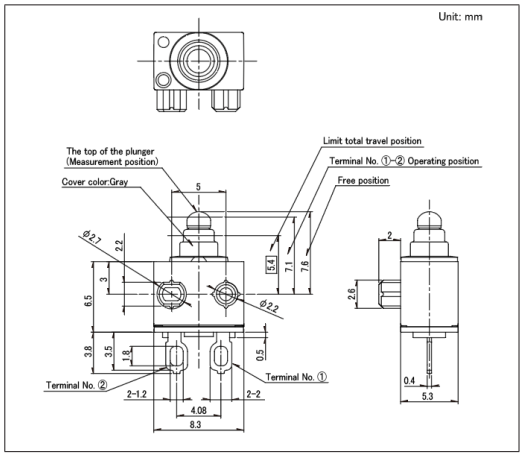


■ Circuit Diagram

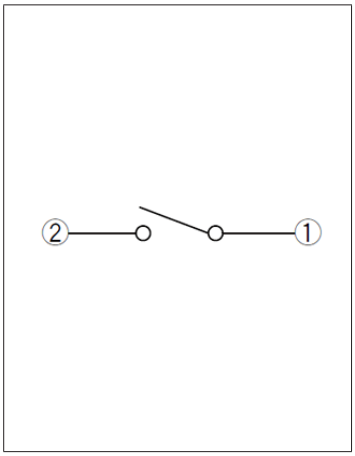


Drawing No.6

■ Dimensions

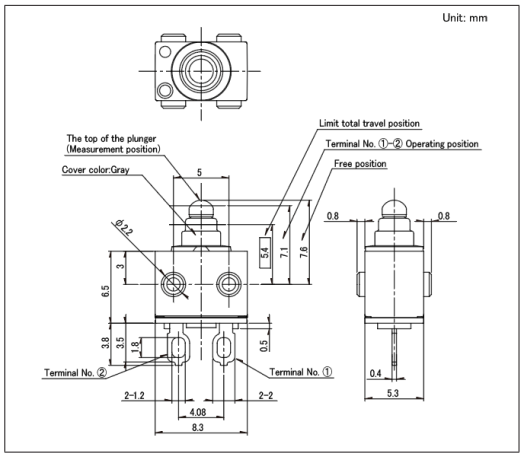


■ Circuit Diagram

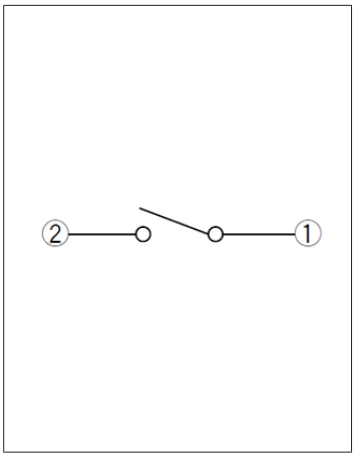


Drawing No.7

■ Dimensions

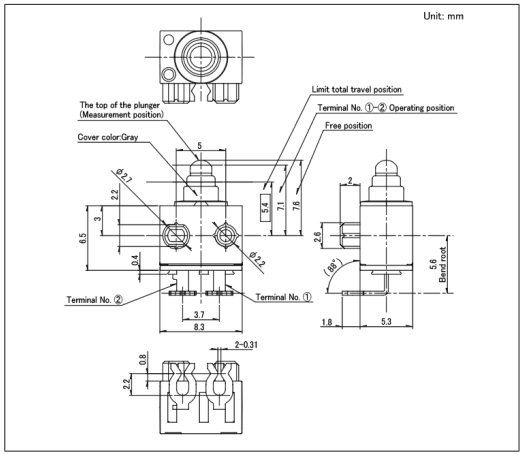


■ Circuit Diagram

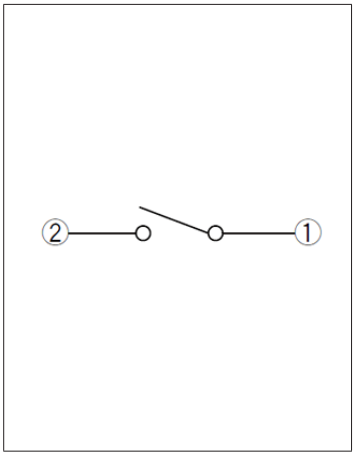


Drawing No.8

■ Dimensions

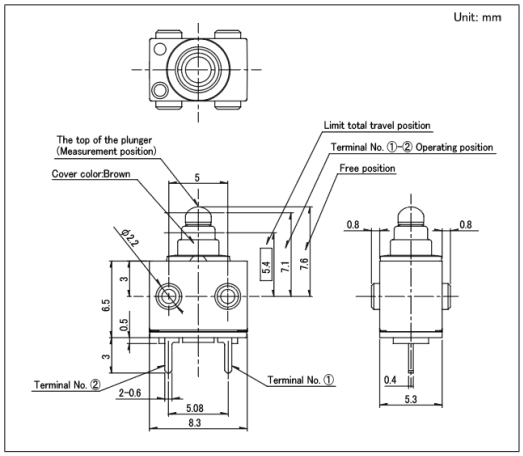


■ Circuit Diagram

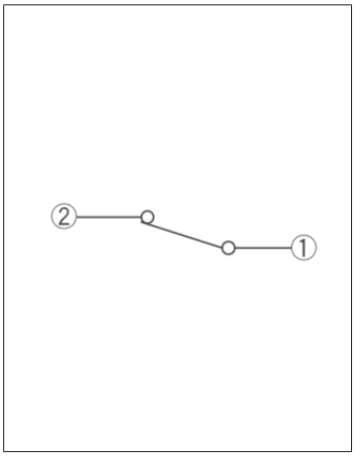


Drawing No.9

■ Dimensions

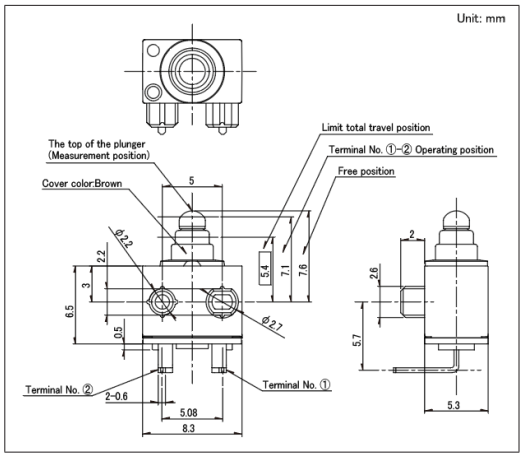


■ Circuit Diagram

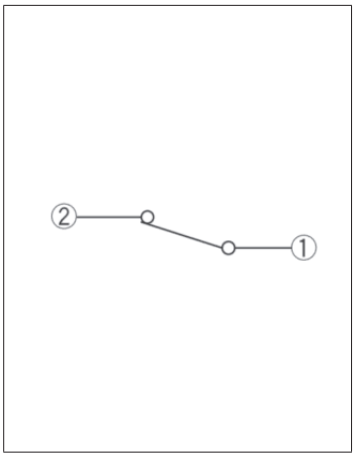


Drawing No.10

■ Dimensions



■ Circuit Diagram

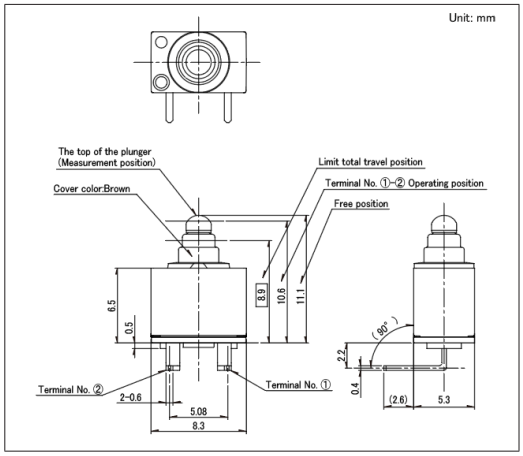


Water-proof Type

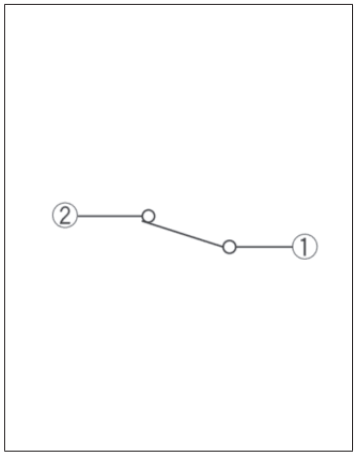
SPVQ8 Series

Drawing No.11

■ Dimensions

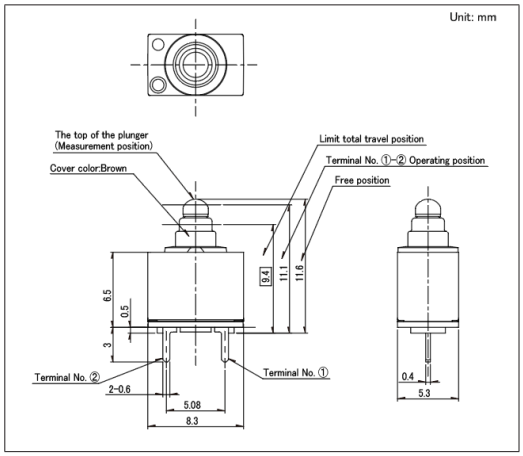


■ Circuit Diagram

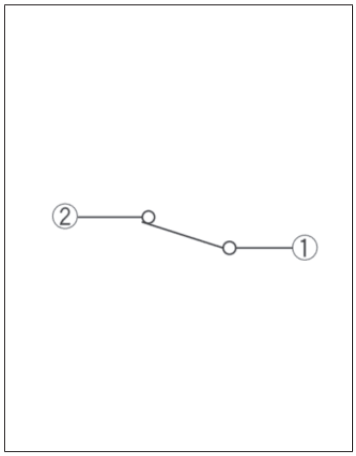


Drawing No.12

■ Dimensions

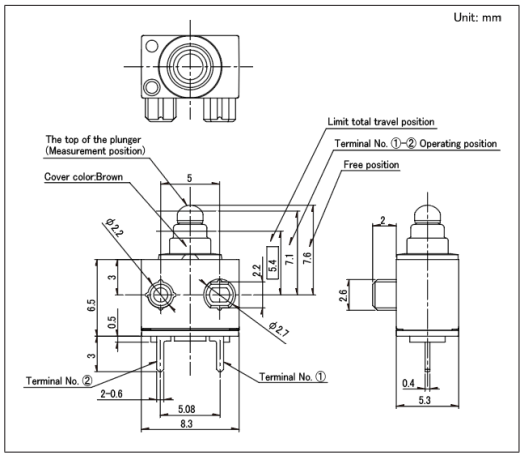


■ Circuit Diagram

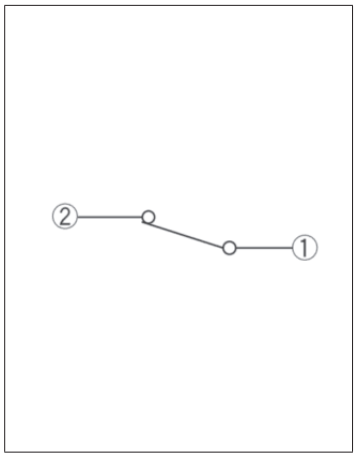


Drawing No.13

■ Dimensions

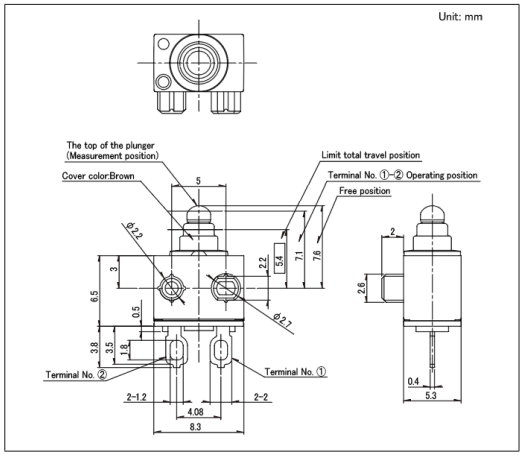


■ Circuit Diagram

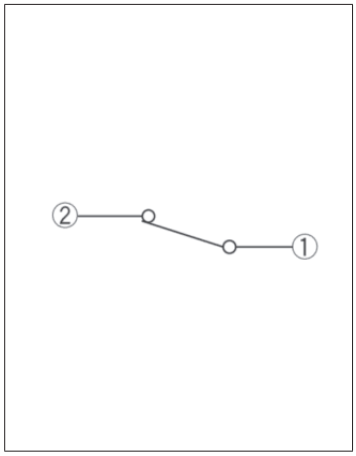


Drawing No.14

■ Dimensions

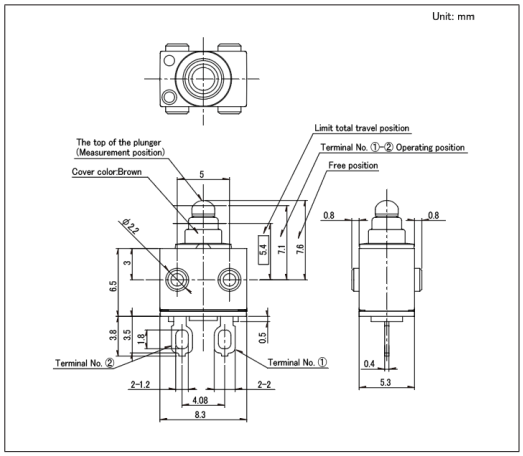


■ Circuit Diagram

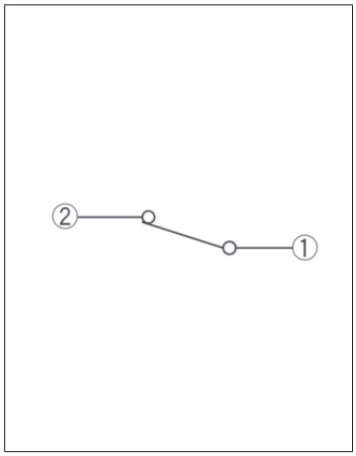


Drawing No.15

■ Dimensions

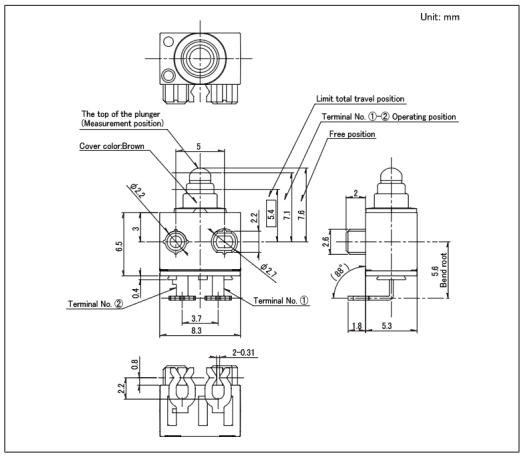


■ Circuit Diagram

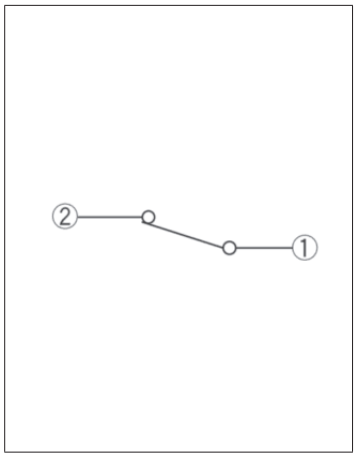


Drawing No.16

■ Dimensions



■ Circuit Diagram

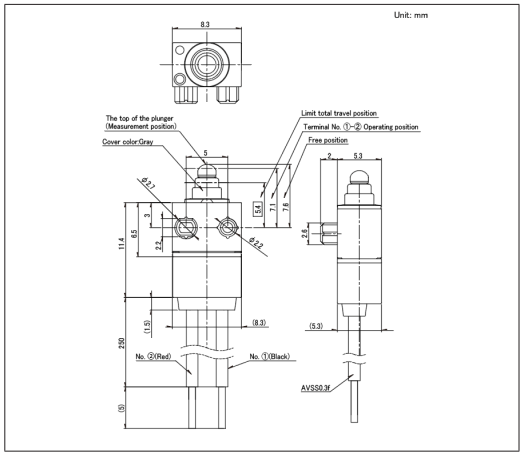


Water-proof Type

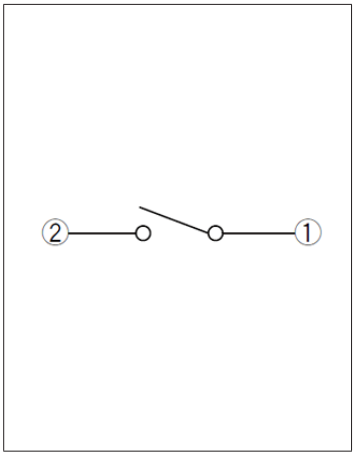
SPVQ8 Series

Drawing No.17

■ Dimensions

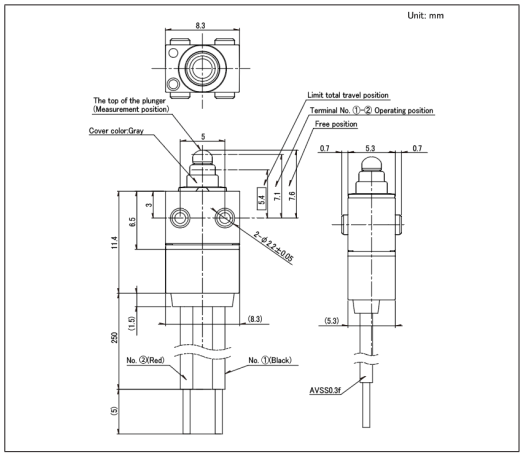


■ Circuit Diagram

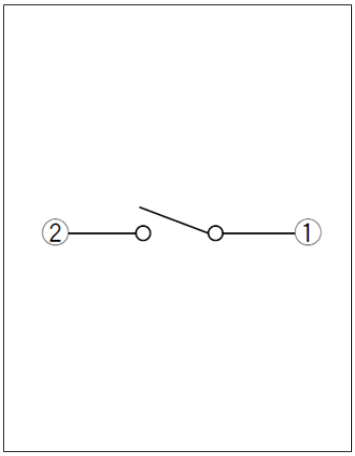


Drawing No.18

■ Dimensions

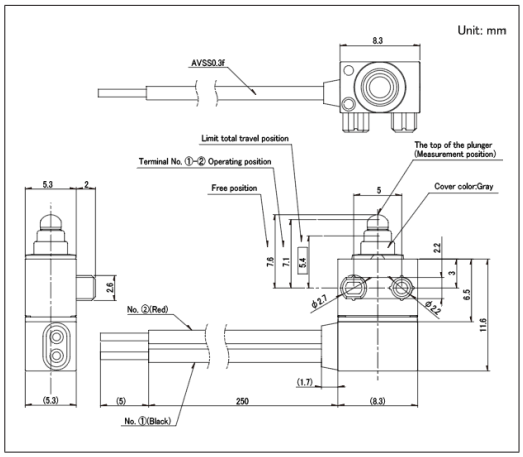


■ Circuit Diagram

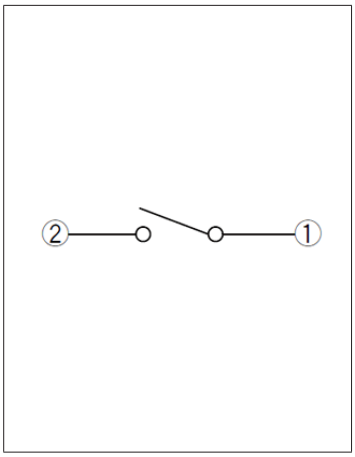


Drawing No.19

■ Dimensions

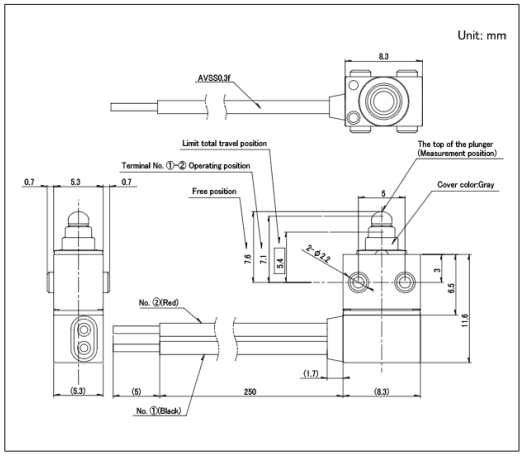


■ Circuit Diagram

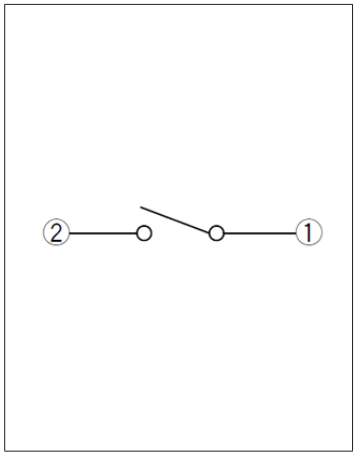


Drawing No.20

■ Dimensions

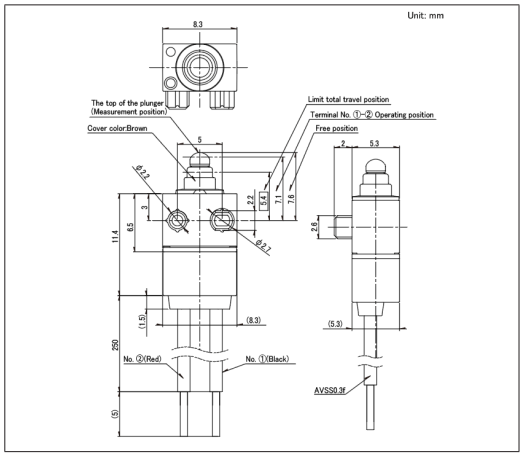


■ Circuit Diagram

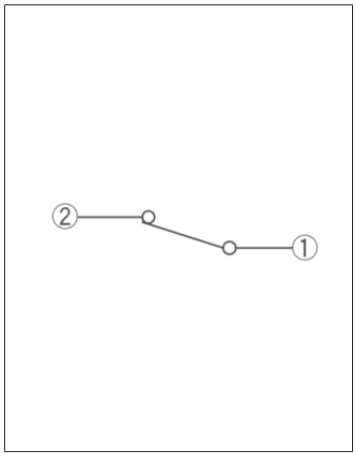


Drawing No.21

■ Dimensions

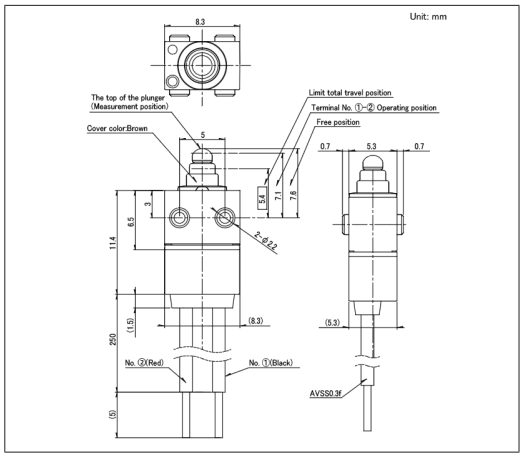


■ Circuit Diagram

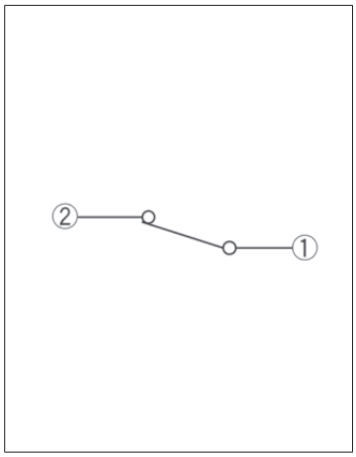


Drawing No.22

■ Dimensions

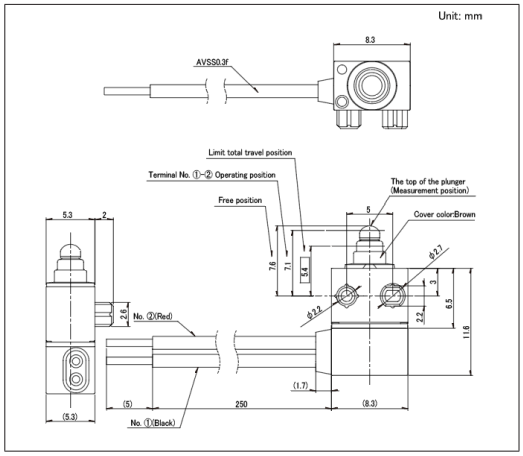


■ Circuit Diagram

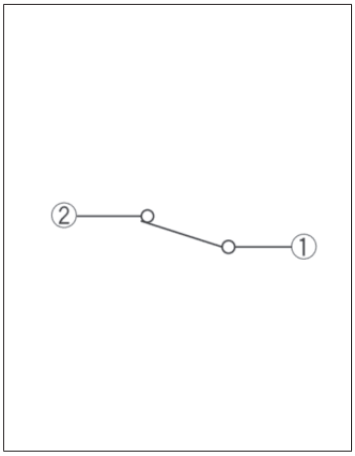


Drawing No.23

■ Dimensions

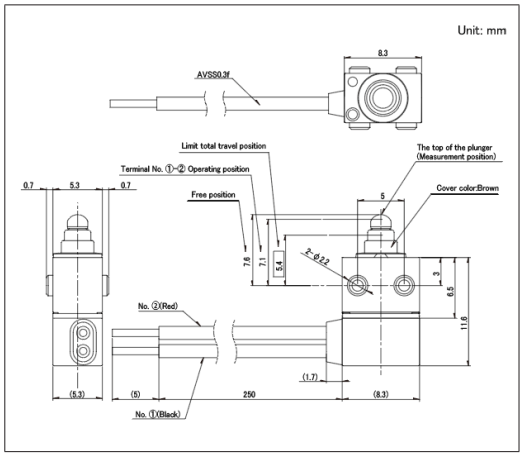


■ Circuit Diagram

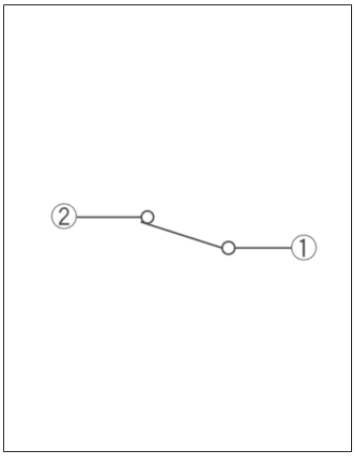


Drawing No.24

■ Dimensions

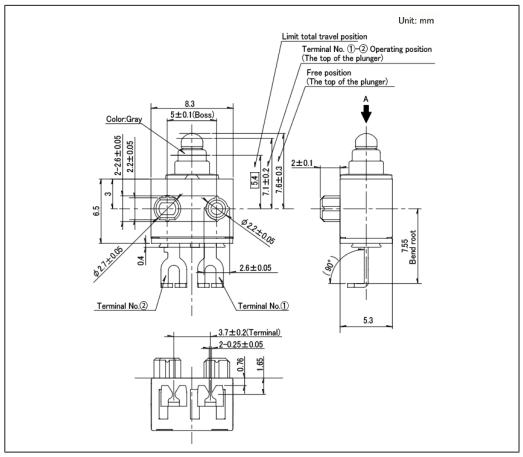


■ Circuit Diagram

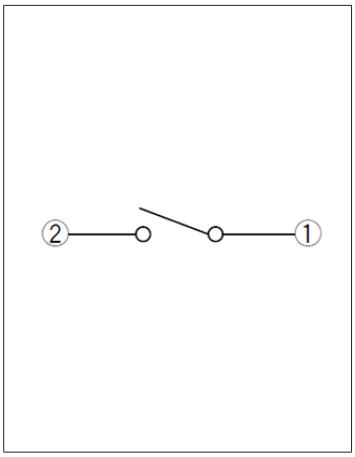


Drawing No.25

■ Dimensions



■ Circuit Diagram

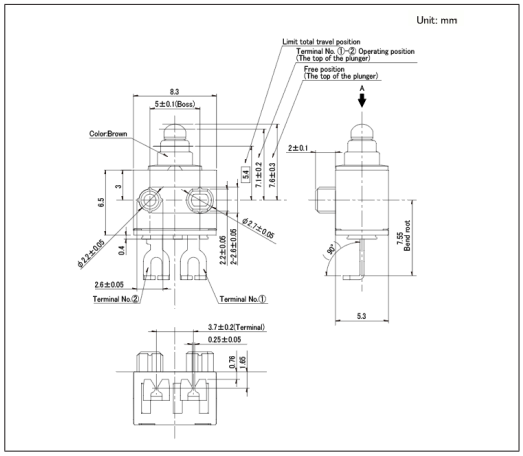


Water-proof Type

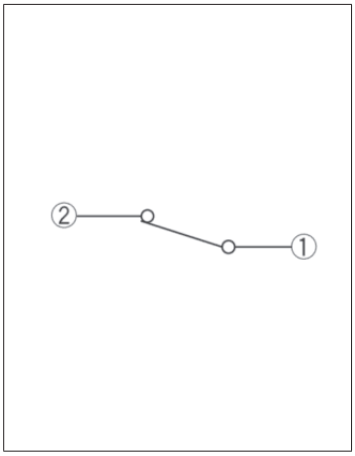
SPVQ8 Series

Drawing No.26

■ Dimensions

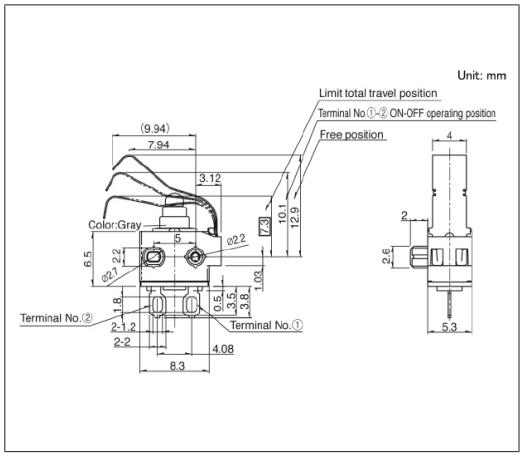


■ Circuit Diagram

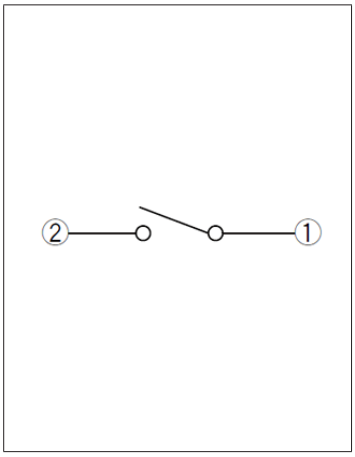


Drawing No.27

■ Dimensions

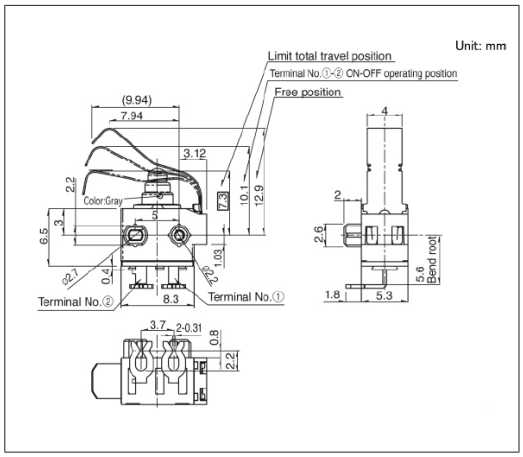


■ Circuit Diagram

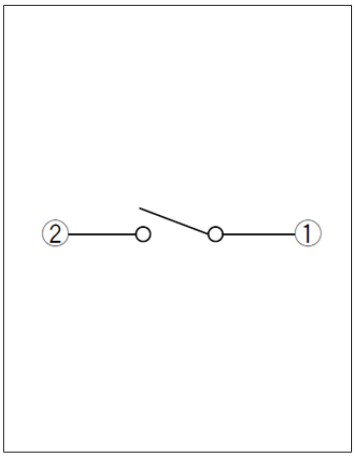


Drawing No.28

■ Dimensions



■ Circuit Diagram

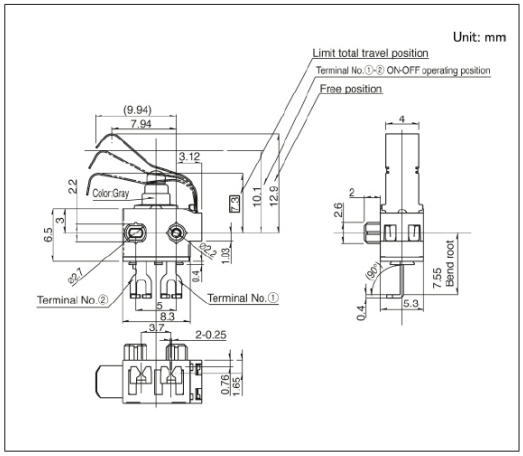


Water-proof Type

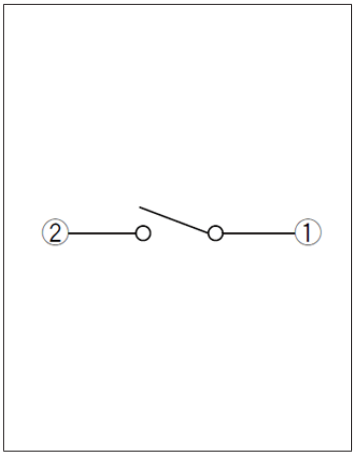
SPVQ8 Series

Drawing No.29

■ Dimensions

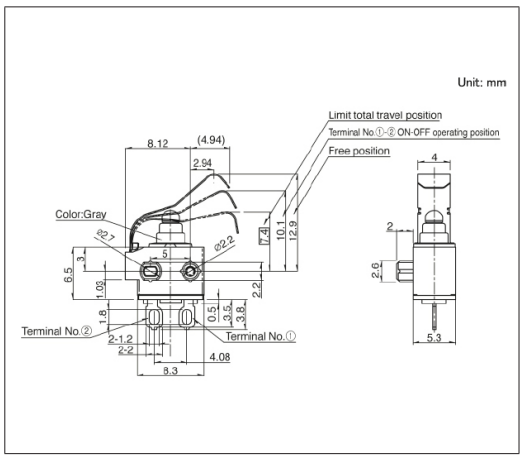


■ Circuit Diagram

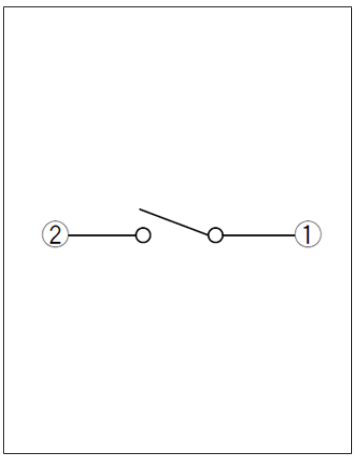


Drawing No.30

■ Dimensions

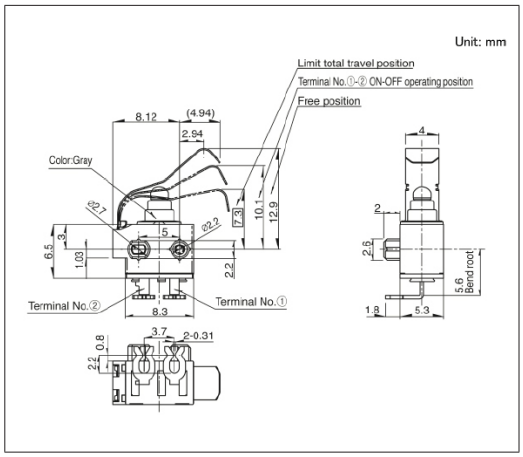


■ Circuit Diagram

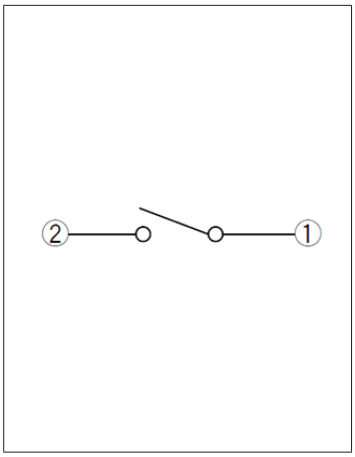


Drawing No.31

■ Dimensions

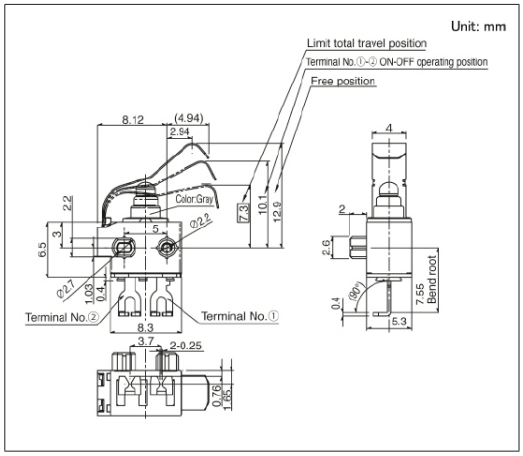


■ Circuit Diagram

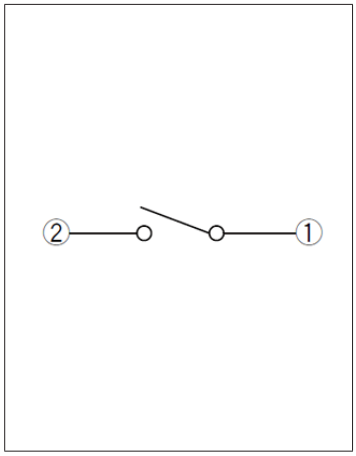


Drawing No.32

■ Dimensions

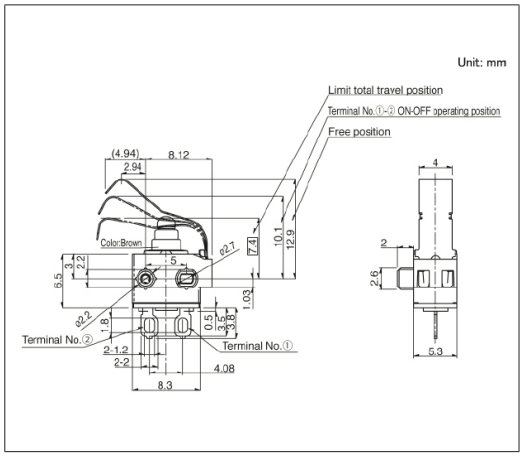


■ Circuit Diagram

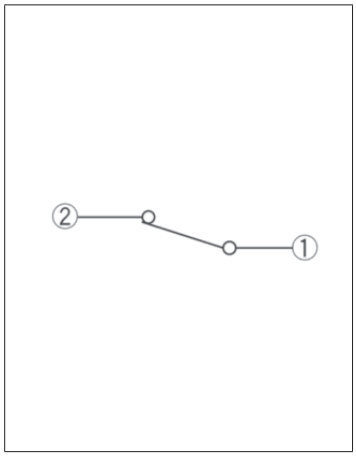


Drawing No.33

■ Dimensions

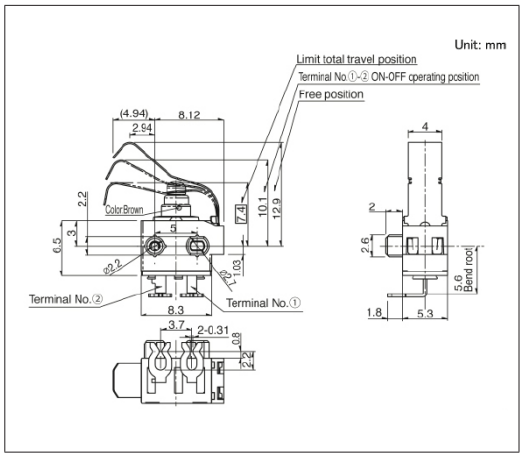


■ Circuit Diagram

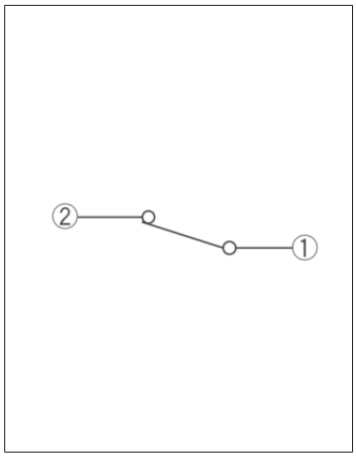


Drawing No.34

■ Dimensions



■ Circuit Diagram

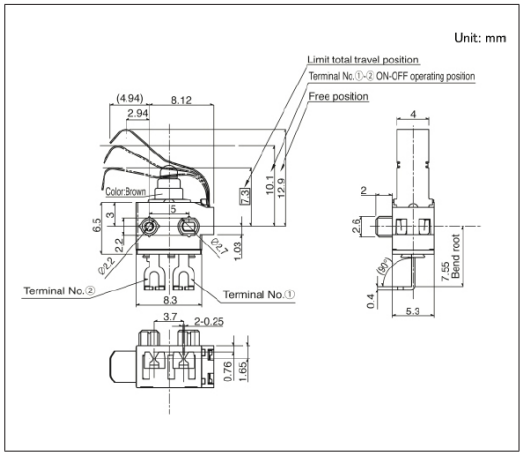


Water-proof Type

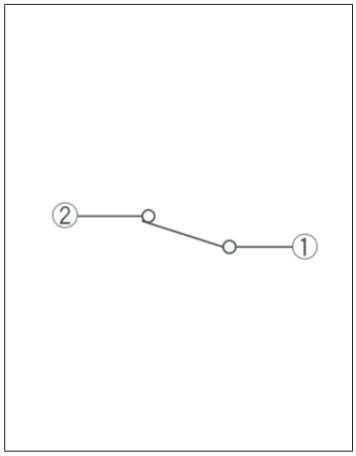
SPVQ8 Series

Drawing No.35

■ Dimensions

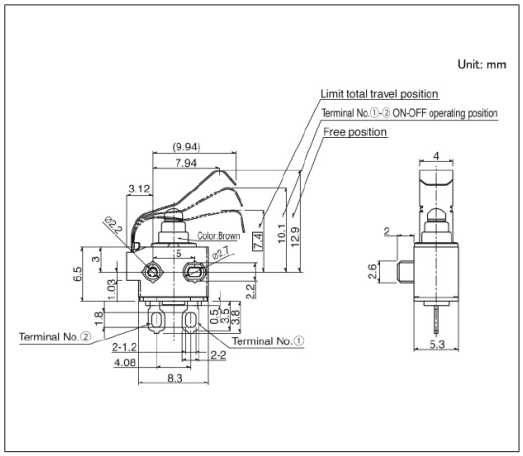


■ Circuit Diagram

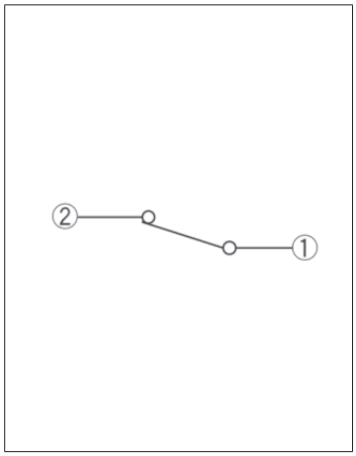


Drawing No.36

■ Dimensions

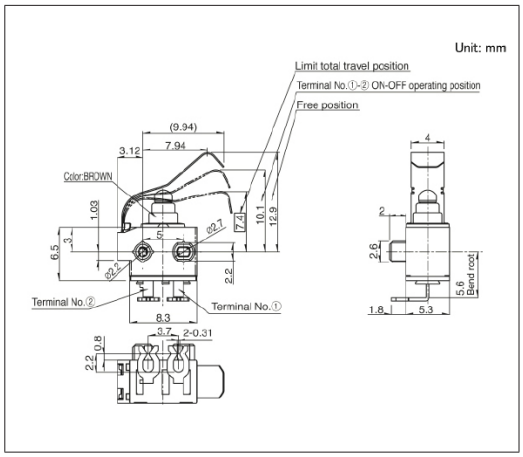


■ Circuit Diagram

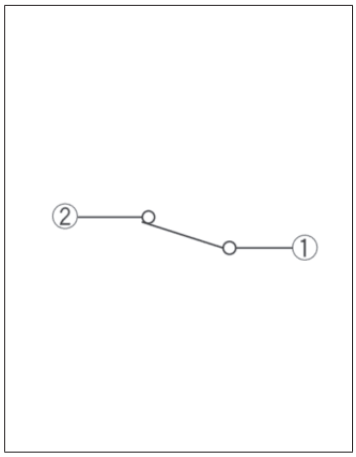


Drawing No.37

■ Dimensions

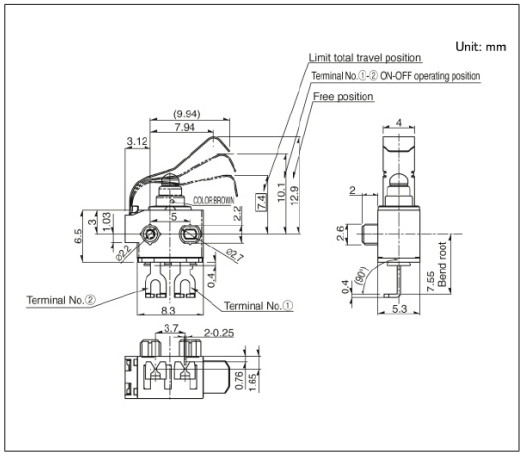


■ Circuit Diagram

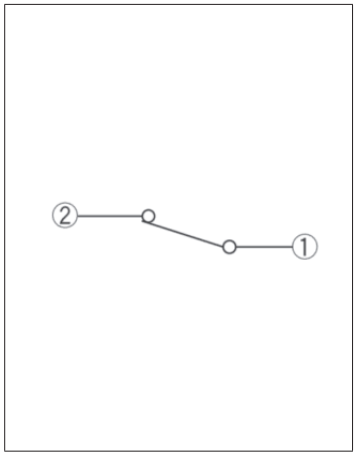


Drawing No.38

■ Dimensions

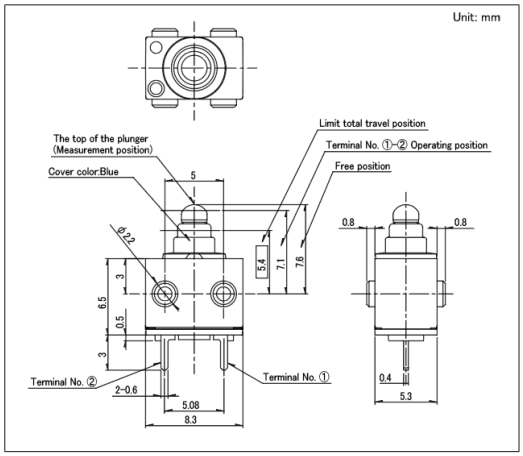


■ Circuit Diagram

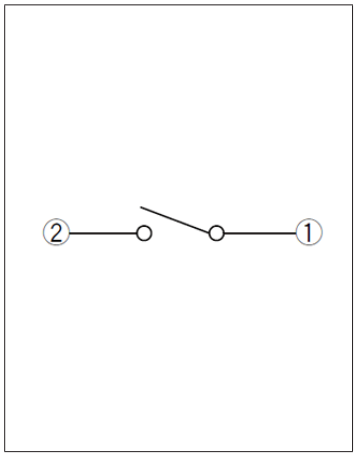


Drawing No.39

■ Dimensions

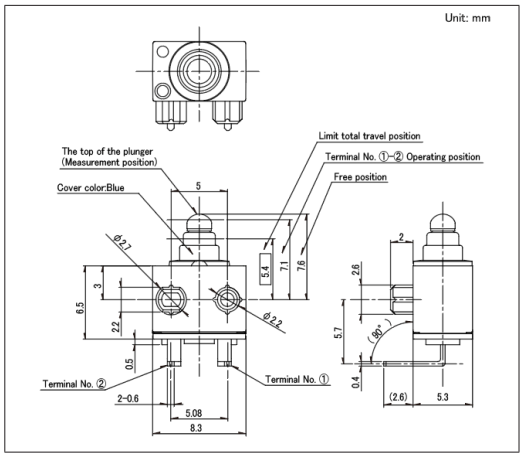


■ Circuit Diagram

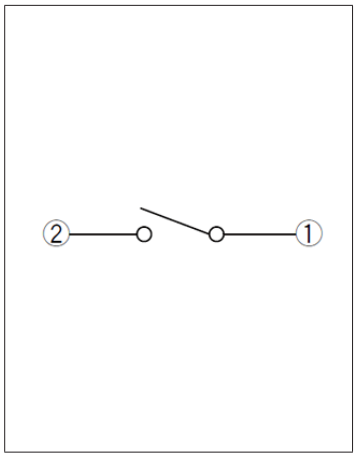


Drawing No.40

■ Dimensions

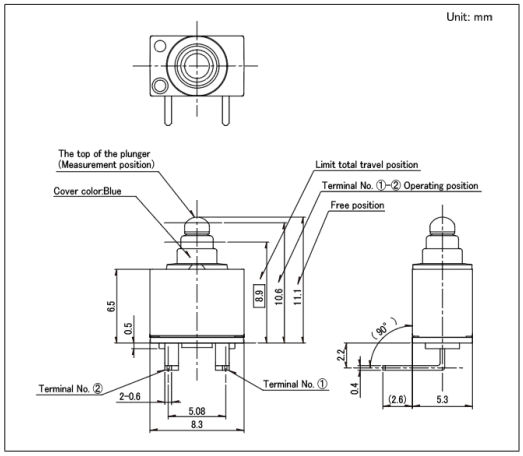


■ Circuit Diagram

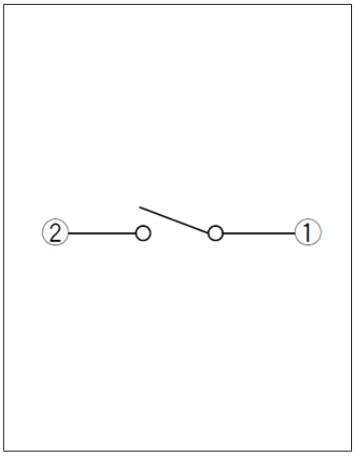


Drawing No.41

■ Dimensions

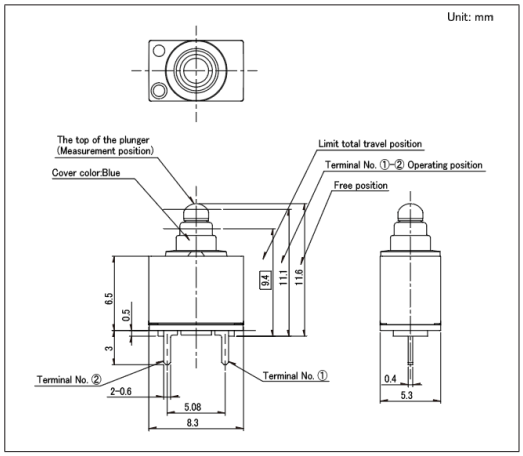


■ Circuit Diagram

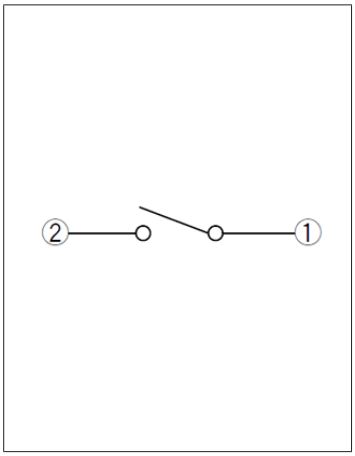


Drawing No.42

■ Dimensions

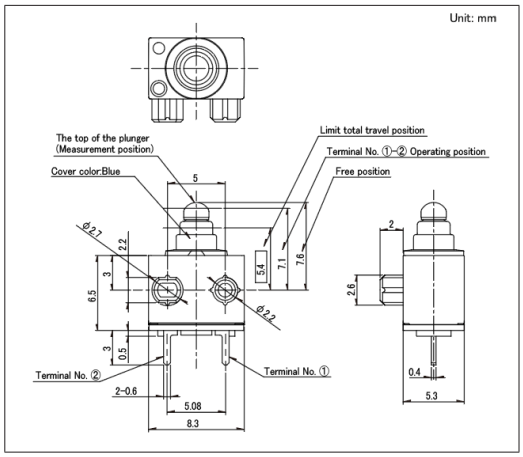


■ Circuit Diagram

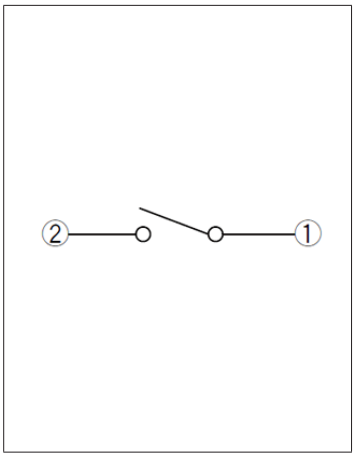


Drawing No.43

■ Dimensions

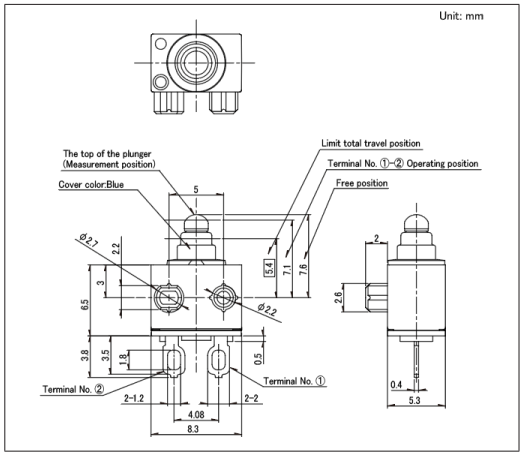


■ Circuit Diagram

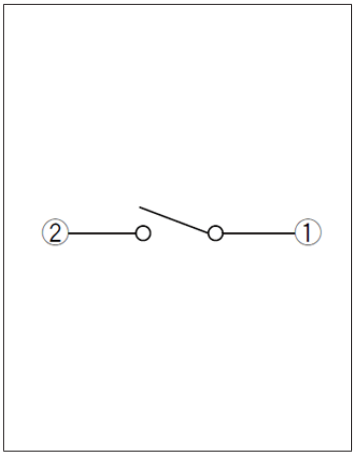


Drawing No.44

■ Dimensions

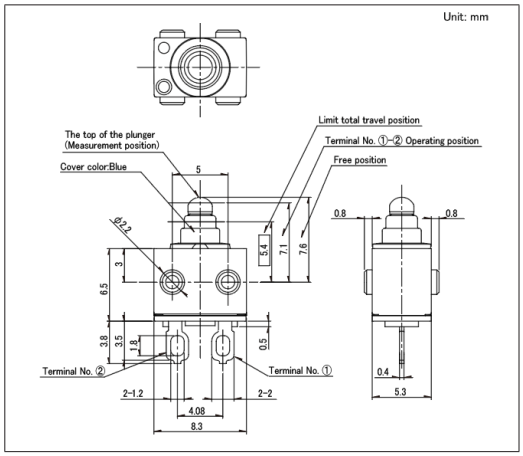


■ Circuit Diagram

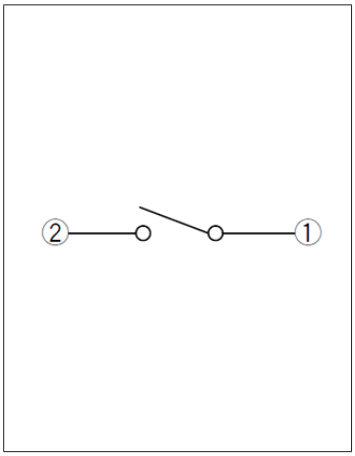


Drawing No.45

■ Dimensions

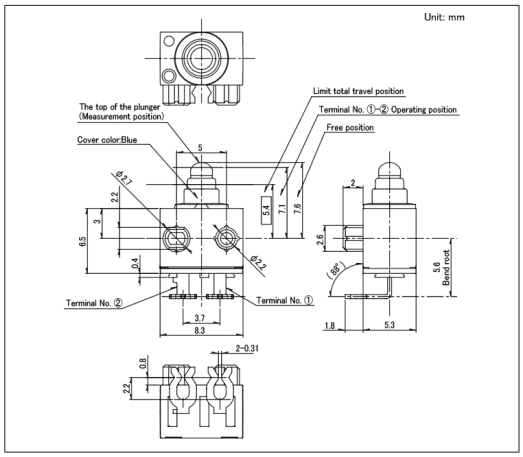


■ Circuit Diagram

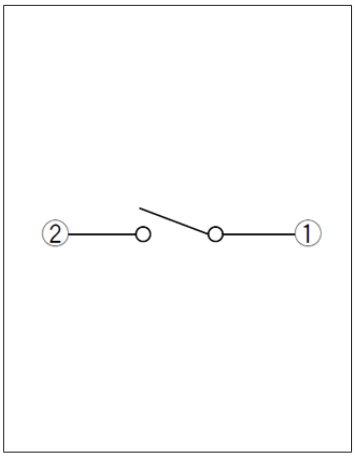


Drawing No.46

■ Dimensions

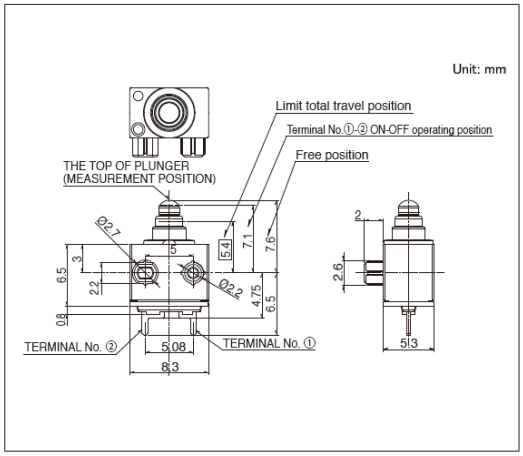


■ Circuit Diagram

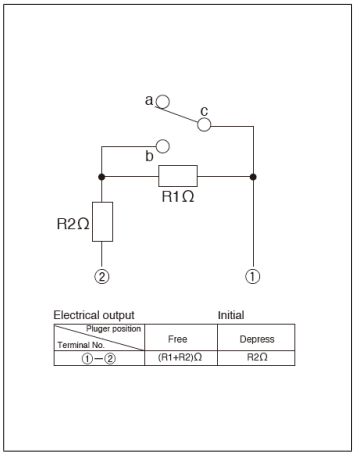


Drawing No.47

■ Dimensions



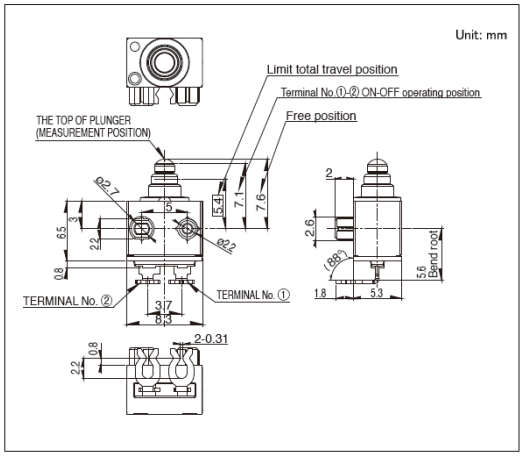
■ Circuit Diagram



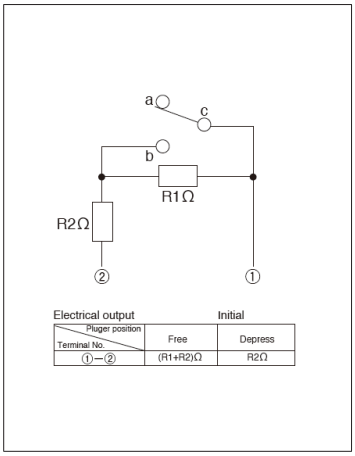
Please contact us for resistance specifications and rated power.

Drawing No.48

■ Dimensions



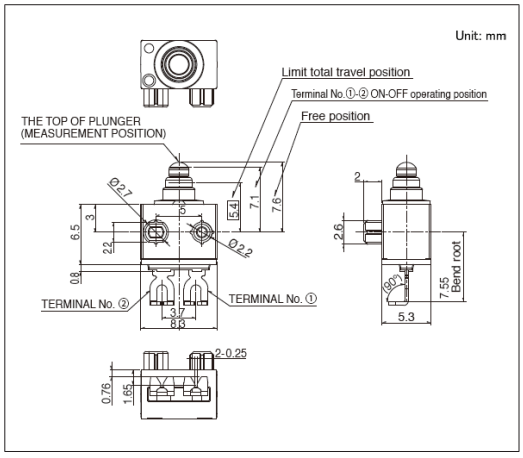
■ Circuit Diagram



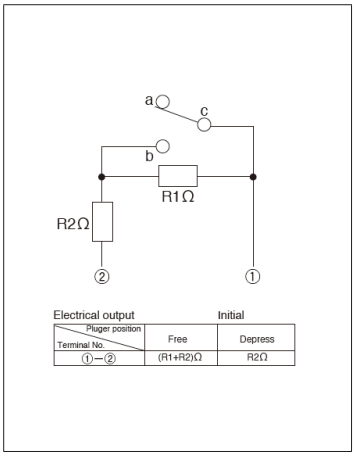
Please contact us for resistance specifications and rated power.

Drawing No.49

■ Dimensions



■ Circuit Diagram

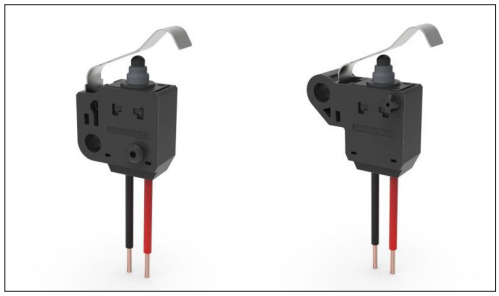


Please contact us for resistance specifications and rated power.

Water-proof Type

SPVQ8H Series

Enhanced robustness with a wire pull strength of 110N.



Automotive | Water-proof Type | Dust-proof Type

- Rating(max.)/(min.)(Resistive load):0.1A 16V DC/50μA 5V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:100,000cycles
- Operating life with load Rating(max.)(Resistive load):
  100,000cycles 1Ω max.

Applications:Energy_Industrial:Robots, drones,Industrial equipment
Home:Major home appliances
Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Poles	Positions	Operating force	Operation part shape	Terminal type	Circuit	Main body form	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVQ8H0100	1	1	4.7N max.	Actuator	With wire (Downwards)	N/O	With a screw hole (Type A)	6.45×14.8×14.5	●	●	●	1
SPVQ8H0200	1	1	4.7N max.	Actuator	With wire (Downwards)	N/O	With a screw hole (Type B)	6.45×17.95×14.5	●	●	●	2

Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Unless specified, the length of the lead wire is 250mm. Color is either red or black. For length modification, please contact us.
3. Prduct with wire will be build-to-order.
4. This unit cannnot be used in water (IP6K7 rating, except for terminal).
5. Place your purchase order in N minimum package units (N: integer).
6. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

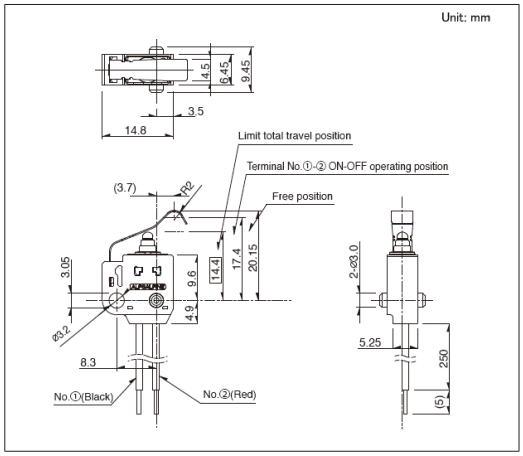
■ Packing Specifications

Bulk

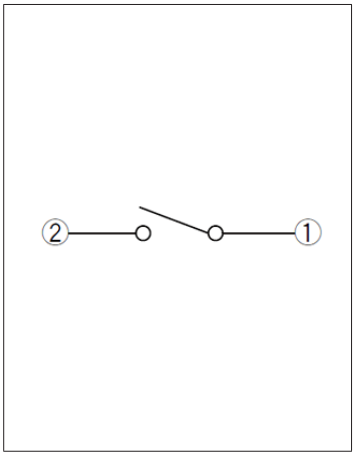
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
300	300	360 x 360 x 290

Drawing No.1

■ Dimensions

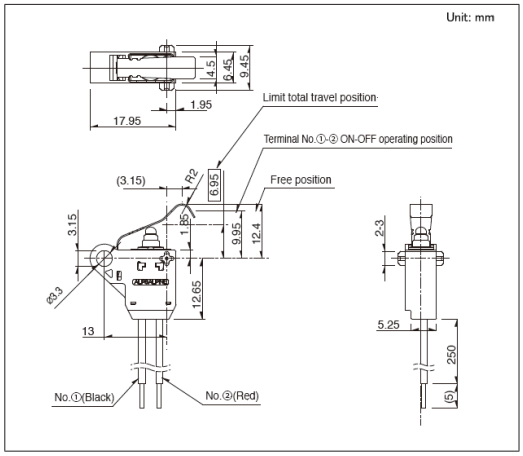


■ Circuit Diagram

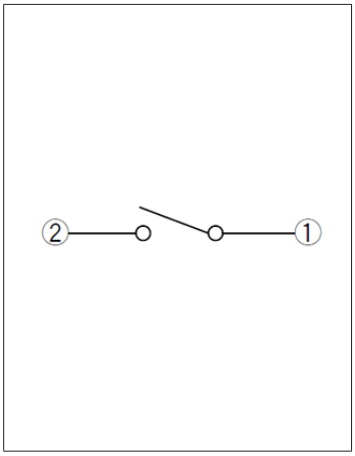


Drawing No.2

■ Dimensions



■ Circuit Diagram



Water-proof Type
SPVQ9 Series

Delivers stable contact independent of operating position or speed with a dual-circuit simultaneous switching design.

Automotive | Water-proof Type | Dust-proof Type

- Rating(max.)/(min.)(Resistive load):50mA 26V DC/50μA 5V DC
- Contact resistance(Initial/After operating life):75mΩ max./200mΩ max.
- Operating life without load:300,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  300,000 cycles 200mΩ max.

Applications:Home:Major home appliances
Automotive:Electric Parking Brake

■ Product List

Products No.	Poles	Positions	Operating force	Changeover timing	Operation part shape	Terminal type	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVQ910205	2	2	1±0.5N	Non shorting	Push	For PC board	8.4×15.4×7.5	●	●	●	1

Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. This unit cannnot be used in water (IP6K7 rating, except for terminal).
3. Please place purchase orders per minimum order unit (integer).
4. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

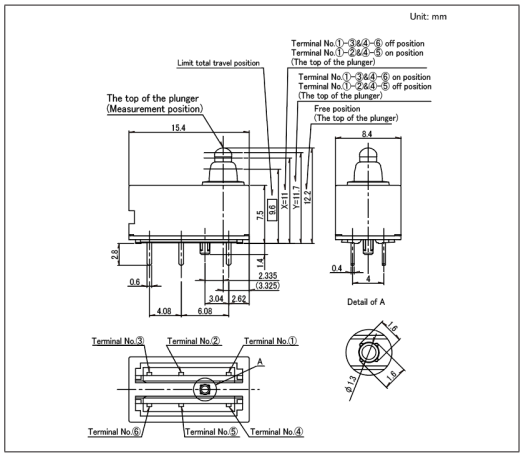
■ Packing Specifications

Tray

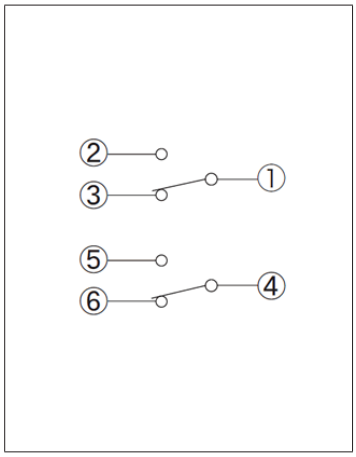
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
1,500	6,000	540 x 360 x 270

Drawing No.1

■ Dimensions

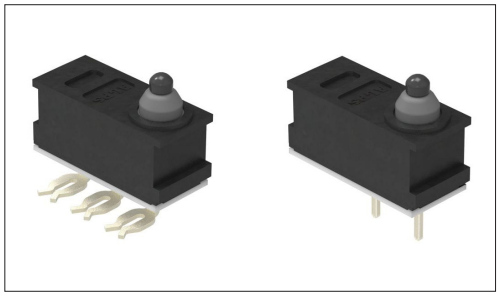


■ Circuit Diagram



Water-proof Type
SPVQA Series

Supports solderless connection with fork terminals.



Automotive | Water-proof Type | Dust-proof Type

- Rating(max.)/(min.)(Resistive load):0.1A 12V DC/50μA 5V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:300,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  300,000 cycles 1Ω max.

Applications:Home:Major home appliances
Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Poles	Positions	Operating force	Changeover timing	Operation part shape	Terminal type	Main body form	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVQA10103	1	1	1±0.5N	Non shorting	Push	Press-fit (Without terminal No.3)	Without boss L type	6.4×15.2×7.95	●	●	●	1
SPVQA10203	1	1	1±0.5N	Non shorting	Push	Press-fit (Without terminal No.3)	Without boss R type	6.4×15.2×7.95	●	●	●	2
SPVQA10302	1	1	1±0.5N	Non shorting	Push	Press-fit (Without terminal No.2)	Without boss L type	6.4×15.2×7.95	●	●	●	3
SPVQA10402	1	1	1±0.5N	Non shorting	Push	Press-fit (Without terminal No.2)	Without boss R type	6.4×15.2×7.95	●	●	●	4
SPVQA10504	1	2	1±0.5N	Non shorting	Push	Press-fit	Without boss L type	6.4×15.2×7.95	●	●	●	5
SPVQA10604	1	2	1±0.5N	Non shorting	Push	Press-fit	Without boss R type	6.4×15.2×7.95	●	●	●	6
SPVQA20103	1	1	1±0.5N	Non shorting	Push	For PC board (Without terminal No.3)	Without boss	6.4×15.2×7.95	●	●	●	7
SPVQA20203	1	2	1±0.5N	Non shorting	Push	For PC board	Without boss	6.4×15.2×7.95	●	●	●	8

⚠Note

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2. This unit cannnot be used in water (IP6K7 rating, except for terminal).
3. Please place purchase orders per minimum order unit (integer).
4. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

■ Packing Specifications

Tray

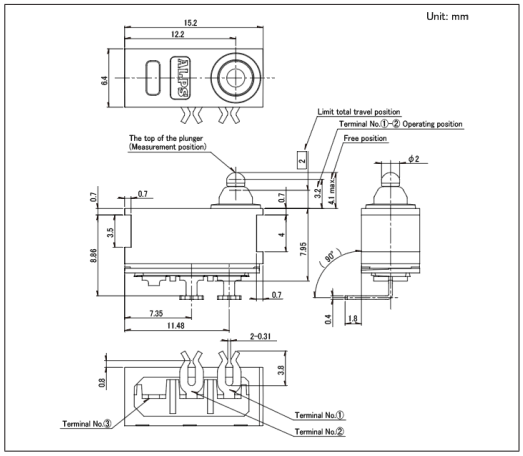
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
1,200	4,800	540 x 360 x 270

Water-proof Type

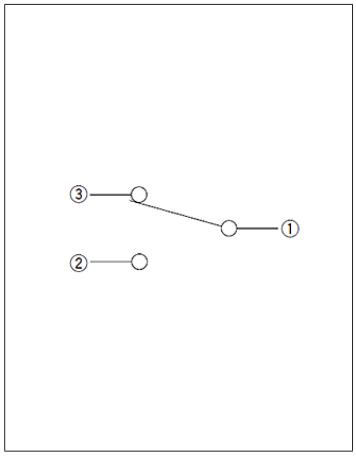
SPVQA Series

Drawing No.1

■ Dimensions

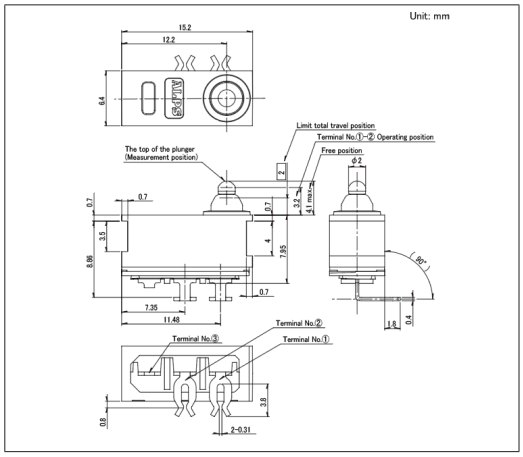


■ Circuit Diagram

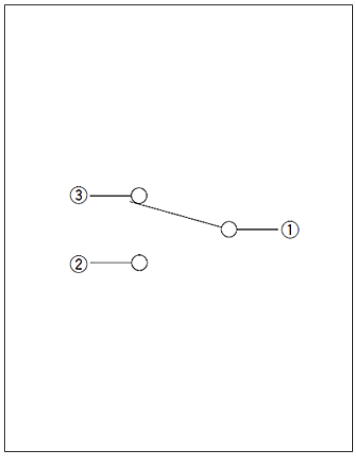


Drawing No.2

■ Dimensions

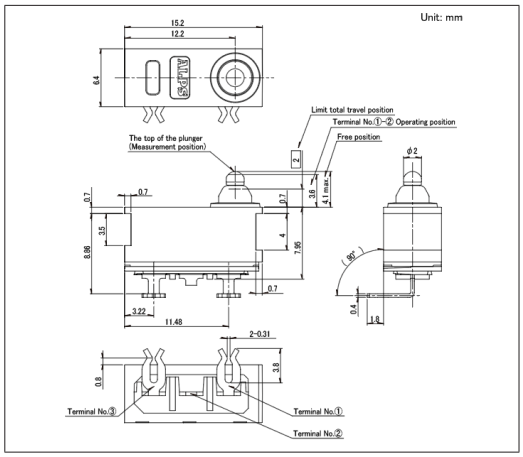


■ Circuit Diagram

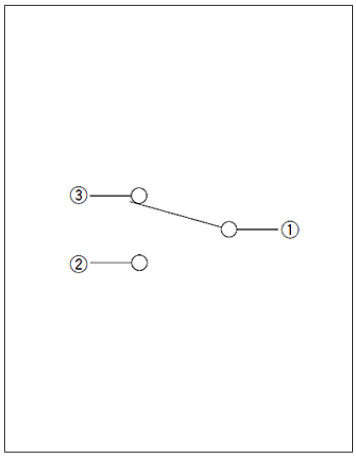


Drawing No.3

■ Dimensions



■ Circuit Diagram

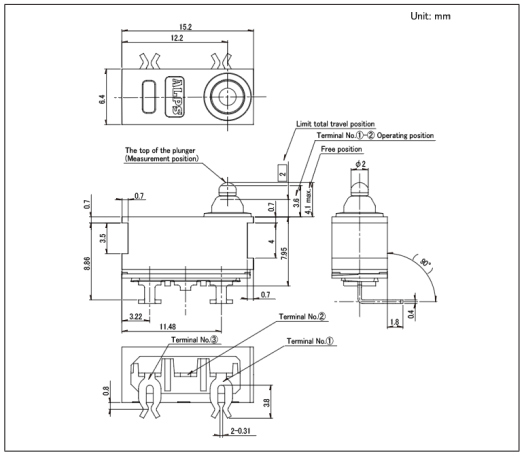


Water-proof Type

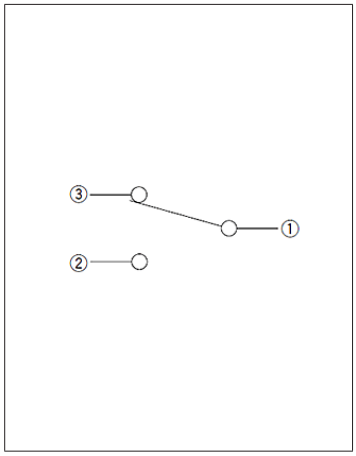
SPVQA Series

Drawing No.4

■ Dimensions

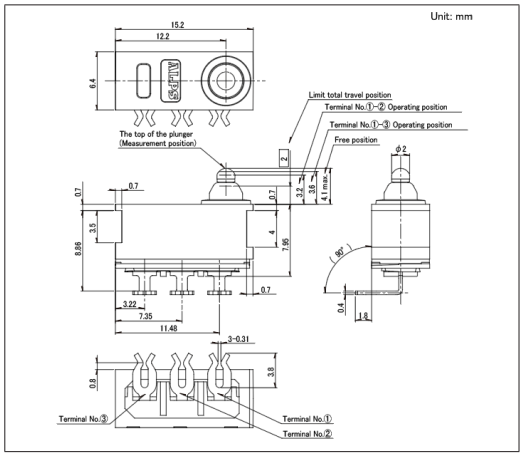


■ Circuit Diagram

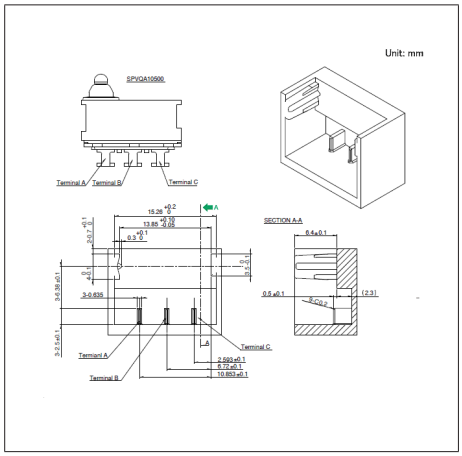


Drawing No.5

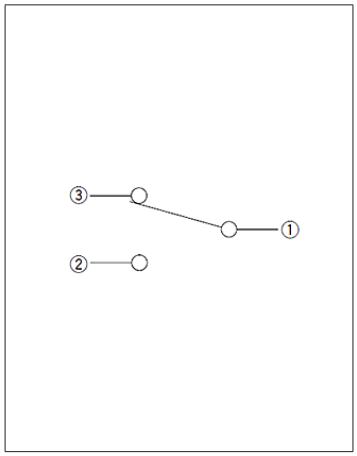
■ Dimensions



■ Recommended Unit Terminal style

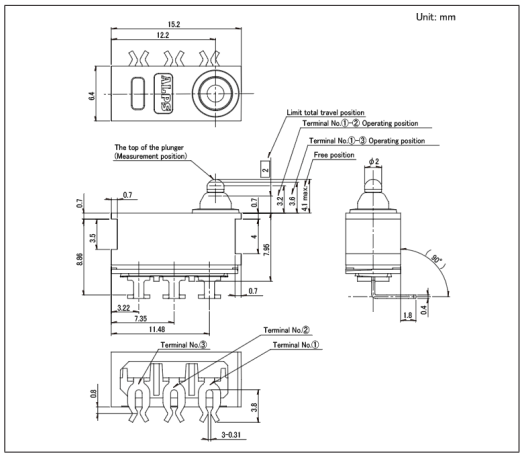


■ Circuit Diagram

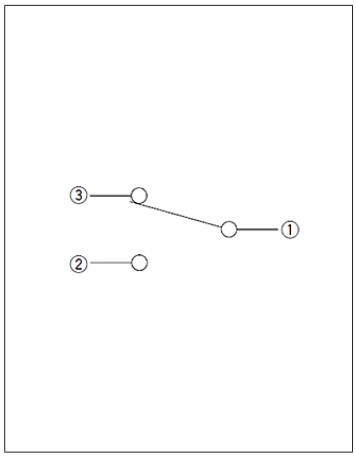


Drawing No.6

■ Dimensions

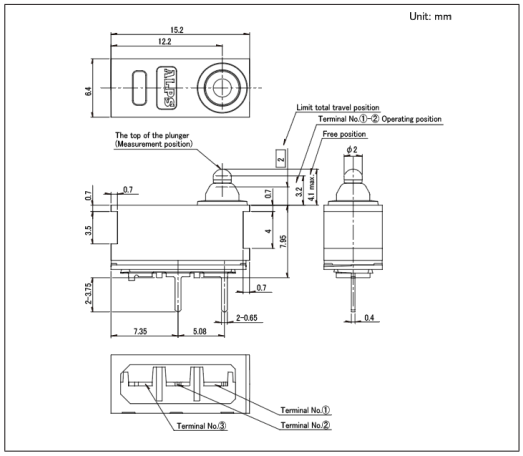


■ Circuit Diagram

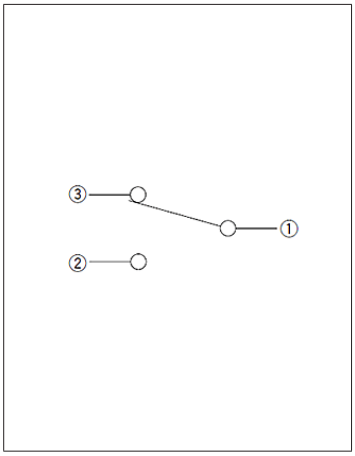


Drawing No.7

■ Dimensions

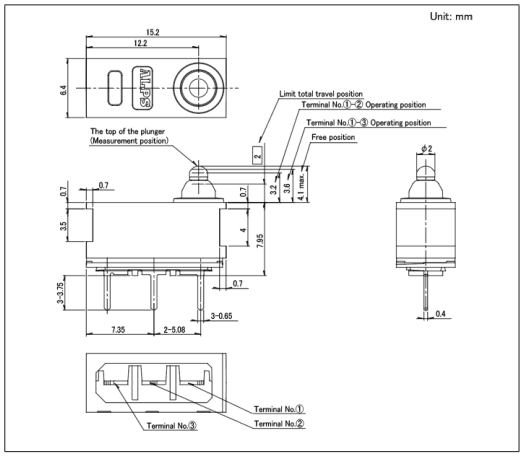


■ Circuit Diagram

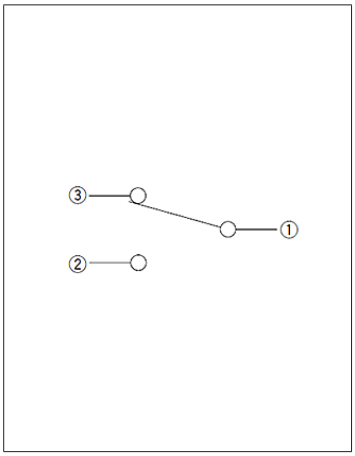


Drawing No.8

■ Dimensions



■ Circuit Diagram



Water-proof Type (Surface Mount)
SPVQC Series

Surface-mount type with a dual-circuit simultaneous switching design ensuring stable contact.

Automotive | Water-proof Type | Dust-proof Type

- Rating(max.)/(min.)(Resistive load):50mA 18V DC/50μA 5V DC
- Contact resistance(Initial/After operating life):75mΩ max./200mΩ max.
- Operating life without load:300,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  300,000 cycles 200mΩ max.

Applications:Automotive:Electric Parking Brake

■ Product List

Products No.	Poles	Positions	Operating force	Changeover timing	Operation part shape	Terminal type	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVQC10201	2	2	1±0.5N	Non shorting	Push	For PC board (Reflow)	7.4×15.4×7.5	●	●	●	1

Note

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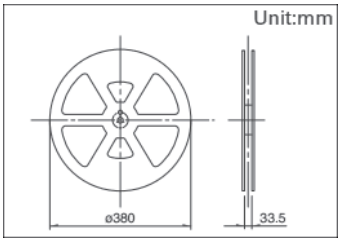
2. This unit cannnot be used in water (IP6K7 rating, except for terminal).
3. Please place purchase orders for taping products per minimum order unit (1 reel or a case).
4. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

■ Packing Specifications

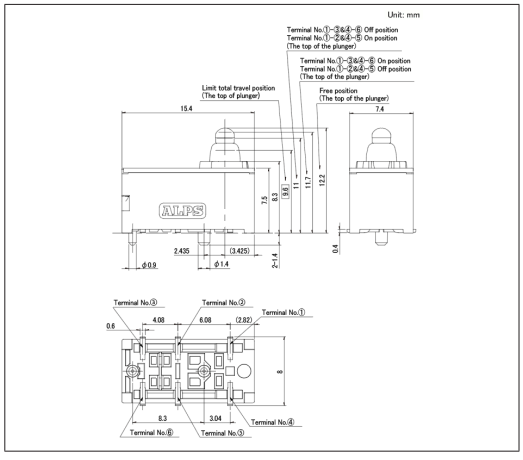
Taping

Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
300	1,200	2,400	32	403 x 403 x 360

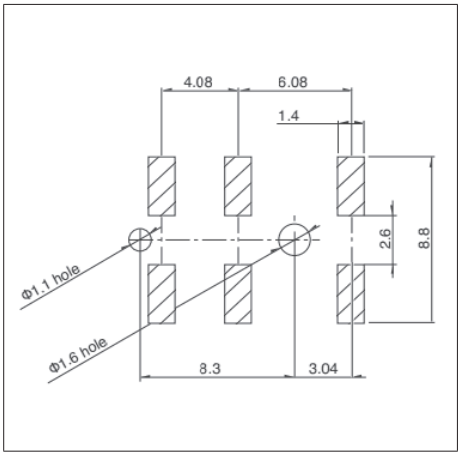


Drawing No.1

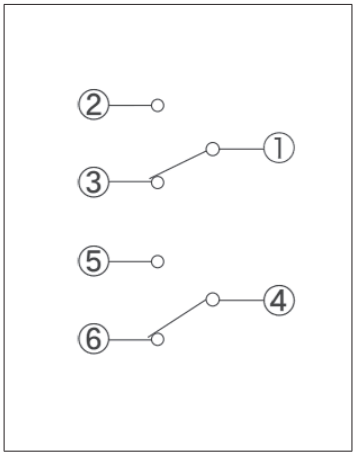
■ Dimensions



■ Land Dimensions

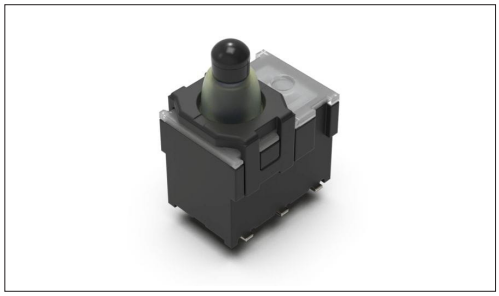


■ Circuit Diagram



Water-proof Type (Surface Mount)
SPVQF Series

2-circuit synchronous snap action, compact and quiet type



Automotive | Water-proof Type | Dust-proof Type

- Rating(max.)/(min.)(Resistive load):50mA 18V DC/50μA 5V DC
- Contact resistance(Initial/After operating life):75mΩ max./2Ω max.
- Operating life without load:300,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  300,000 cycles 2Ω max.

Applications:Automotive:Electric Parking Brake

■ Product List

Products No.	Poles	Positions	Operating force	Changeover timing	Operation part shape	Terminal type	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SPVQF10201	2	2	1.8N max.	Non shorting	Push	For PC board (Reflow)	6.3×8.5×7.0	●	●	●	1

Note

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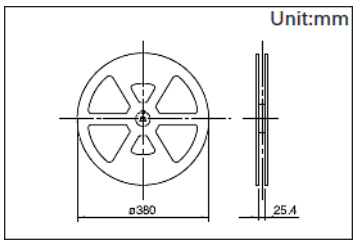
3. Please place purchase orders for taping products per minimum order unit (1 reel or a case).
4. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

■ Packing Specifications

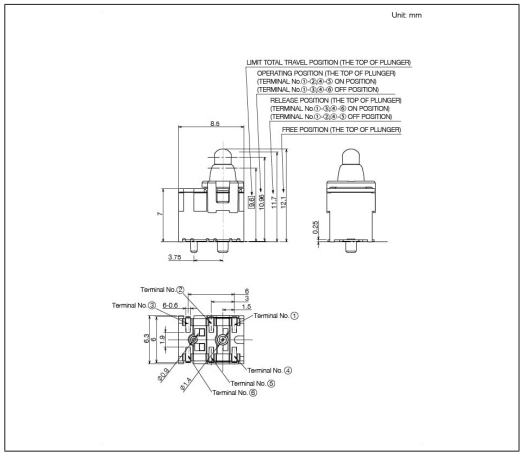
Taping

Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
400	800	1,600	24	428 x 413 x 172

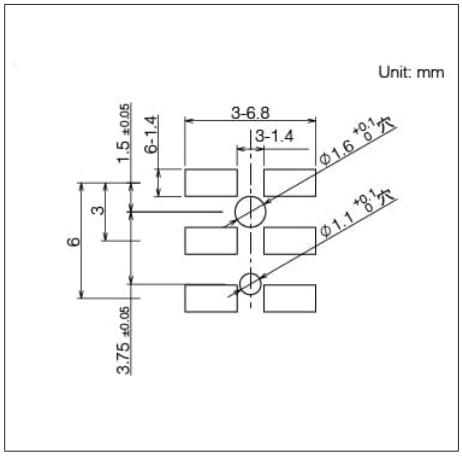


Drawing No.1

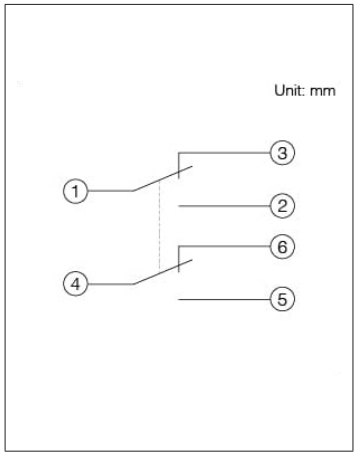
■ Dimensions



■ Land Dimensions

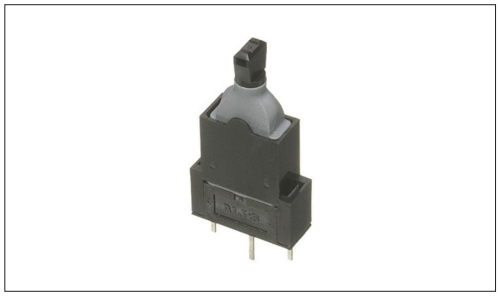


■ Circuit Diagram



Water-proof Lever Type
SSCN Series

Water-proof lever switch capable of left-right detection with a 40° operating angle per side.



Automotive | Water-proof Type | Dust-proof Type

- Rating(max.)/(min.)(Resistive load):0.1A 12V DC/100μA 5V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:100,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  100,000 cycles 1Ω max.

Applications:Energy_Industrial:Robots, drones,Industrial equipment
Home:Major home appliances
Automotive:Hood Latch (Side/Rear/Door/Gear)

■ Product List

Products No.	Poles	Positions	Operating force	Changeover timing	Terminal type	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SSCN110101	1	2	2N max.	Non shorting	For PC board	5.0×13.0×15.0	●	●	●	1

Note

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3. Please place purchase orders per minimum order unit (integer).
4. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

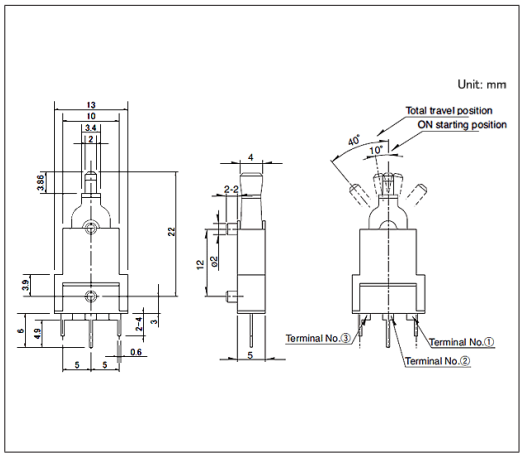
■ Packing Specifications

Tray

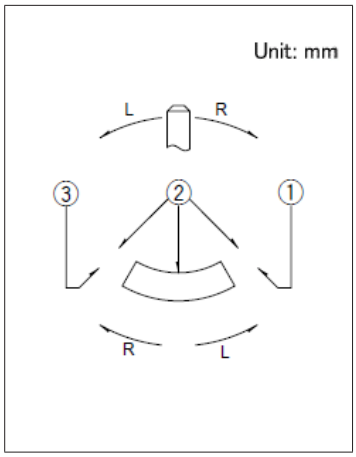
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
600	2,400	540 x 360 x 270

Drawing No.1

■ Dimensions



■ Circuit Diagram



Water-proof Switch Compatible with 10mA to 4.5A

SDDH Series

Compliant with IP6K8 waterproofing standards, enabling submerged operation.

Automotive | Water-proof Type | Dust-proof Type

- Rating(max.)/(min.)(Resistive load):4.5A 12V DC/10mA 12V DC
- Contact resistance(Initial/After operating life):500mΩ max./1Ω max.
- Operating life without load:100,000 cycles
- Operating life with load Rating(max.)(Resistive load):
  100,000 cycles 1Ω max.

Applications:Automotive:Motorcycles

■ Product List

Products No.	Poles	Positions	Operating force	Terminal type	Circuit	Dimensions (W×D×H) (mm)	Water-proof	Dust-proof	Automotive	Drawing No.
SDDHA10100	1	1	4.6N max.	Snap-in Tab Terminal (#187)	SPST (normally closed)	28.5×9.0×24.3	●	●	●	1

⚠Note

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2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

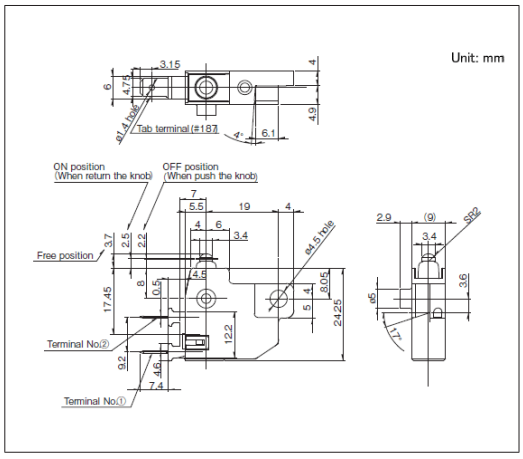
■ Packing Specifications

Tray

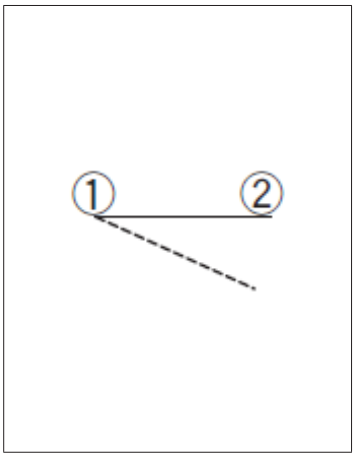
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
180	360	400 x 270 x 185

Drawing No.1

■ Dimensions



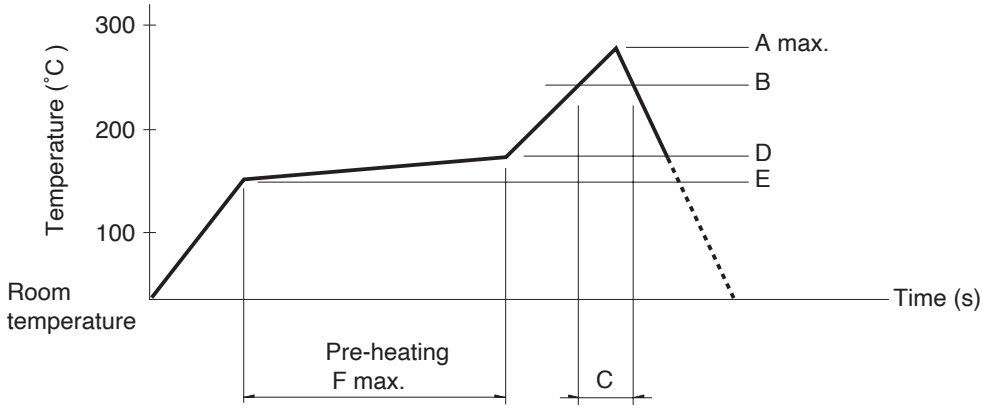
■ Circuit Diagram



Detector Switches / Soldering Conditions

■Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple ϕ0.1 to 0.2 CA(K)or CC(T)at soldering portion(copper foil surface).
   A heat resisting tape should be used for fixed measurement.
3. Temperature profile



Series(Reflow type)	A (℃) 3s max.	B (℃)	C (s)	D (℃)	E (℃)	F (s)
SPPB	250	230	40	180	150	120
SPVE	260					
SPVL						
SPVM						
SPVN						
SPVR						
SPVS						
SPVT						
SSCM						
SSCQ						
SPVQC	250					
SPVQF						

⚠Note

1. The condition mentioned above is the temperature on the mounting surface of a PC board. There are cases where the PC board's temperature greatly differs from that of the switch, surface depending on the PC board's material, size, thickness, etc.
   The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines.
   Prior verification of soldering condition is highly recommended.

■Reference for Hand Soldering

Series	Soldering temperature	Soldering time
SPVS, SPVN, SPVT, SPVM, SPVR, SPVE, SSCQ, SSCM, SPVL, SSCT, SPVQC, SPVQF	350±5℃	3s max.
SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SSCN, SPVQA	300±10℃	3+1/0s
SPPB (Reflow)	300±5℃	5s max.
SSCF, SPPB (For Lead, Dip)	350±10℃	3+1/0s

■Reference for Dip Soldering

(For PC board terminal types)

Series	Items		Dip soldering	
	Preheating temperature	Preheating time	Soldering temperature	Duration of immersion
SSCT, SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SPVQA	100±10℃	60s max.	260±5℃	5±1s
SPPW8, SPPB	100 ℃ max.	60s max.	255±5℃	5±1s
SSCF	—		260±5℃	5±1s

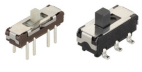
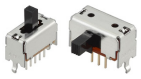
Detector Switches / Cautions

1. Appling load to terminals during soldering under certain conditions may cause deformation and electrical property degradation.
2. Avoid use of water-soluble soldering flux, since it may corrode the switches.
3. Check and conform to soldering requirements under actual mass production conditions.
4. No washing.
5. The products are designed and manufactured for direct current resistance. Contact us for use of other resistances such as inductive (L) or capacitive (C).
6. The circuit setting (software setting) shall be ensured for error-free operations, caused by bounce and chattering as specified by each model of the switches.
7. Do not use the switches for a long time near the upper or lower limits of the specified operating temperatures. The use environments shall satisfy the specified range of the environmental tests in the specifications.
8. In case of continuous operation near the upper and lower limits, see requirements of each model to check if possible.
9. The switches designed specifically for automotive uses can be used for vehicles. No other switches shall be used for vehicles.
10. Use the switches sufficiently distant (i.e. at a position closer to the full distance) from the ON Start Position.
11. The switch-returning force cannot be used as a mechanical driving force of a set.
12. Do not apply transverse force to the operating part while piling up PC boards in process and during transportation.
13. Protect small and thin switches from external forces in the set mounting process.
14. Use of a through-hole PC board, or a PC board of different thickness from the recommendation will have a different heat stress. Verify the soldering requirements thoroughly before use.
15. Warped PC boards may change their properties. Carefully design and lay-out the patterns.
16. Use of thinner PC boards will require extra care, since the switches may be floated.
17. Use of the switches in a dusty environment may lead the dusts entering through the openings and cause imperfect contact or malfunction. Take this into account for set design.
18. Corrosive gas if generated by peripheral parts of a set, malfunction such as imperfect contact may occur. Thorough investigation shall be required beforehand.
19. Storage
    Store the products as delivered at normal temperature and humidity, out of direct sunlight and away from corrosive gases. Use them as soon as possible and no later than six months after delivery.
    Once the seal is broken, use them as soon as possible.

Switches

Slide Switches

List of Varieties

Series			SSAJ	SSSS8	SSAG	SSSS7	SSSS2	SSSS9	SSSF
Photo									
Actuator directions	Horizontal		●	●	●	●	●	●	●
	Vertical		–	●	–	–	●	●	●
Dimensions (mm)			2.5×5.5×0.7	6.7×2.6×1.4 6.7×4.1×1.4 9.7×2.6×1.4 9.7×4.1×1.4	3.0×9.05×1.15	8.8×3.0×2.0 12.5×3.0×2.0	8.5×3.5×3.5 9.0×3.5×3.5 13.0×3.5×3.5 15.0×3.5×3.5	11.5×4.7×5.0 11.5×4.7×5.5 11.5×7.2×5.0 11.5×7.2×5.5 14.0×4.7×5.0 14.0×4.7×5.5 14.0×7.2×5.0 14.0×7.2×5.5	14.5×7.0×8.5 16.5×7.0×8.5
Poles			1	1 2	1		1 2		1 2 4
Positions			2	2 3	3	2 3	2 3 4	2 3	
Operating force			1.5±1N	Refer to the dimensions	1N (Recoil side) 1N (Recoil side), 1.5N (Lock side)	Refer to the dimensions.		3±1.5N a, c → b 2±1N b → a, c 3±1.5N	Refer to the dimensions.
Operating temperature range			-10℃ to +60℃	-40℃ to +85℃	-10℃ to +60℃	-40℃ to +85℃			
Rating (max.)/(min.) (Resistive load)			10mA 5V DC/ 50μA 3V DC	0.3A 5V DC/ 50μA 3V DC	10mA 5V DC/ 50μA 3V DC	0.3A 4V DC/ 50μA 3V DC	0.3A 6V DC/ 50μA 3V DC	0.1A 12V DC/ 1mA 5V DC	0.1A 30V DC/ 50μA 3V DC
Electrical performance	Contact resistance (Initial performance/ After lifetime)		300mΩ max./ 500mΩ max.	70mΩ max./ 130mΩ max.	200mΩ max./ 500mΩ max.	70mΩ max./ 130mΩ max.		30mΩ max./ 80mΩ max.	25mΩ max./ 65mΩ max.
	Insulation resistance		100MΩ min. 100V DC			100MΩ min. 500V DC			
	Voltage proof		100V AC for 1 minute			500V AC for 1 minute			
Mechanical performance	Terminal strength		3N for 1 minute						5N for 1 minute
	Actuator strength	Operating direction	10N				20N	30N	
		Pulling direction	10N						30N
Durability	Operating life without load		10,000 cycles 500mΩ max.	10,000 cycles 100mΩ max.	100,000 cycles 500mΩ max. 100,000 cycles 500mΩ max. (Recoil side) 30,000 cycles 500mΩ max. (Lock side)	10,000 cycles 100mΩ max.	100 cycles 100mΩ max. 10,000 cycles 100mΩ max.	10,000 cycles 60mΩ max.	10,000 cycles 45mΩ max.
	Operating life with load (at max. rated load)		10,000 cycles 500mΩ max.	10,000 cycles 130mΩ max.	100,000 cycles 500mΩ max. 100,000 cycles 500mΩ max. (Recoil side) 30,000 cycles 500mΩ max. (Lock side)	10,000 cycles 130mΩ max.	100 cycles 130mΩ max. 10,000 cycles 130mΩ max.	10,000 cycles 80mΩ max.	10,000 cycles 65mΩ max.
Environmental performance	Cold		-40℃ 96h	-40℃ 500h	-40℃ 96h	-40℃ 500h			
	Dry heat		85℃ 96h	85℃ 500h	85℃ 96h	85℃ 500h			
	Damp heat		40℃, 90 to 95%RH 96h	60℃, 90 to 95%RH 500h	40℃, 90 to 95%RH 96h	60℃, 90 to 95%RH 500h			
Automotive			–	–	–	–	–	–	–

⚠Note

● Indicates applicability to all products in the series, while ○ indicates applicability to some products in the series.

Slide Switches

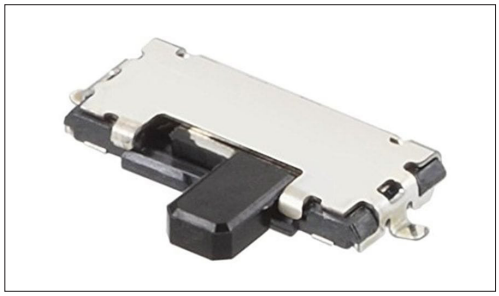
Series			SSSU
Photo			
Actuator directions	Horizontal		●
	Vertical		●
Dimensions (mm)			18.5×7.0×8.5 21.5×7.0×8.5 24.5×7.0×8.5
Poles			1 2 4
Positions			2 3
Operating force			Refer to the dimensions.
Operating temperature range			-40℃ to +85℃
Rating (max.)/(min.) (Resistive load)			0.1A 30V DC/ 50μA 3V DC
Electrical performance	Contact resistance (Initial performance/ After lifetime)		25mΩ max./ 65mΩ max.
	Insulation resistance		100MΩ min. 500V DC
	Voltage proof		500V AC for 1 minute
Mechanical performance	Terminal strength		5N for 1 minute
	Actuator strength	Operating direction	30N
		Pulling direction	30N
Durability	Operating life without load		10,000 cycles 45mΩ max.
	Operating life with load (at max. rated load)		10,000 cycles 65mΩ max.
Environmental performance	Cold		-40℃ 500h
	Dry heat		85℃ 500h
	Damp heat		60℃, 90 to 95%RH 500h
Automotive			—

⚠Note

● Indicates applicability to all products in the series, while ○ indicates applicability to some products in the series.

0.7mm (H), 1.4mm-travel (Surface Mount)
SSAJ Series

Compact type with a body height of 0.7mm.



- Rating (max.)/(min.) (Resistive load): 10mA 5V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime): 300mΩ max./500mΩ max.
- Operating life without load: 10,000 cycles 500mΩ max.
- Operating life with load (at max. rated load): 10,000 cycles 500mΩ max.

Applications: Mobile: Smartphones, tablets,Headsets, wearables, Notebooks, peripherals
Energy_Industrial: Robots, drones,Industrial equipment, Converters
Game: Home handheld consoles,Virtual/augmented reality
Healthcare: Healthcare equipment,Nursing care equipment, Analysis, test equipment
Audio_TV: Audio,Cameras

■ Product List

Products No.	Actuator directions	Travel (mm)	Poles	Positions	Operating force	Changeover timing	Soldering	Location lug	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SSAJ110100	Horizontal	1.4	1	2	1.5±1N	Not specified	Reflow	With	2.5×5.5×0.7	—	1
SSAJ120100	Horizontal	1.4	1	2	1.5±1N	Not specified	Reflow	Without	2.5×5.5×0.7	—	2

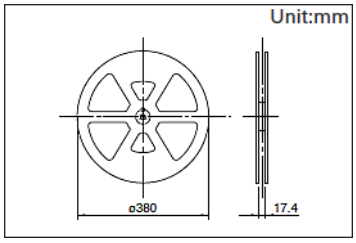
⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders for taping products per minimum order unit (1 reel or a case).

■ Packing Specifications

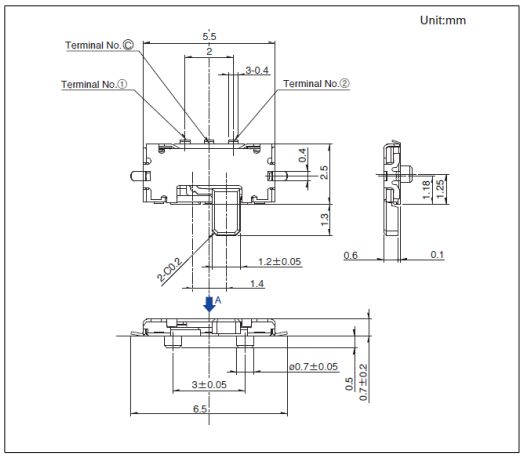
Taping

Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
5,000	10,000	20,000	16	417 x 409 x 139

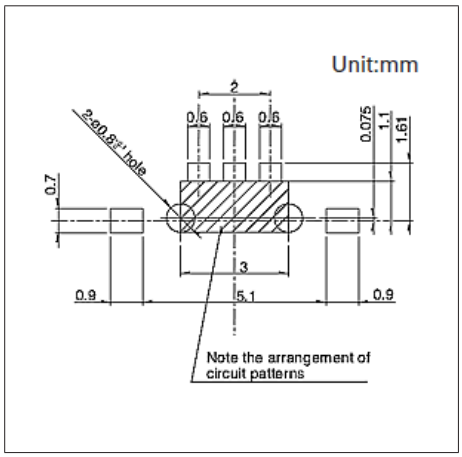


Drawing No.1

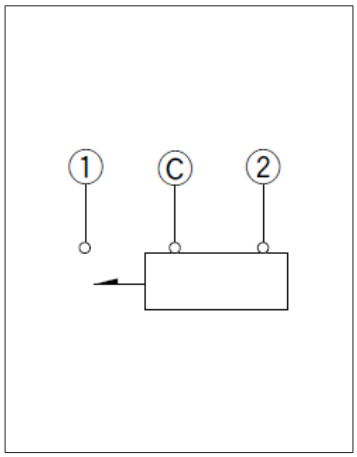
■ Dimensions



■ Land Dimensions



■ Circuit Diagram

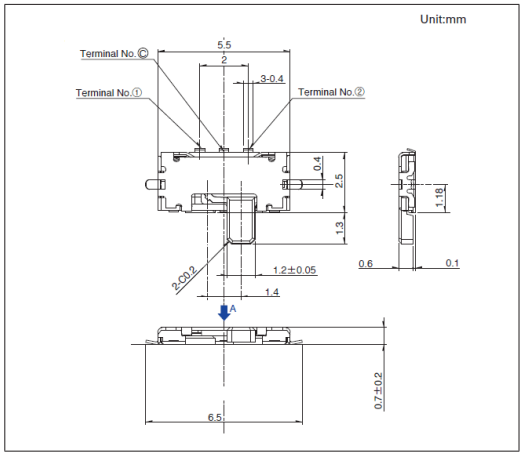


0.7mm (H), 1.4mm-travel (Surface Mount)

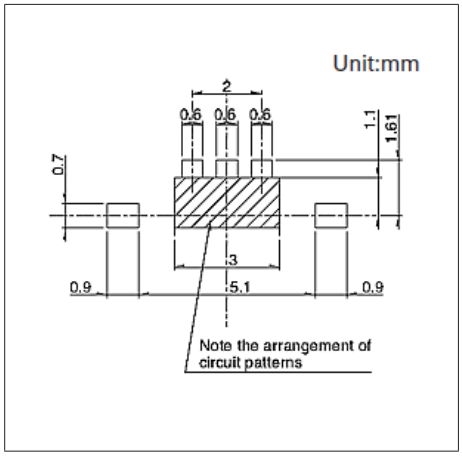
SSAJ Series

Drawing No.2

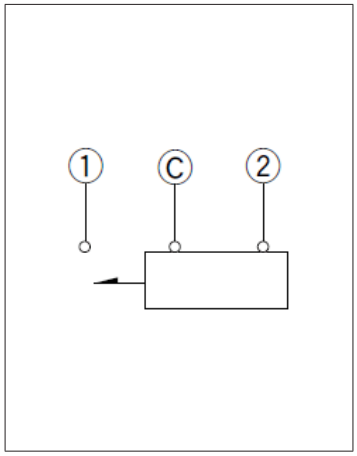
■ Dimensions



■ Land Dimensions

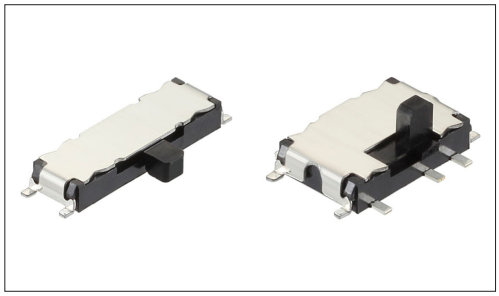


■ Circuit Diagram



1.4 (H) mm, 1.5/2.0mm-travel (Surface Mount)
SSSS8 Series

Thin-profile type with a body height of 1.4mm.



- Rating (max.)/(min.) (Resistive load):0.3A 5V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  70mΩ max./130mΩ max.
- Operating life without load:10,000 cycles 100mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 130mΩ max.

Applications:Mobile:Smartphones, tablets,Headsets, wearables, Notebooks, peripherals
Energy_Industrial:Robots, drones,Industrial equipment, Converters
Game:Home handheld consoles,Virtual/augmented reality
Healthcare:Healthcare equipment,Nursing care equipment, Analysis, test equipment
Audio_TV:Audio,Cameras

■ Product List

Products No.	Actuator directions	Travel (mm)	Poles	Positions	Operating force	Changeover timing	Ground terminal	Soldering	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SSSS820101	Vertical	1.5	2	2	Refer to the dimensions	Not specified	Without	Reflow	6.7×4.1×1.4	—	1
SSSS820301	Vertical	1.5	2	3	Refer to the dimensions	Not specified	Without	Reflow	9.7×4.1×1.4	—	2
SSSS820201	Vertical	1.5	2	2	Refer to the dimensions	Not specified	With	Reflow	6.7×4.1×1.4	—	3
SSSS820501	Vertical	1.5	2	3	Refer to the dimensions	Not specified	With	Reflow	9.7×4.1×1.4	—	4
SSSS810701	Horizontal	1.5	1	2	Refer to the dimensions	Not specified	Without	Reflow	6.7×2.6×1.4	—	5
SSSS811501	Horizontal	1.5	1	3	Refer to the dimensions	Not specified	Without	Reflow	9.7×2.6×1.4	—	6
SSSS811101	Horizontal	1.5	1	2	Refer to the dimensions	Not specified	With	Reflow	6.7×2.6×1.4	—	7
SSSS812201	Horizontal	1.5	1	3	Refer to the dimensions	Not specified	With	Reflow	9.7×2.6×1.4	—	8
SSSS810201	Horizontal	2.0	1	2	Refer to the dimensions	Not specified	With	Reflow	9.7×2.6×1.4	—	9

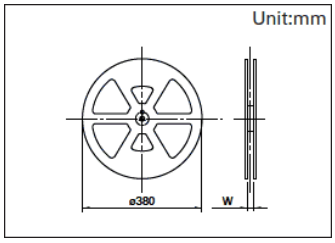
⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders for taping products per minimum order unit (1 reel or a case).

■ Packing Specifications

Taping

Products No.	Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case / Japan	1 case / export packing		
SSSS820101 SSSS820301 SSSS820201 SSSS820501	1,800	3,600	7,200	24	406 x 406 x 190
SSSS810701 SSSS811501 SSSS811101 SSSS812201 SSSS810201	4,500	9,000	18,000	16	417 x 409 x 139

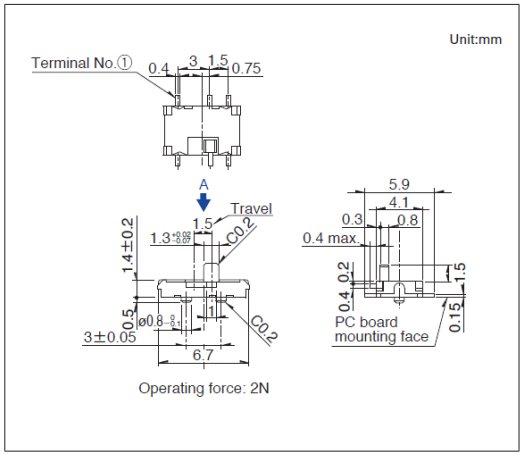


1.4 (H) mm, 1.5/2.0mm-travel (Surface Mount)

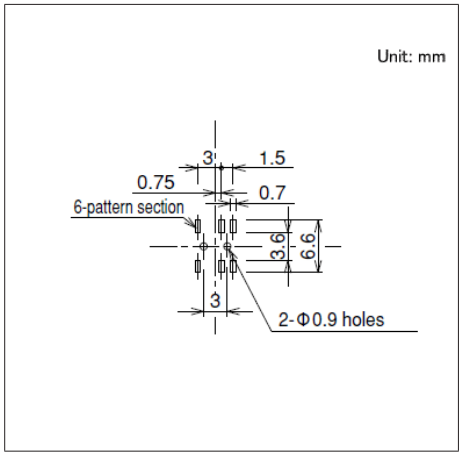
SSSS8 Series

Drawing No.1

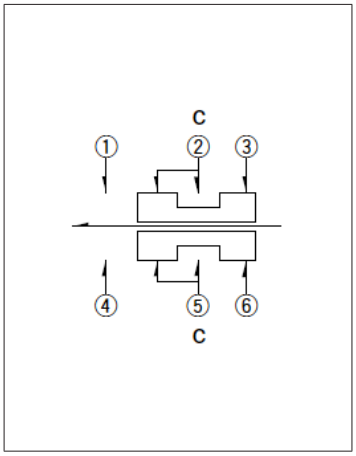
■ Dimensions



■ Land Dimensions



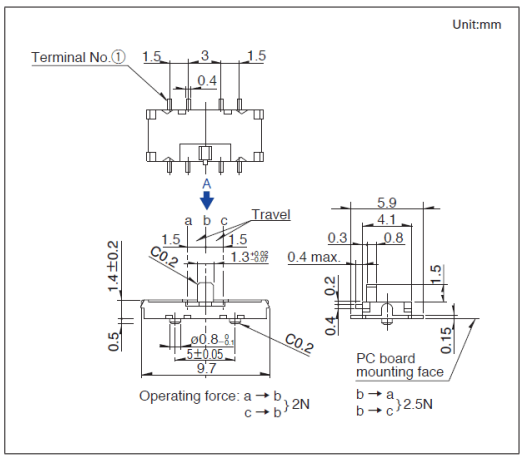
■ Circuit Diagram



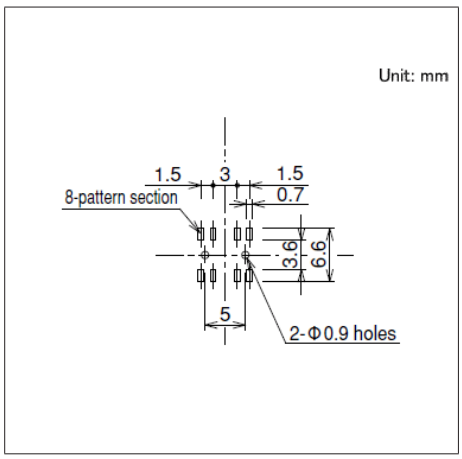
Viewed from direction A in the dimensions.

Drawing No.2

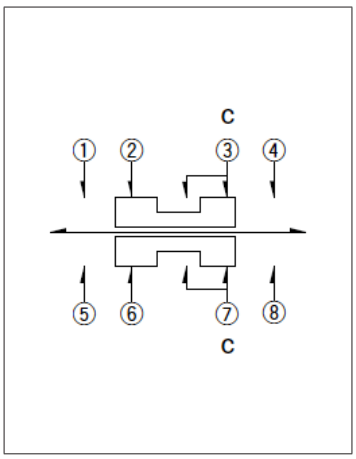
■ Dimensions



■ Land Dimensions



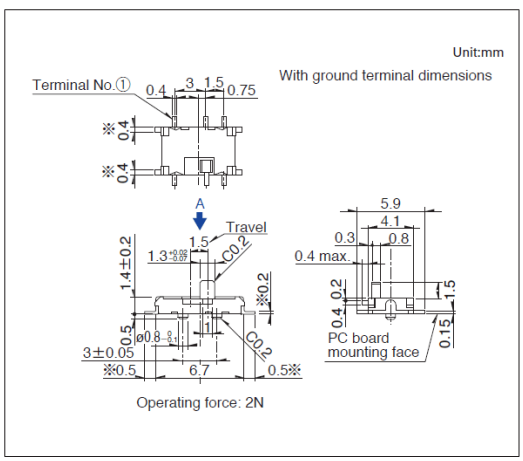
■ Circuit Diagram



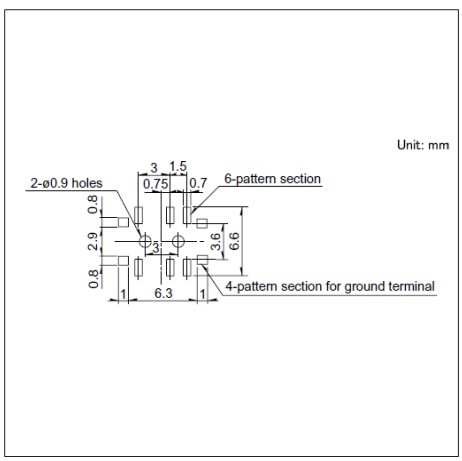
Viewed from direction A in the dimensions.

Drawing No.3

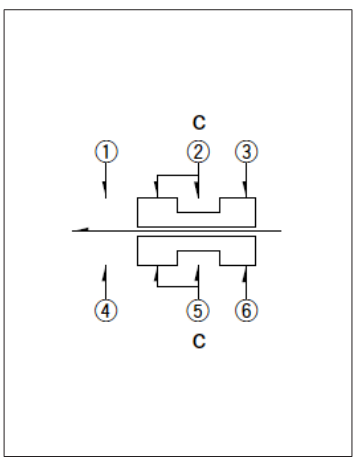
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



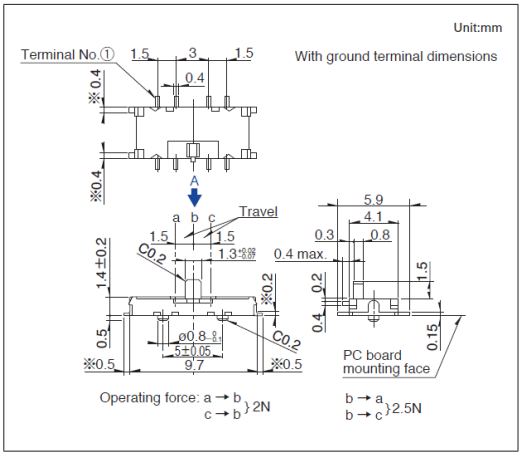
Viewed from direction A in the dimensions.

1.4 (H) mm, 1.5/2.0mm-travel (Surface Mount)

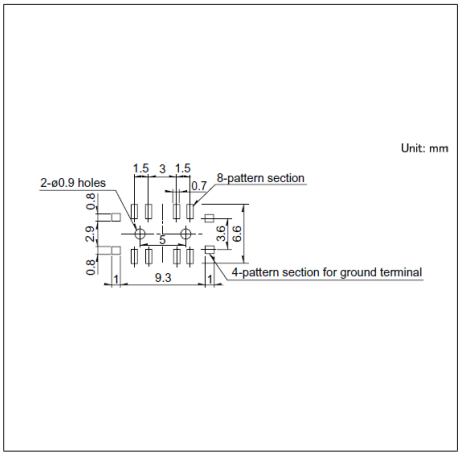
SSSS8 Series

Drawing No.4

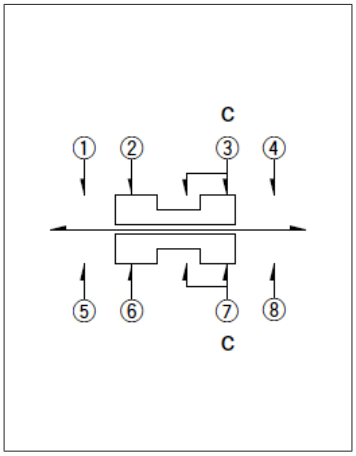
■ Dimensions



■ Land Dimensions



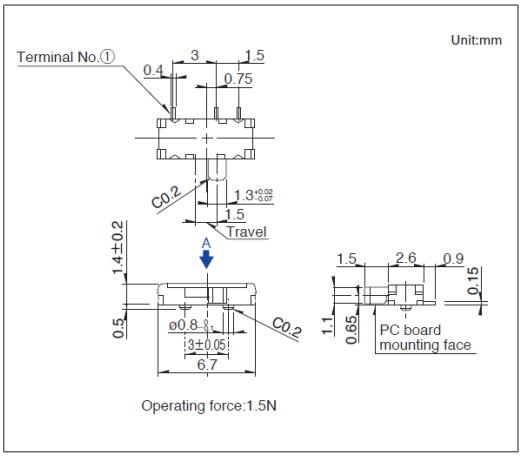
■ Circuit Diagram



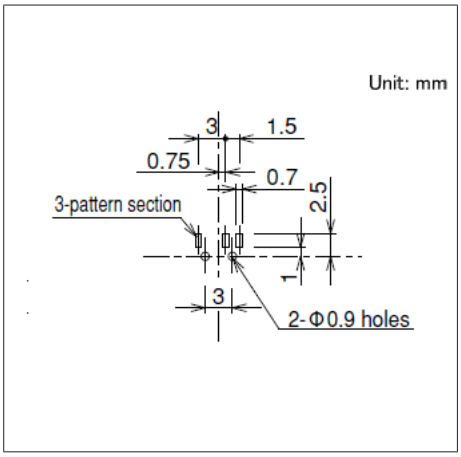
Viewed from direction A in the dimensions.

Drawing No.5

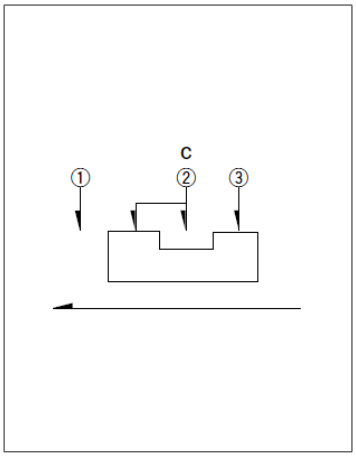
■ Dimensions



■ Land Dimensions



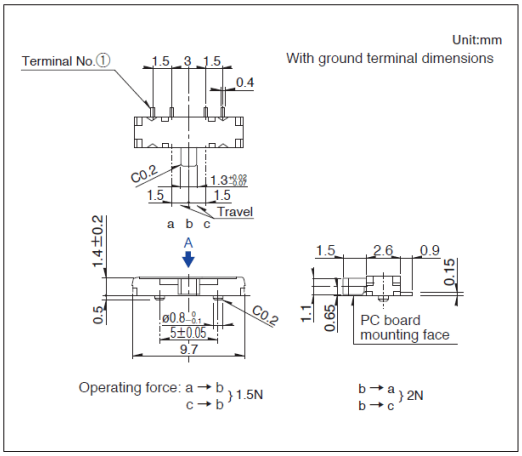
■ Circuit Diagram



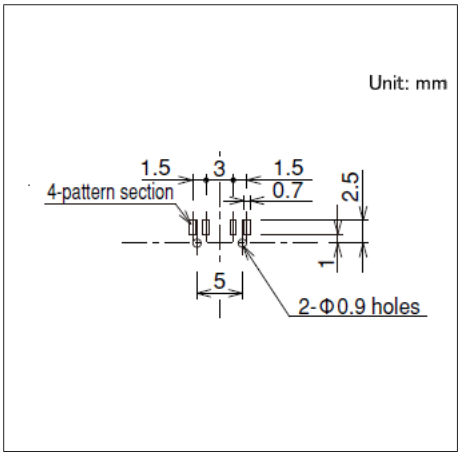
Viewed from direction A in the dimensions.

Drawing No.6

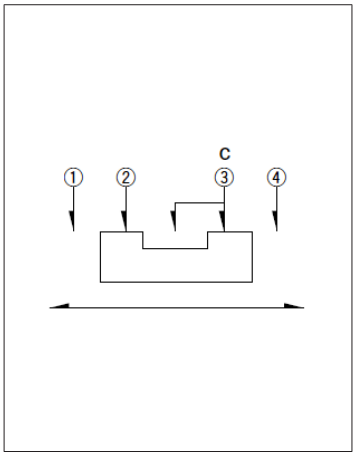
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



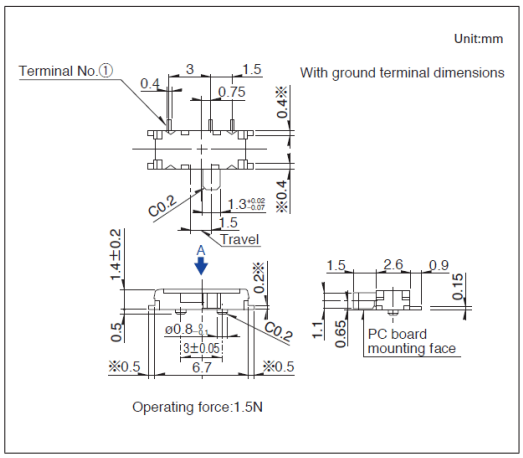
Viewed from direction A in the dimensions.

1.4 (H) mm, 1.5/2.0mm-travel (Surface Mount)

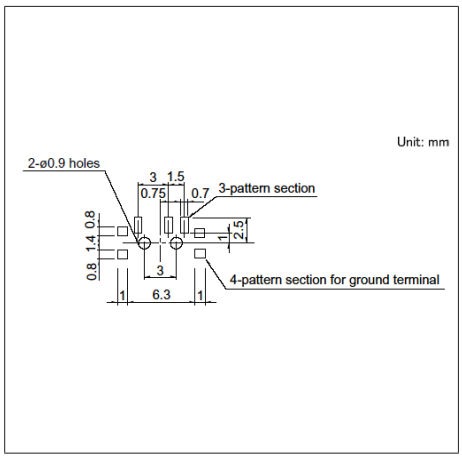
SSSS8 Series

Drawing No.7

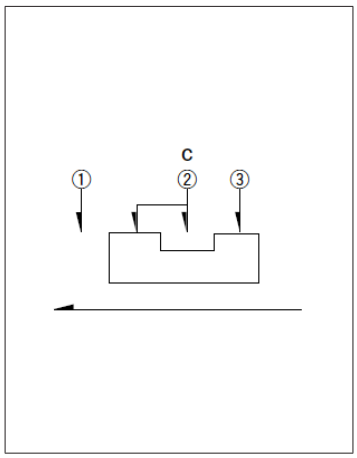
■ Dimensions



■ Land Dimensions



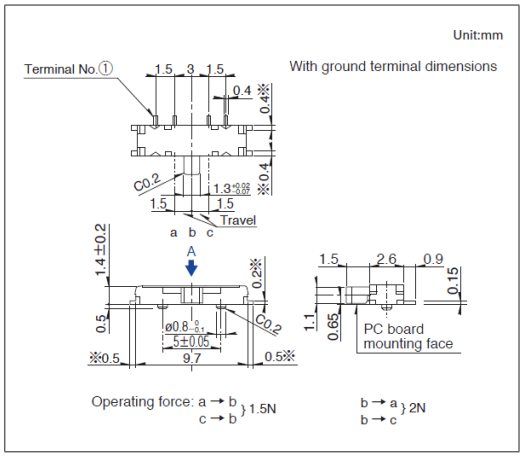
■ Circuit Diagram



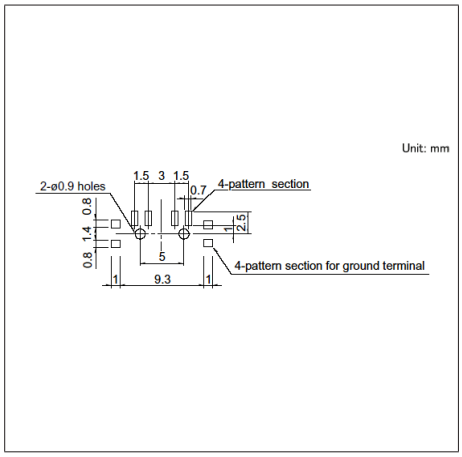
Viewed from direction A in the dimensions.

Drawing No.8

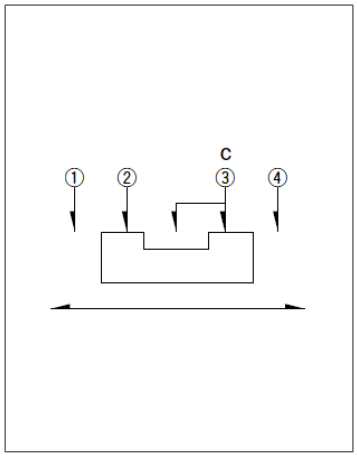
■ Dimensions



■ Land Dimensions



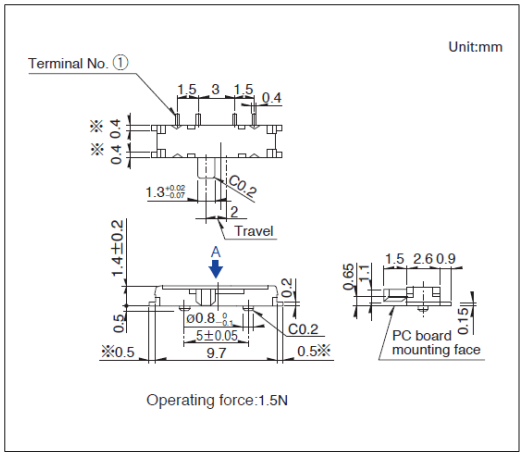
■ Circuit Diagram



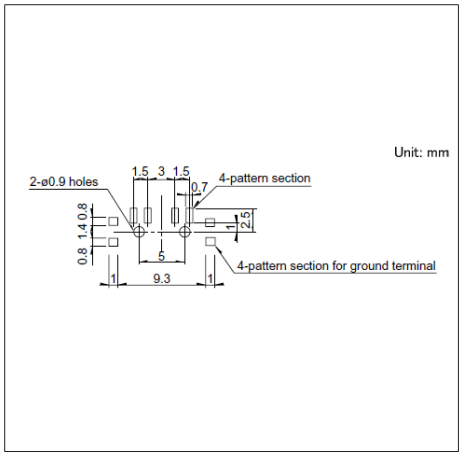
Viewed from direction A in the dimensions.

Drawing No.9

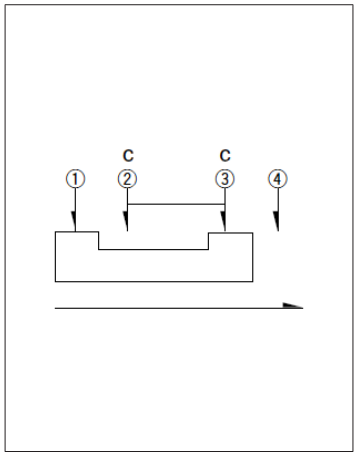
■ Dimensions



■ Land Dimensions



■ Circuit Diagram

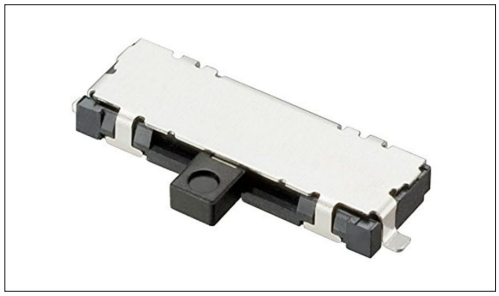


Viewed from direction A in the dimensions.

0.9 (H) mm, Recoil for Single-side and Both-sides

SSAG Series

Long-life type designed to meet the evolution toward miniaturization and thin profiles.



- Rating (max.)/(min.) (Resistive load): 10mA 5V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  200mΩ max./500mΩ max.
- Operating life without load: 100,000 cycles 500mΩ max. (Recoil side)
  30,000 cycles 500mΩ max. (Lock side)
- Operating life with load (at max. rated load):
  100,000 cycles 500mΩ max. (Recoil side)
  30,000 cycles 500mΩ max. (Lock side)

Applications: Mobile: Smartphones, tablets,Headsets, wearables, Notebooks, peripherals
Energy_Industrial: Robots, drones,Industrial equipment, Converters
Game: Home handheld consoles,Virtual/augmented reality
Healthcare: Healthcare equipment,Nursing care equipment, Analysis, test equipment
Audio_TV: Audio,Cameras

■ Product List

Products No.	Actuator directions	Travel (mm)	Poles	Positions	Operating force	Changeover timing	Soldering	Operation	Shape of frame leg	Location lug	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SSAG130100	Horizontal	1.5	1	3	1N (Recoil side), 1.5N (Lock side)	Not specified	Reflow	Left-side recoil	For PC board insert	Without	3.0×9.05×1.15	—	1
SSAG130200	Horizontal	1.5	1	3	1N (Recoil side), 1.5N (Lock side)	Not specified	Reflow	Left-side recoil	For PC board insert	With	3.0×9.05×1.15	—	2
SSAG130300	Horizontal	1.5	1	3	1N (Recoil side), 1.5N (Lock side)	Not specified	Reflow	Left-side recoil	Flat	Without	3.0×9.05×1.15	—	3
SSAG130400	Horizontal	1.5	1	3	1N (Recoil side), 1.5N (Lock side)	Not specified	Reflow	Left-side recoil	Flat	With	3.0×9.05×1.15	—	4
SSAG230100	Horizontal	1.5	1	3	1N (Recoil side), 1.5N (Lock side)	Not specified	Reflow	Right-side recoil	For PC board insert	Without	3.0×9.05×1.15	—	5
SSAG230200	Horizontal	1.5	1	3	1N (Recoil side), 1.5N (Lock side)	Not specified	Reflow	Right-side recoil	For PC board insert	With	3.0×9.05×1.15	—	6
SSAG230300	Horizontal	1.5	1	3	1N (Recoil side), 1.5N (Lock side)	Not specified	Reflow	Right-side recoil	Flat	Without	3.0×9.05×1.15	—	7
SSAG230400	Horizontal	1.5	1	3	1N (Recoil side), 1.5N (Lock side)	Not specified	Reflow	Right-side recoil	Flat	With	3.0×9.05×1.15	—	8
SSAG330100	Horizontal	1.5	1	3	1N (Recoil side)	Not specified	Reflow	Double-side recoil	For PC board insert	Without	3.0×9.05×1.15	—	9
SSAG330200	Horizontal	1.5	1	3	1N (Recoil side)	Not specified	Reflow	Double-side recoil	For PC board insert	With	3.0×9.05×1.15	—	10
SSAG330300	Horizontal	1.5	1	3	1N (Recoil side)	Not specified	Reflow	Double-side recoil	Flat	Without	3.0×9.05×1.15	—	11
SSAG330400	Horizontal	1.5	1	3	1N (Recoil side)	Not specified	Reflow	Double-side recoil	Flat	With	3.0×9.05×1.15	—	12

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders for taping products per minimum order unit (1 reel or a case).

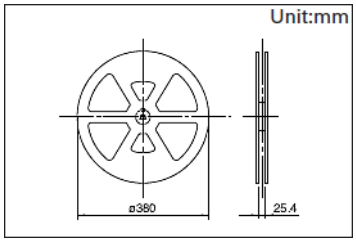
0.9 (H) mm, Recoil for Single-side and Both-sides

SSAG Series

■ Packing Specifications

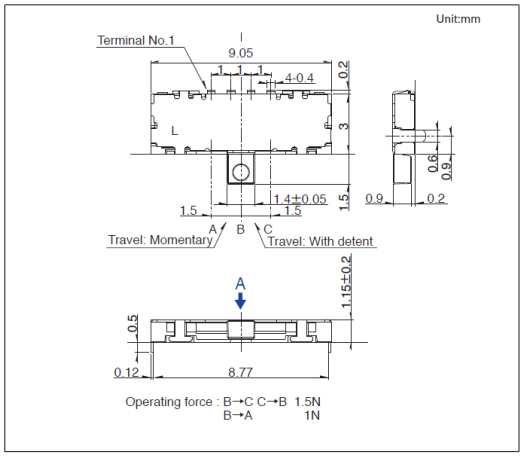
Taping

Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
4,000	8,000	16,000	24	428 x 413 x 172

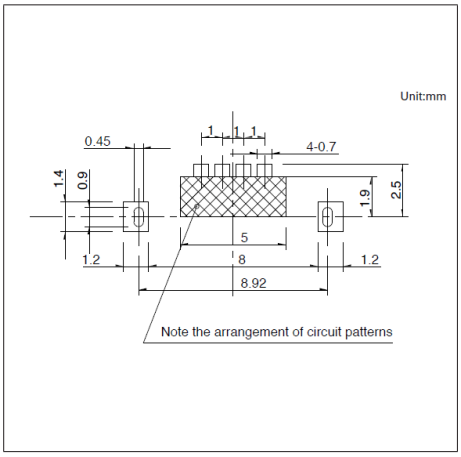


Drawing No.1

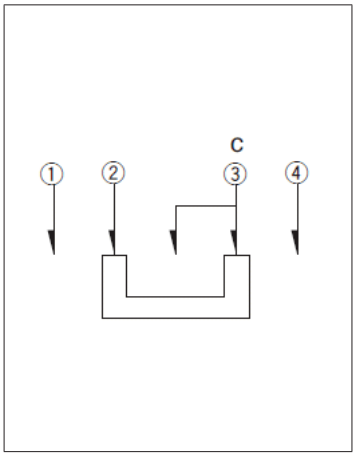
■ Dimensions



■ Land Dimensions



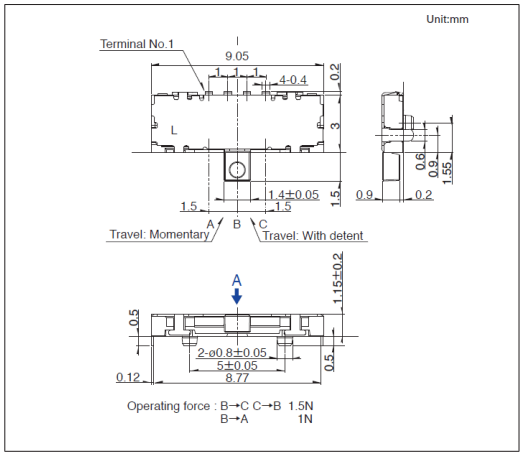
■ Circuit Diagram



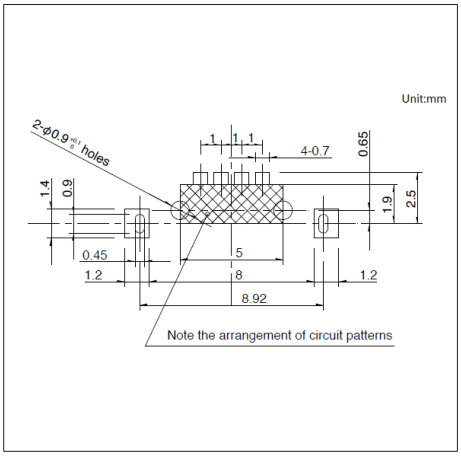
Viewed from direction A in the dimensions.

Drawing No.2

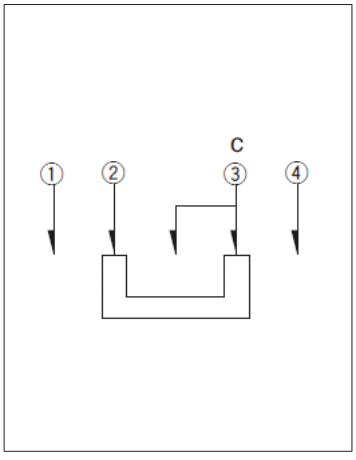
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



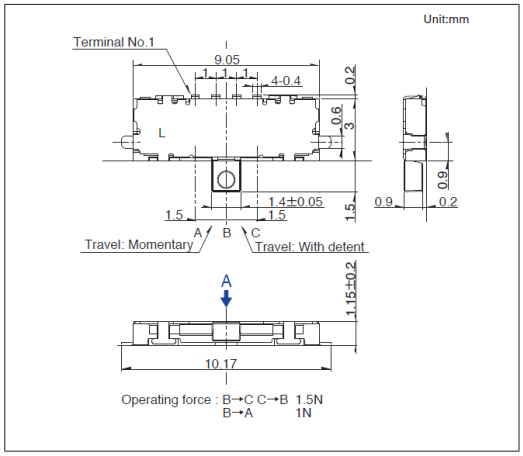
Viewed from direction A in the dimensions.

0.9 (H) mm, Recoil for Single-side and Both-sides

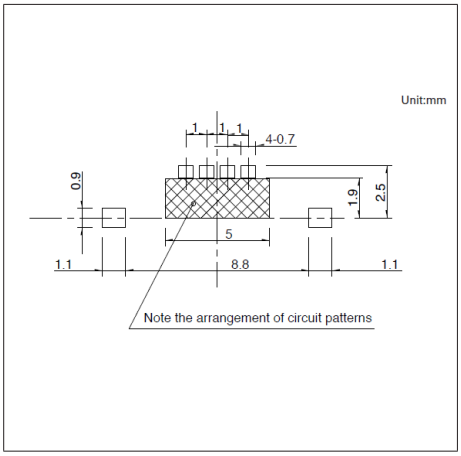
SSAG Series

Drawing No.3

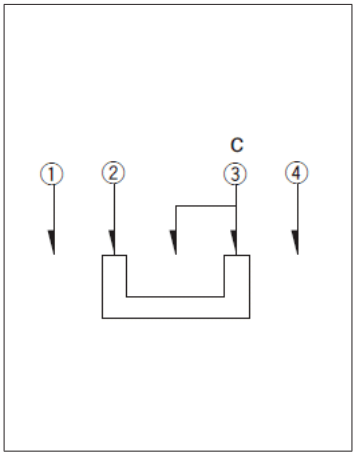
■ Dimensions



■ Land Dimensions



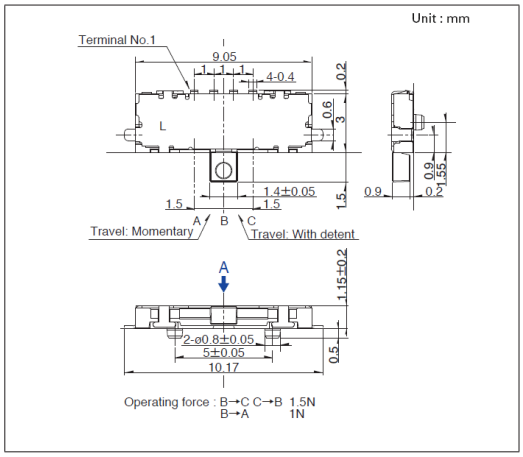
■ Circuit Diagram



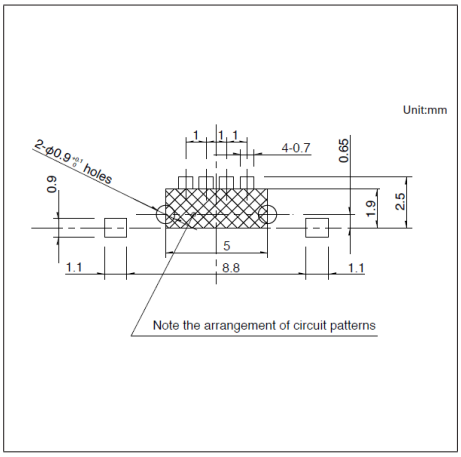
Viewed from direction A in the dimensions.

Drawing No.4

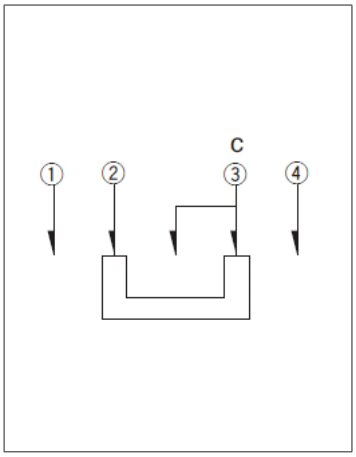
■ Dimensions



■ Land Dimensions



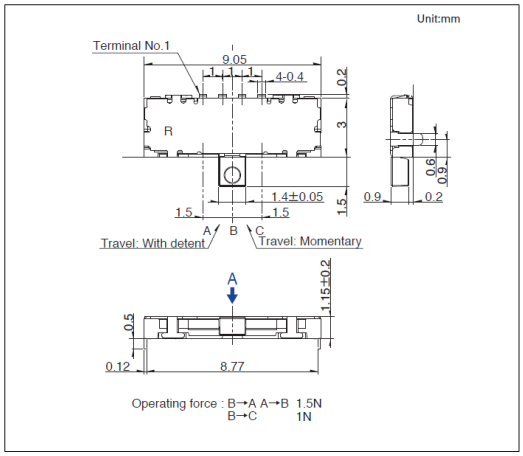
■ Circuit Diagram



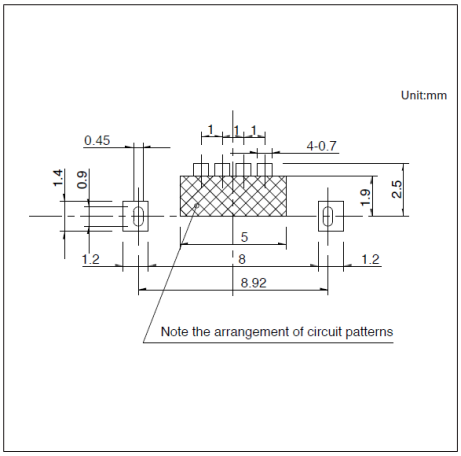
Viewed from direction A in the dimensions.

Drawing No.5

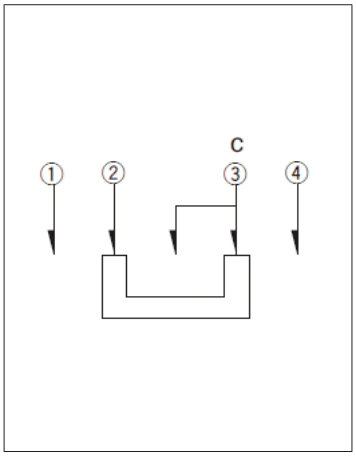
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



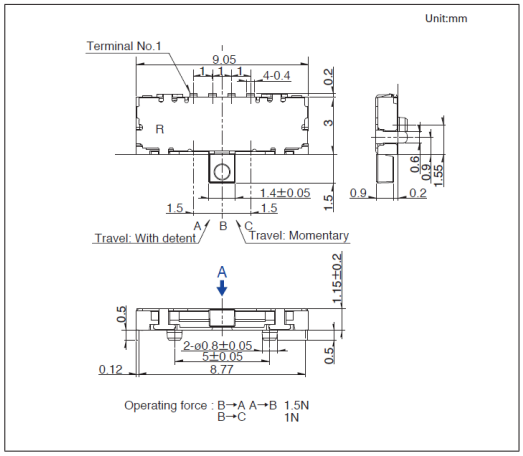
Viewed from direction A in the dimensions.

0.9 (H) mm, Recoil for Single-side and Both-sides

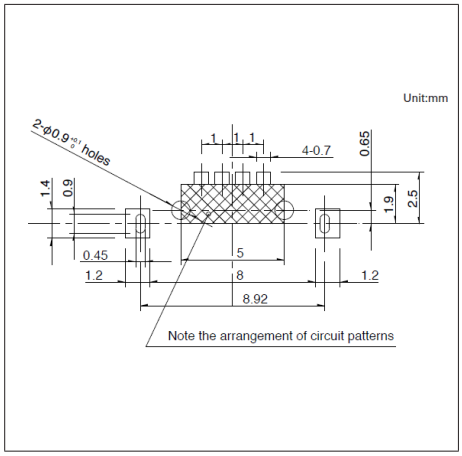
SSAG Series

Drawing No.6

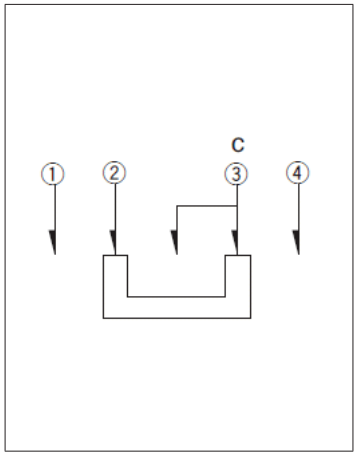
■ Dimensions



■ Land Dimensions



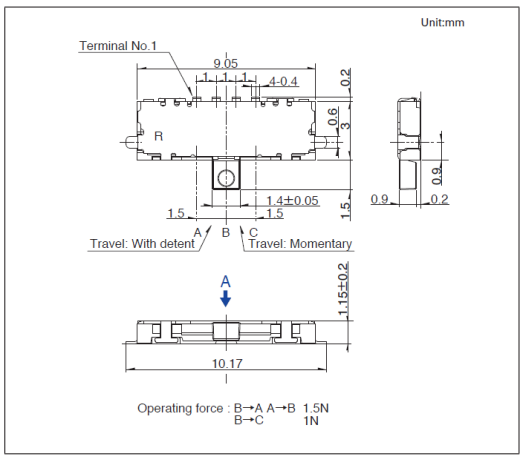
■ Circuit Diagram



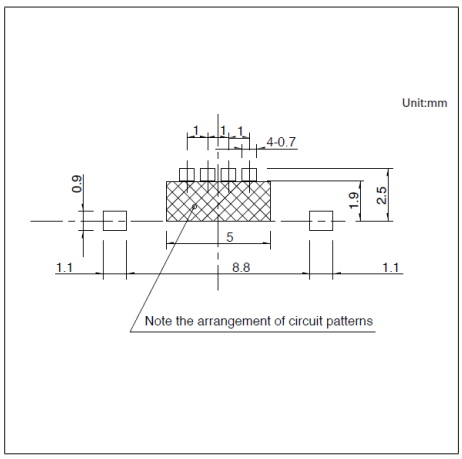
Viewed from direction A in the dimensions.

Drawing No.7

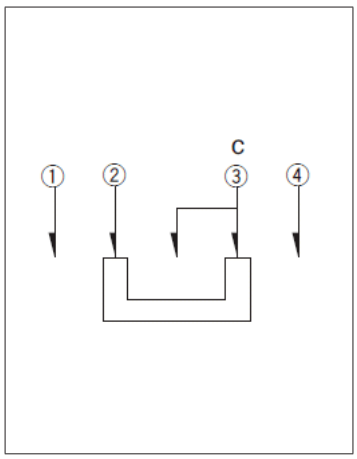
■ Dimensions



■ Land Dimensions



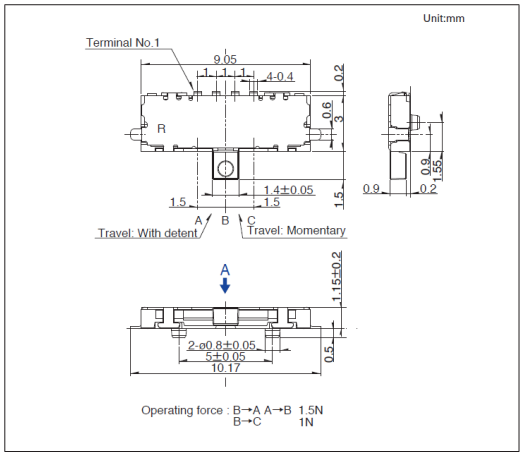
■ Circuit Diagram



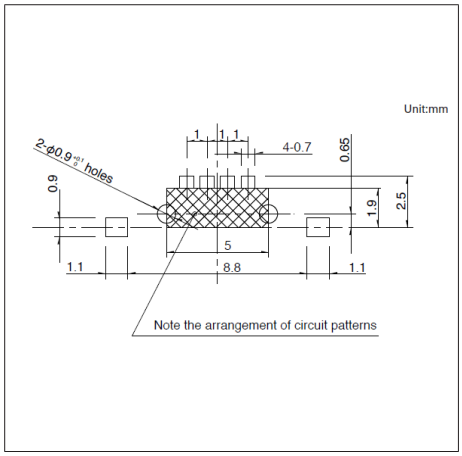
Viewed from direction A in the dimensions.

Drawing No.8

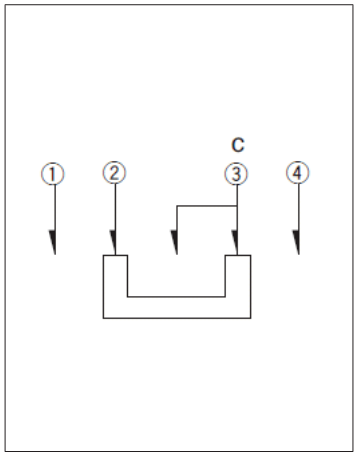
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



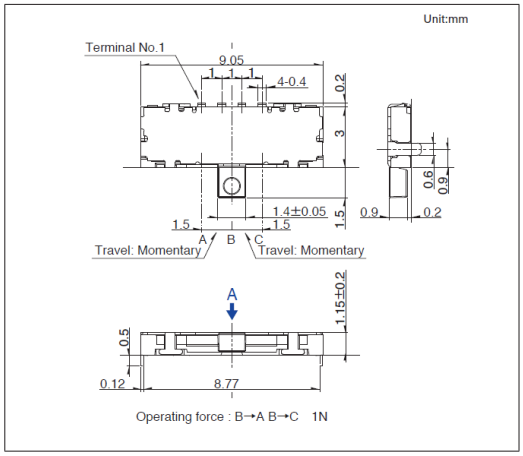
Viewed from direction A in the dimensions.

0.9 (H) mm, Recoil for Single-side and Both-sides

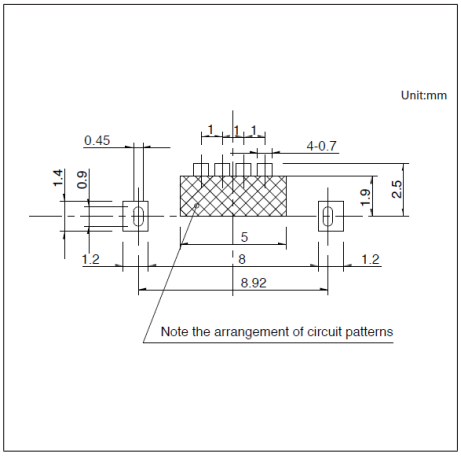
SSAG Series

Drawing No.9

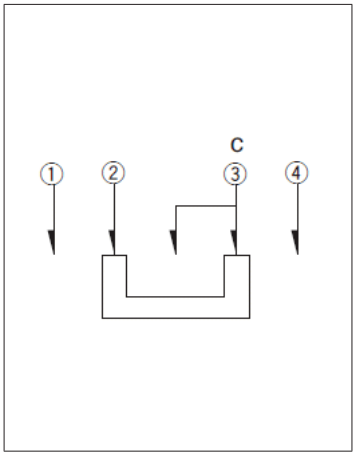
■ Dimensions



■ Land Dimensions



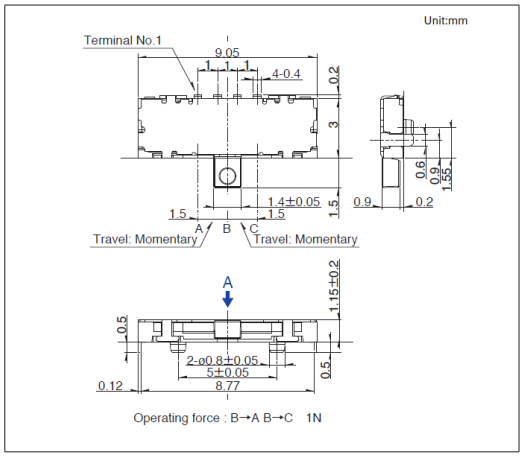
■ Circuit Diagram



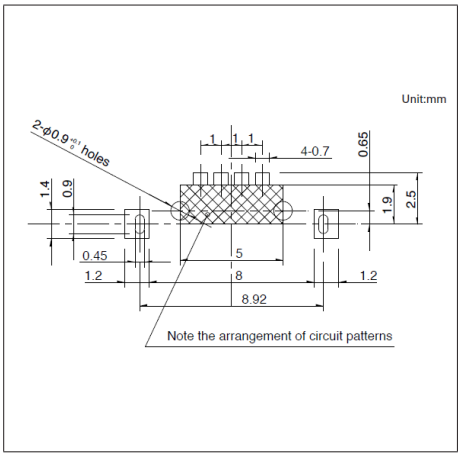
Viewed from direction A in the dimensions.

Drawing No.10

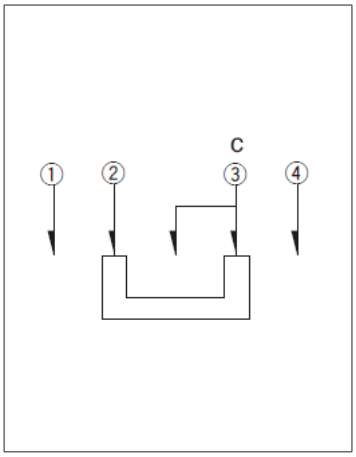
■ Dimensions



■ Land Dimensions



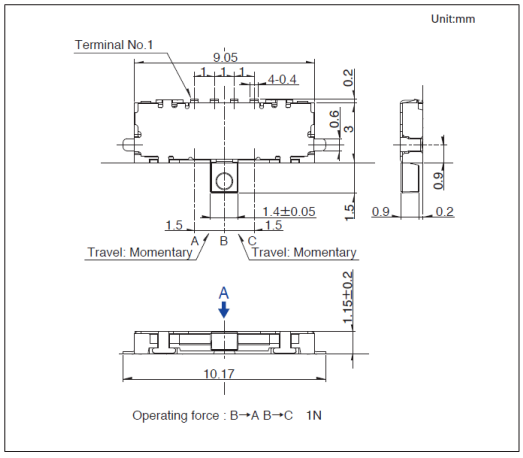
■ Circuit Diagram



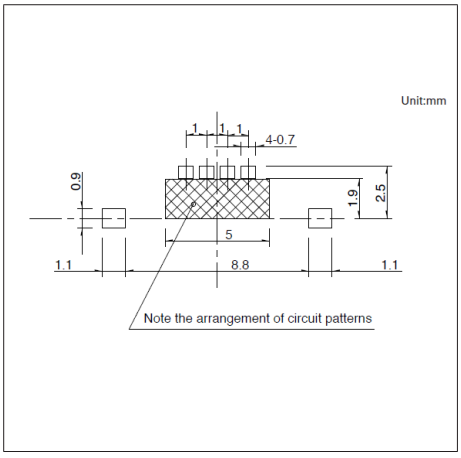
Viewed from direction A in the dimensions.

Drawing No.11

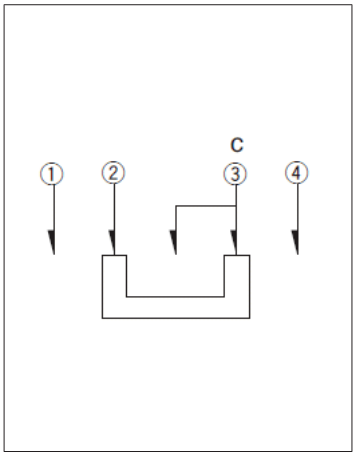
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



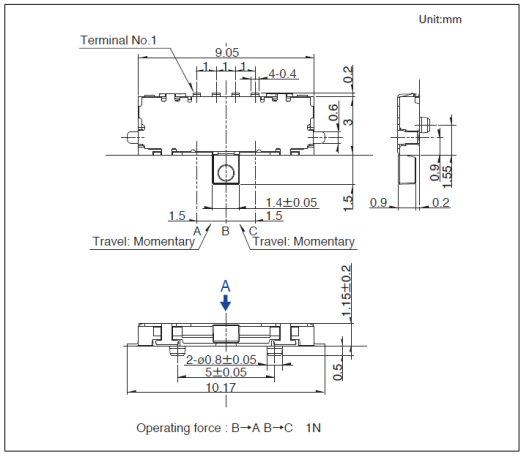
Viewed from direction A in the dimensions.

0.9 (H) mm, Recoil for Single-side and Both-sides

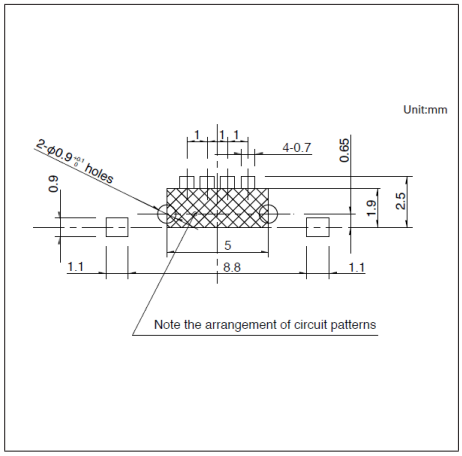
SSAG Series

Drawing No.12

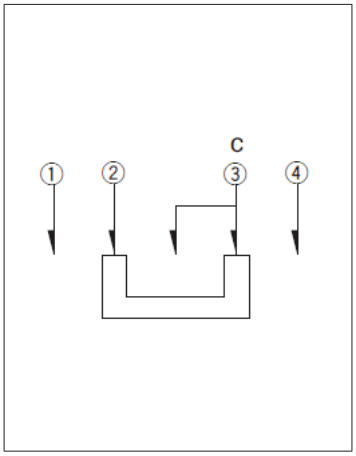
■ Dimensions



■ Land Dimensions



■ Circuit Diagram

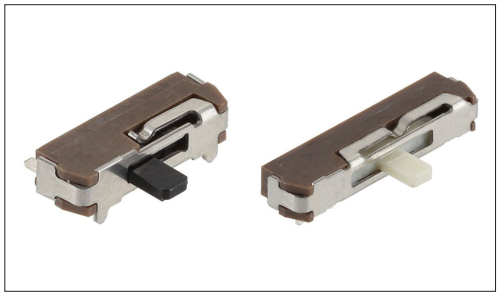


Viewed from direction A in the dimensions.

Switches | Slide Switches

2.0 (H) mm, 2.0mm-travel
SSSS7 Series

Compact general-purpose type with selectable soldering methods.



- Rating (max.)/(min.) (Resistive load):0.3A 4V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  70mΩ max./130mΩ max.
- Operating life without load:10,000 cycles 100mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 130mΩ max.

Applications:Mobile:Notebooks, peripherals
Audio_TV:Cameras

■ Product List

Products No.	Actuator directions	Travel (mm)	Poles	Positions	Operating force	Changeover timing	Soldering	Operation	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SSSS710100	Horizontal	2.0	1	2	Refer to the dimensions.	Not specified	Manual	Standard	8.8×3.0×2.0	—	1
SSSS710607	Horizontal	2.0	1	2	Refer to the dimensions.	Not specified	Reflow	Standard	8.8×3.0×2.0	—	2
SSSS711100	Horizontal	2.0	1	3	Refer to the dimensions.	Non shorting	Manual	Standard	12.5×3.0×2.0	—	3
SSSS711403	Horizontal	2.0	1	3	Refer to the dimensions.	Non shorting	Reflow	Standard	12.5×3.0×2.0	—	4

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. Please place purchase orders for taping products per minimum order unit (1 reel or a case).

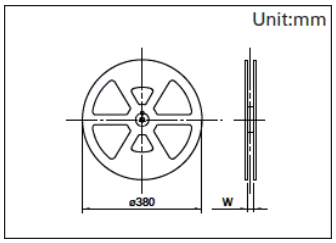
■ Packing Specifications

Bulk

Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SSSS710100	10,000	50,000	400 x 270 x 290
SSSS711100	8,000	40,000	400 x 270 x 290

Taping

Products No.	Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case / Japan	1 case / export packing		
SSSS710607	2,000	4,000	8,000	16	417 x 409 x 139
SSSS711403	2,000	4,000	8,000	24	406 x 406 x 190

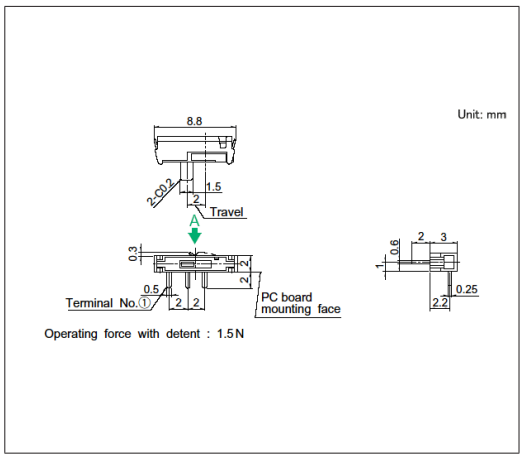


2.0 (H) mm, 2.0mm-travel

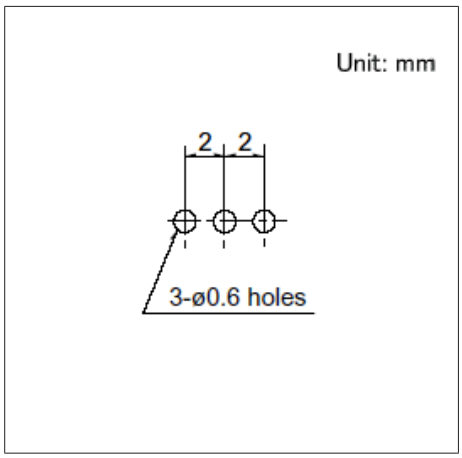
SSSS7 Series

Drawing No.1

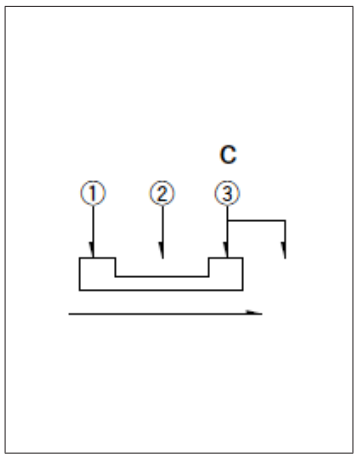
■ Dimensions



■ Mounting Hole Dimensions



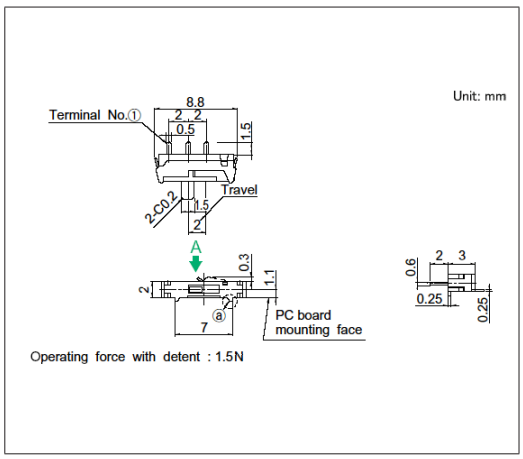
■ Circuit Diagram



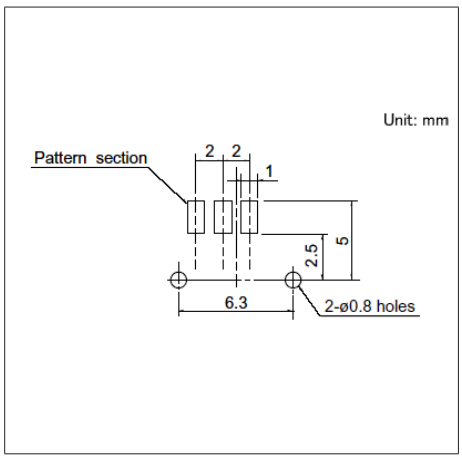
Viewed from direction A in the dimensions.

Drawing No.2

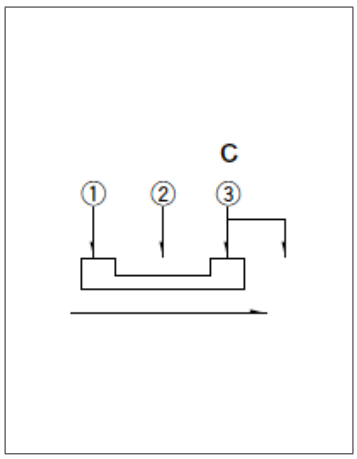
■ Dimensions



■ Land Dimensions



■ Circuit Diagram

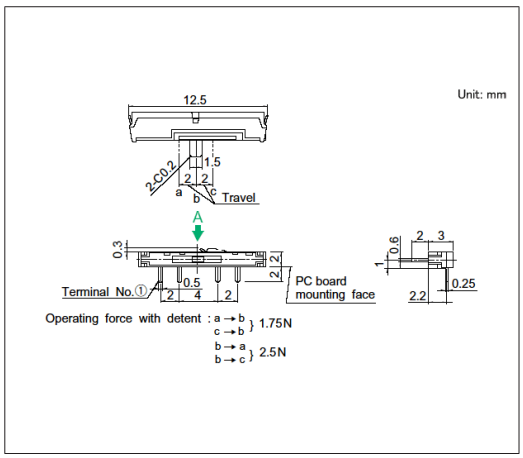


Refer to the website for detail of ⓐ

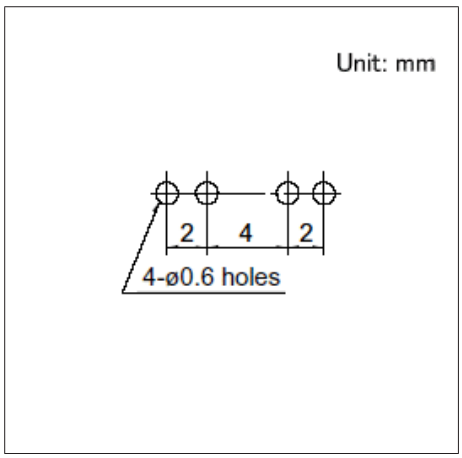
Viewed from direction A in the dimensions.

Drawing No.3

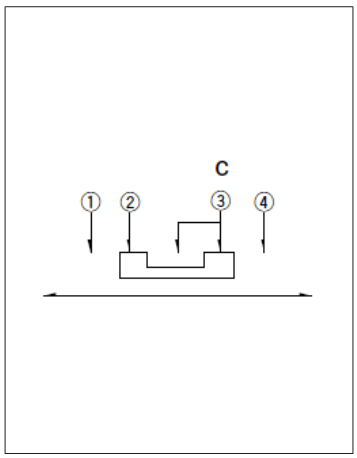
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



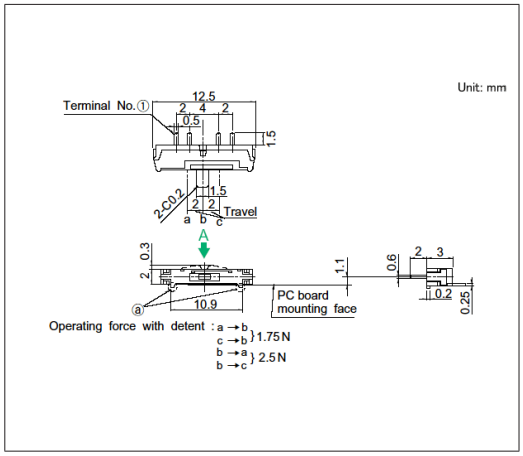
Viewed from direction A in the dimensions.

2.0 (H) mm, 2.0mm-travel

SSSS7 Series

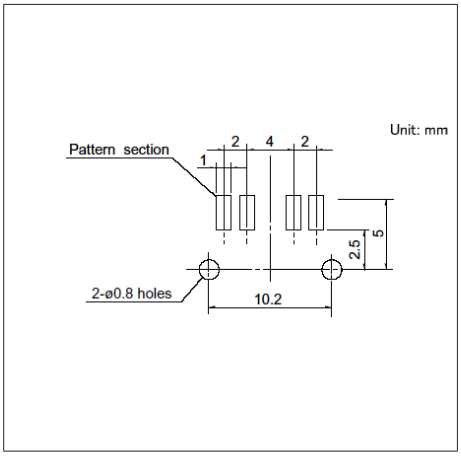
Drawing No.4

■ Dimensions



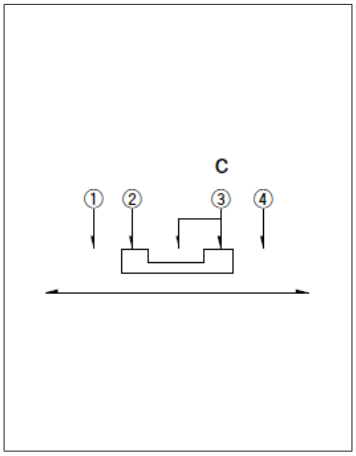
Refer to the website for detail of ⓐ

■ Land Dimensions



Viewed from direction A in the dimensions.

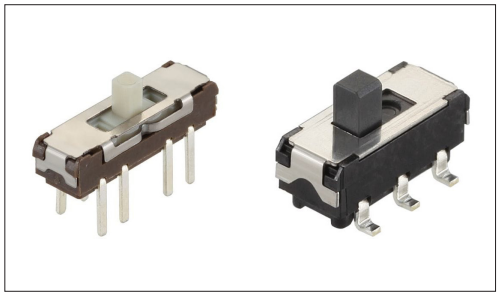
■ Circuit Diagram



Switches | Slide Switches

3.5 (H) mm, 2.0mm-travel
SSSS2 Series

Supports miniaturization and high-density integration for various mobile devices.



- Rating (max.)/(min.) (Resistive load):0.3A 6V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  70mΩ max./130mΩ max.
- Operating life without load:10,000 cycles 100mΩ max. ※
- Operating life with load (at max. rated load):10,000 cycles 130mΩ max. ※

Note ※SSSS213202 only 100 cycles

Applications:Healthcare:Healthcare equipment
Home:Major home appliances
Audio_TV:Audio

■ Product List

Products No.	Actuator directions	Travel (mm)	Poles	Positions	Operating force	Changeover timing	Soldering	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SSSS213000	Vertical	2.0	1	2	Refer to the dimensions.	Non shorting	Manual, Dip	9.0×3.5×3.5	—	1
SSSS211900	Vertical	2.0	1	3	Refer to the dimensions.	Non shorting	Manual, Dip	13.0×3.5×3.5	—	2
SSSS222700	Vertical	2.0	2	2	Refer to the dimensions.	Non shorting	Manual, Dip	9.0×3.5×3.5	—	3
SSSS223600	Vertical	2.0	2	3	Refer to the dimensions.	Non shorting	Manual, Dip	13.0×3.5×3.5	—	4
SSSS213202	Vertical	2.0	1	2	Refer to the dimensions.	Non shorting	Reflow	8.5×3.5×3.5	—	5
SSSS212901	Vertical	2.0	1	3	Refer to the dimensions.	Non shorting	Reflow	13.0×3.5×3.5	—	6
SSSS213100	Horizontal	2.0	1	2	Refer to the dimensions.	Non shorting	Manual, Dip	9.0×3.5×3.5	—	7
SSSS212200	Horizontal	2.0	1	3	Refer to the dimensions.	Non shorting	Manual, Dip	13.0×3.5×3.5	—	8
SSSS212400	Horizontal	2.0	1	4	Refer to the dimensions.	Non shorting	Manual, Dip	15.0×3.5×3.5	—	9
SSSS223200	Horizontal	2.0	2	2	Refer to the dimensions.	Non shorting	Manual, Dip	9.0×3.5×3.5	—	10
SSSS223900	Horizontal	2.0	2	3	Refer to the dimensions.	Non shorting	Manual, Dip	13.0×3.5×3.5	—	11
SSSS224100	Horizontal	2.0	2	4	Refer to the dimensions.	Non shorting	Manual, Dip	15.0×3.5×3.5	—	12
SSSS211603	Horizontal	2.0	1	2	Refer to the dimensions.	Non shorting	Reflow	9.0×3.5×3.5	—	13
SSSS213800	Horizontal	2.0	1	3	Refer to the dimensions.	Non shorting	Reflow	13.0×3.5×3.5	—	14
SSSS224500	Horizontal	2.0	2	3	Refer to the dimensions.	Non shorting	Reflow	13.0×3.5×3.5	—	15

Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. Please place purchase orders for taping products per minimum order unit (1 reel or a case).

■ Packing Specifications

Bulk

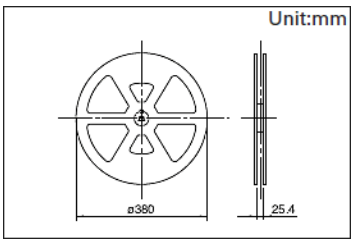
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SSSS213000 **SSSS211900** **SSSS222700** **SSSS223600** **SSSS213100** **SSSS212200** **SSSS212400** **SSSS223200** **SSSS223900** **SSSS224100**	2,000	10,000	400 x 270 x 290

3.5 (H) mm, 2.0mm-travel

SSSS2 Series

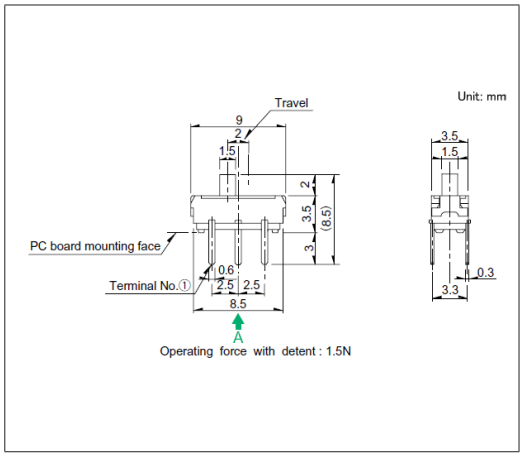
Taping

Products No.	Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case / Japan	1 case / export packing		
SSSS213202	1,200	2,400	4,800	24	428 x 413 x 172
SSSS212901	1,000	2,000	4,000	24	406 x 406 x 190
SSSS211603 **SSSS213800** **SSSS224500**	1,400	2,800	5,600	24	406 x 406 x 190

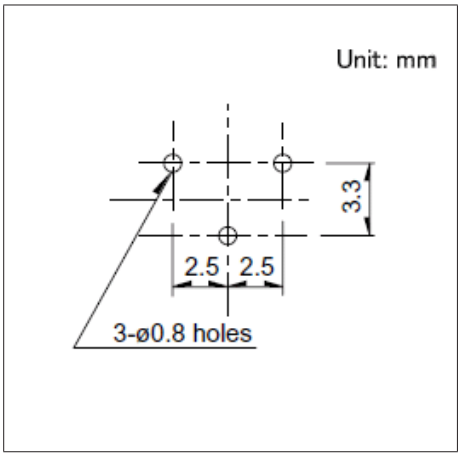


Drawing No.1

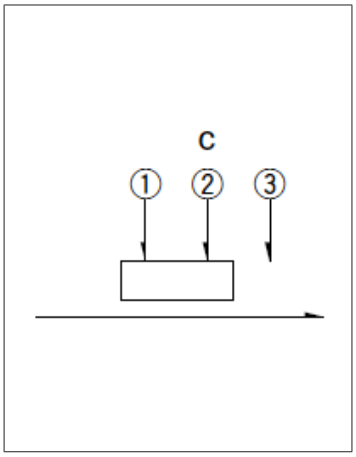
■ Dimensions



■ Mounting Hole Dimensions



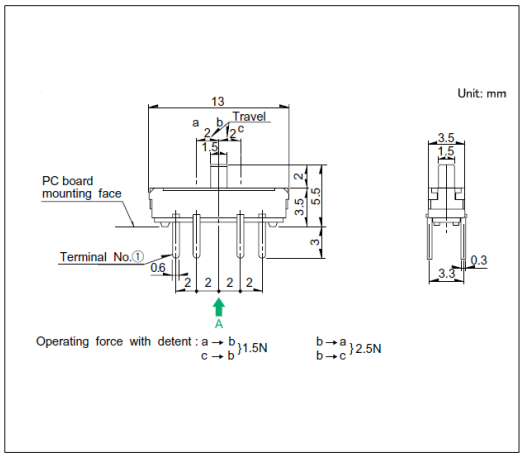
■ Circuit Diagram



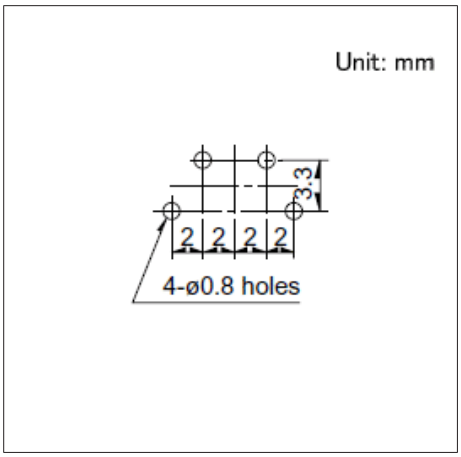
Viewed from direction A in the dimensions.

Drawing No.2

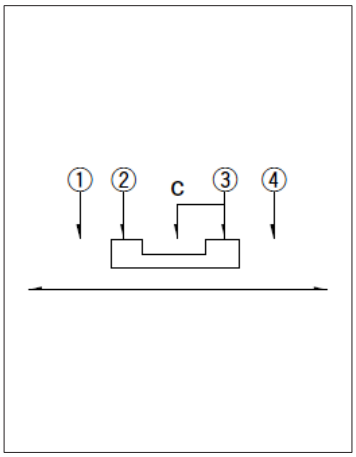
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



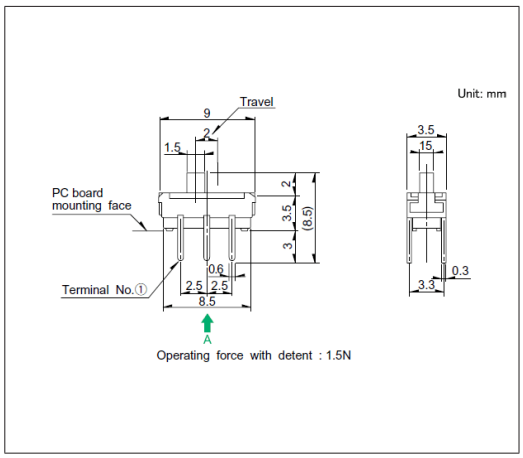
Viewed from direction A in the dimensions.

3.5 (H) mm, 2.0mm-travel

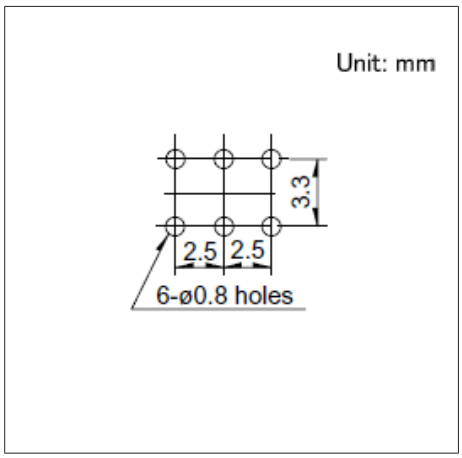
SSSS2 Series

Drawing No.3

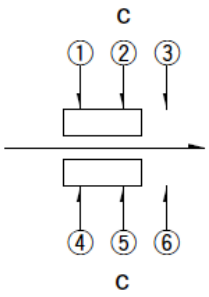
■ Dimensions



■ Mounting Hole Dimensions



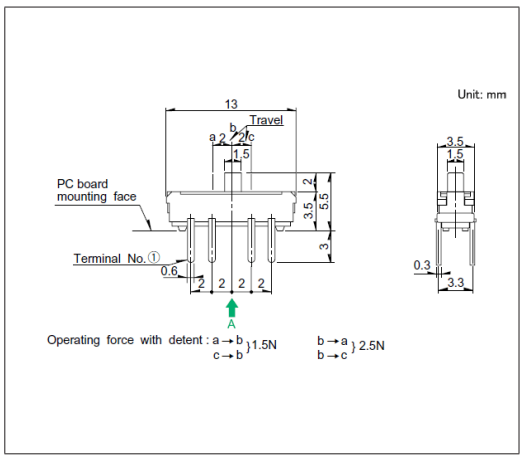
■ Circuit Diagram



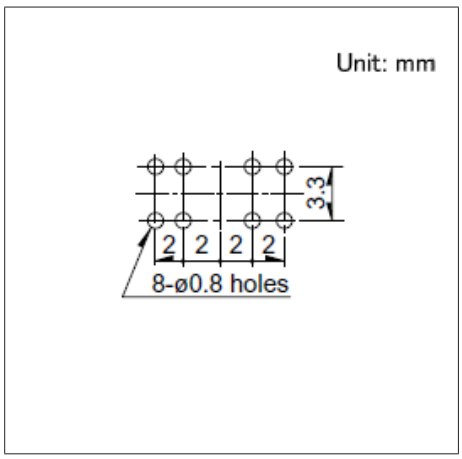
Viewed from direction A in the dimensions.

Drawing No.4

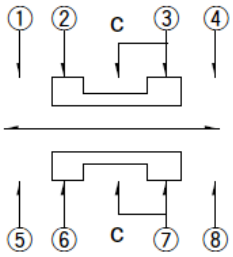
■ Dimensions



■ Mounting Hole Dimensions



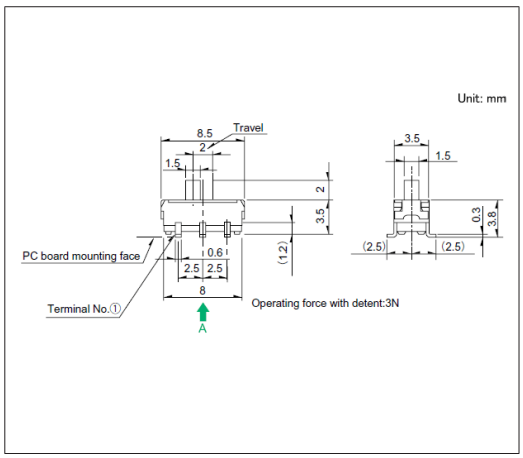
■ Circuit Diagram



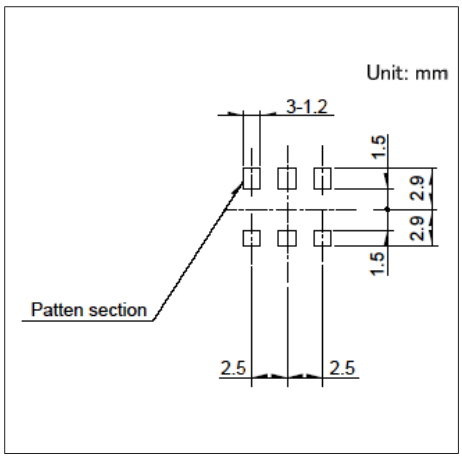
Viewed from direction A in the dimensions.

Drawing No.5

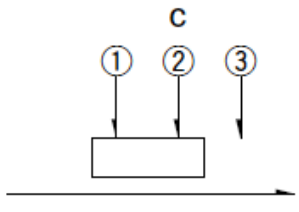
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



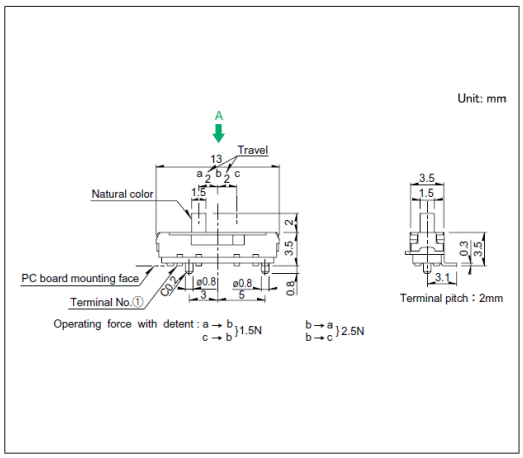
Viewed from direction A in the dimensions.

3.5 (H) mm, 2.0mm-travel

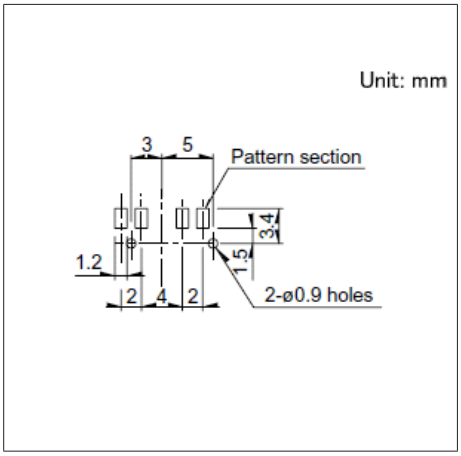
SSSS2 Series

Drawing No.6

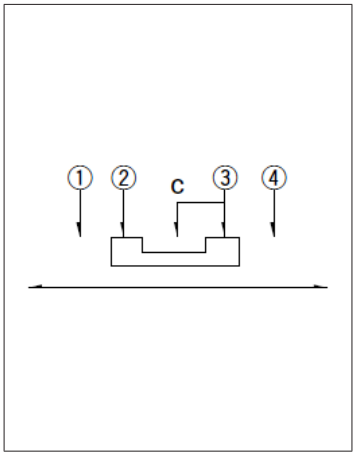
■ Dimensions



■ Land Dimensions



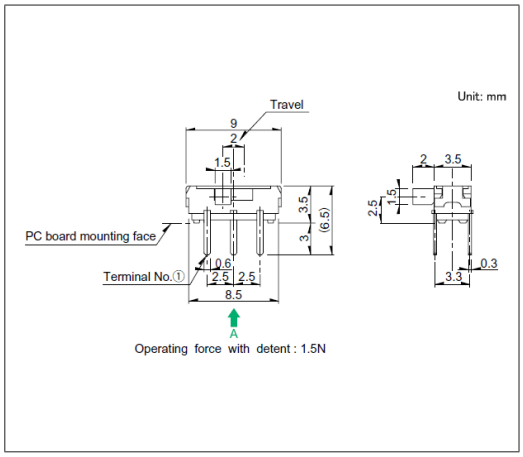
■ Circuit Diagram



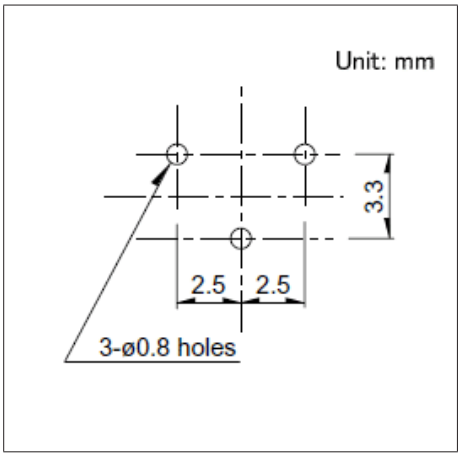
Viewed from direction A in the dimensions.

Drawing No.7

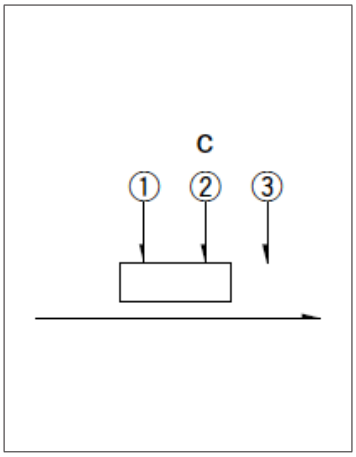
■ Dimensions



■ Mounting Hole Dimensions



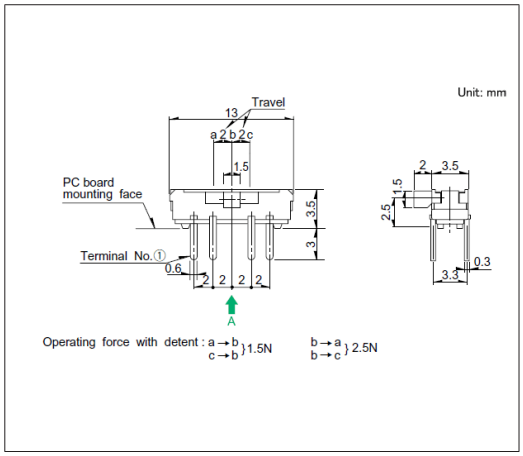
■ Circuit Diagram



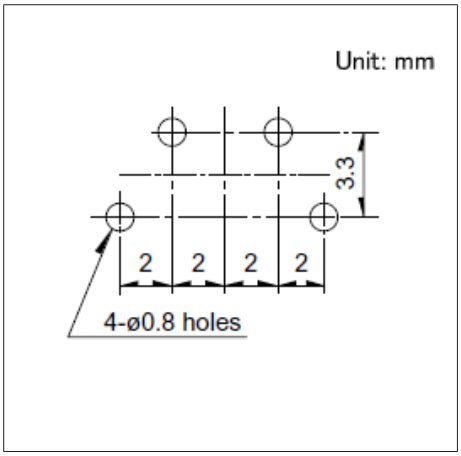
Viewed from direction A in the dimensions.

Drawing No.8

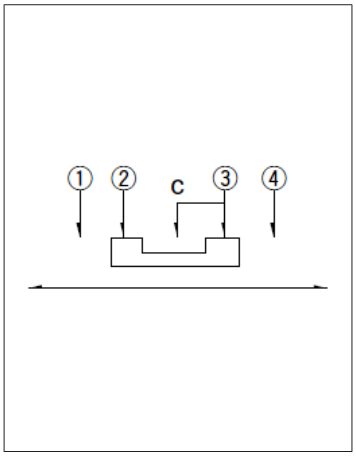
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



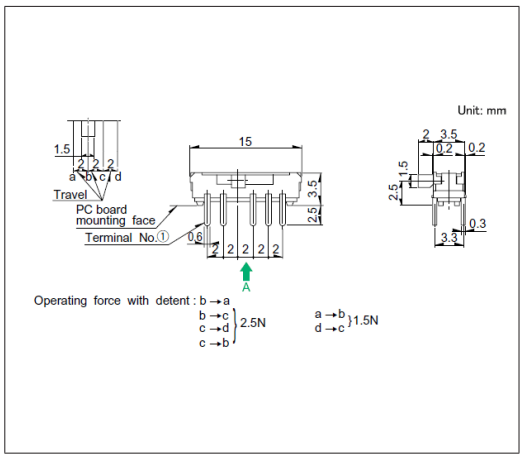
Viewed from direction A in the dimensions.

3.5 (H) mm, 2.0mm-travel

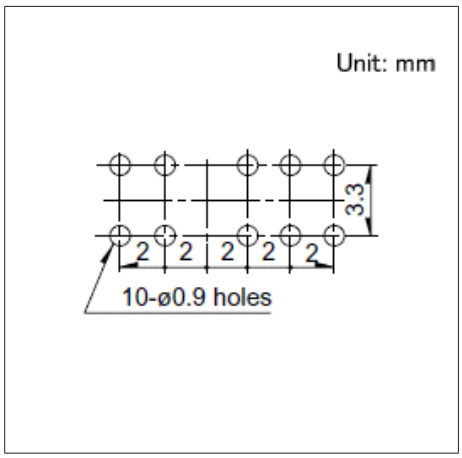
SSSS2 Series

Drawing No.9

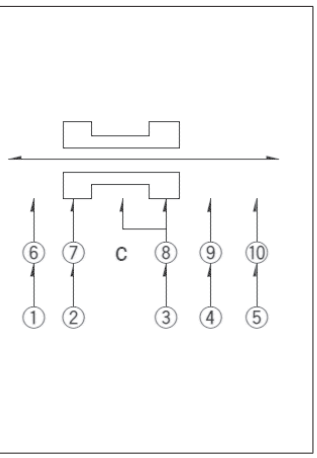
■ Dimensions



■ Mounting Hole Dimensions



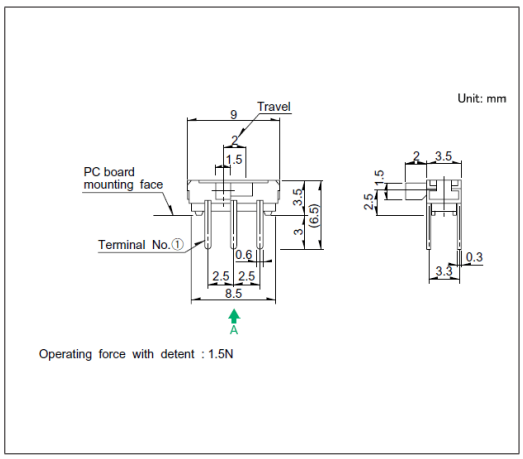
■ Circuit Diagram



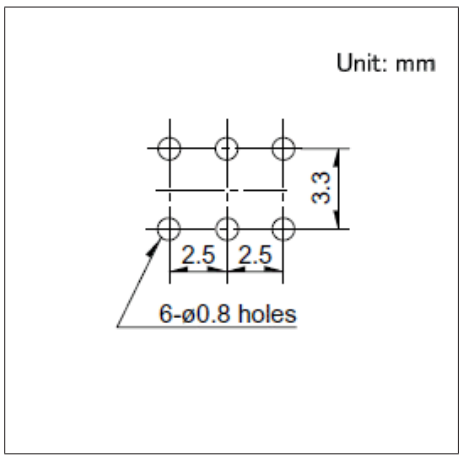
Viewed from direction A in the dimensions.

Drawing No.10

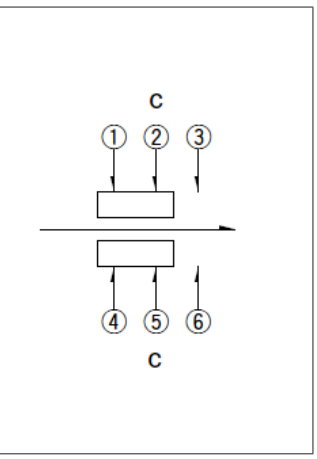
■ Dimensions



■ Mounting Hole Dimensions



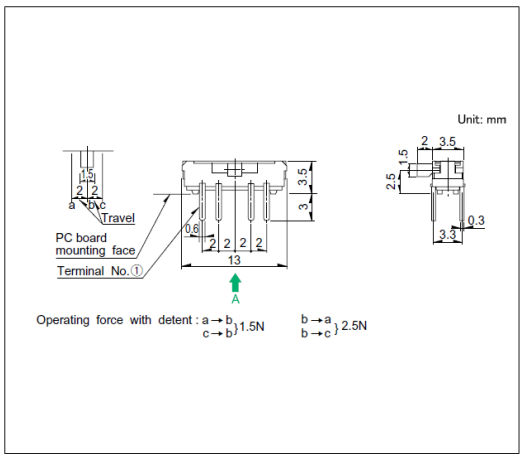
■ Circuit Diagram



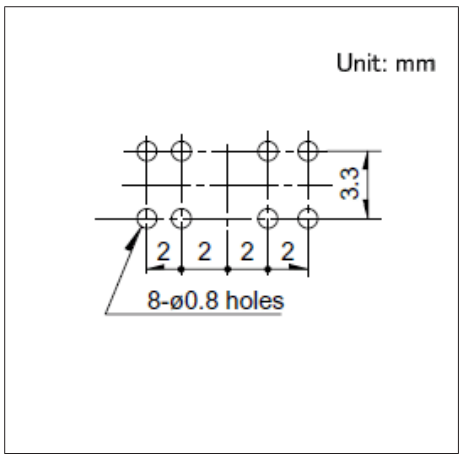
Viewed from direction A in the dimensions.

Drawing No.11

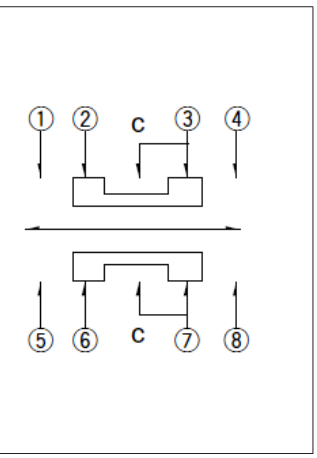
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



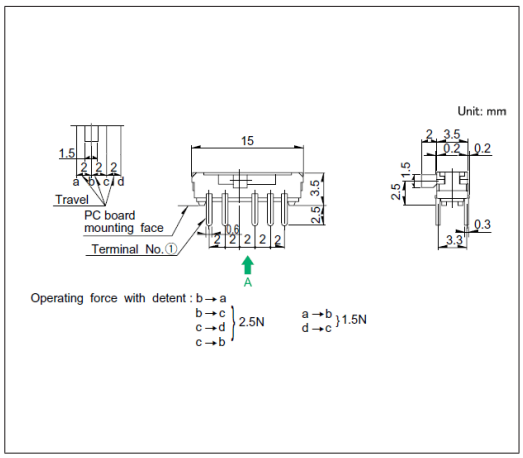
Viewed from direction A in the dimensions.

3.5 (H) mm, 2.0mm-travel

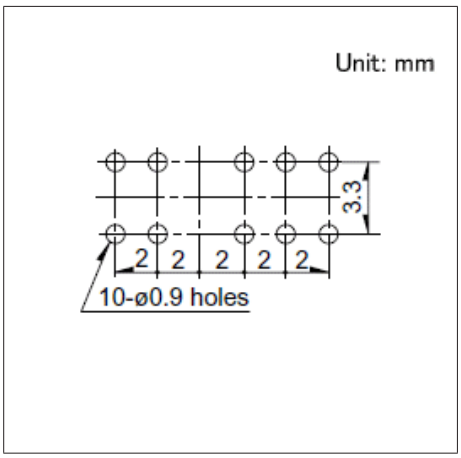
SSSS2 Series

Drawing No.12

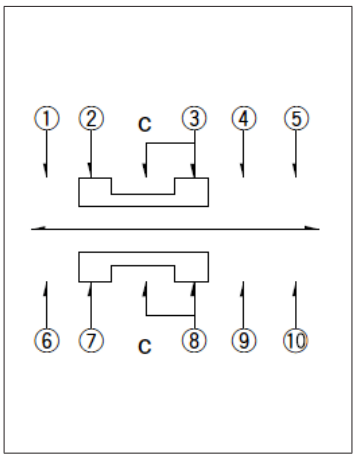
■ Dimensions



■ Mounting Hole Dimensions



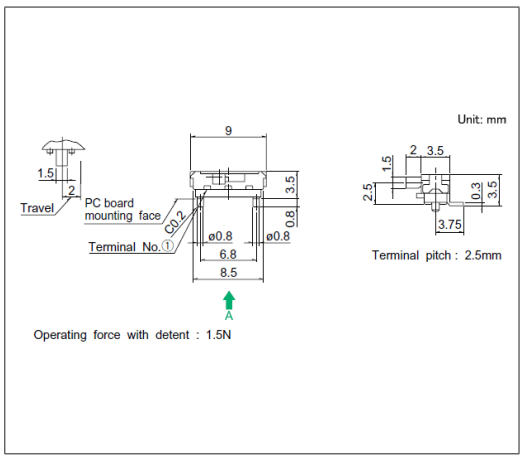
■ Circuit Diagram



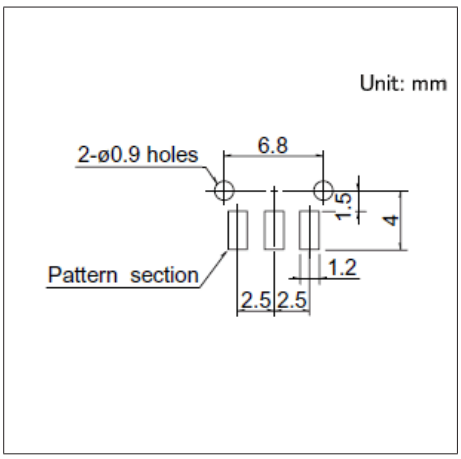
Viewed from direction A in the dimensions.

Drawing No.13

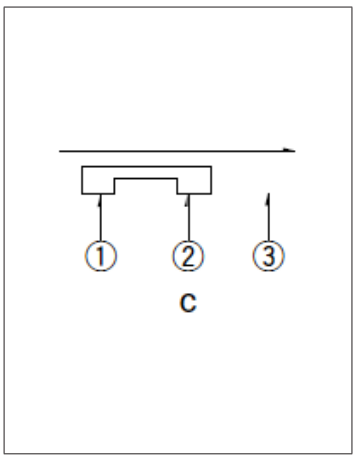
■ Dimensions



■ Land Dimensions



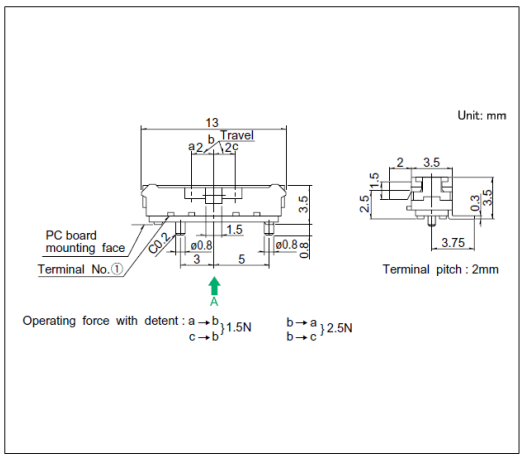
■ Circuit Diagram



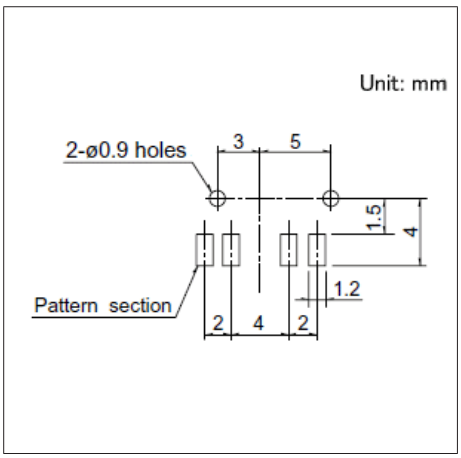
Viewed from direction A in the dimensions.

Drawing No.14

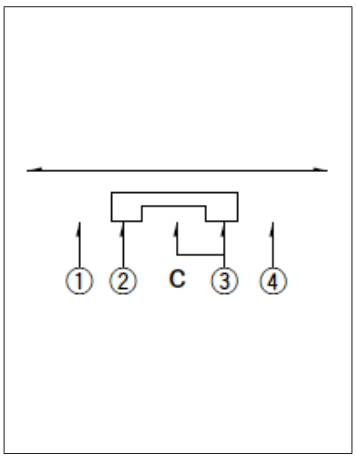
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



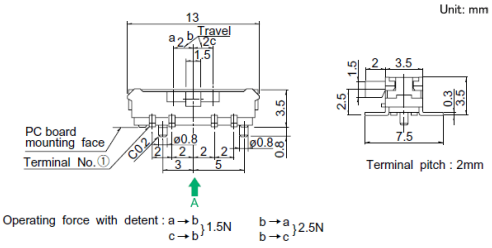
Viewed from direction A in the dimensions.

3.5 (H) mm, 2.0mm-travel

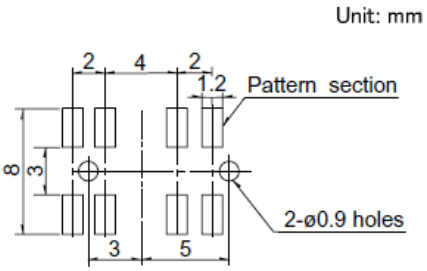
SSSS2 Series

Drawing No.15

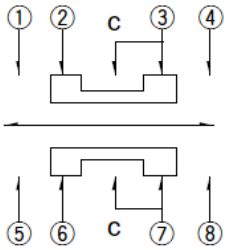
■ Dimensions



■ Land Dimensions



■ Circuit Diagram

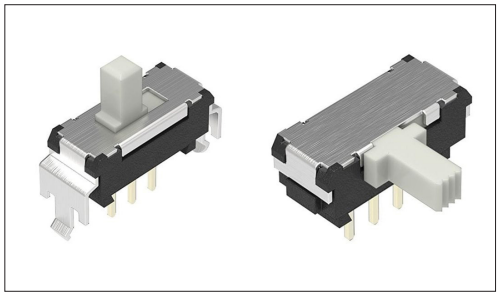


Viewed from direction A in the dimensions.

5.0 (H) mm, 2.0mm-travel

SSSS9 Series

Medium-sized general-purpose type well known for ease of use.



- Rating (max.)/(min.) (Resistive load):0.1A 12V DC/1mA 5V DC
- Contact resistance (Initial performance/After lifetime):
  30mΩ max./80mΩ max.
- Operating life without load:10,000 cycles 60mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 80mΩ max.

Applications:Home:Major home appliances

■ Product List

Products No.	Actuator directions	Travel (mm)	Poles	Positions	Operating force	Changeover timing	Soldering	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SSSS912000	Vertical	2.0	1	2	3±1.5N	Non shorting	Manual, Dip	11.5×4.7×5.5	—	1
SSSS910400	Vertical	2.0	1	2	3±1.5N	Non shorting	Manual, Dip	11.5×4.7×5.5	—	2
SSSS919500	Vertical	2.0	1	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×4.7×5.5	—	3
SSSS918500	Vertical	2.0	1	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×4.7×5.5	—	4
SSSS922000	Vertical	2.0	2	2	3±1.5N	Non shorting	Manual, Dip	11.5×7.2×5.5	—	5
SSSS921800	Vertical	2.0	2	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×7.2×5.5	—	6
SSSS912500	Vertical	2.0	1	2	3±1.5N	Non shorting	Manual, Dip	11.5×4.7×5.5	—	7
SSSS910800	Vertical	2.0	1	2	3±1.5N	Non shorting	Manual, Dip	11.5×4.7×5.5	—	8
SSSS919800	Vertical	2.0	1	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×4.7×5.5	—	9
SSSS918700	Vertical	2.0	1	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×4.7×5.5	—	10
SSSS922500	Vertical	2.0	2	2	3±1.5N	Non shorting	Manual, Dip	11.5×7.2×5.5	—	11
SSSS923200	Vertical	2.0	2	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×7.2×5.5	—	12
SSSS920600	Vertical	2.0	2	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×7.2×5.5	—	13
SSSS916900	Horizontal	2.0	1	2	3±1.5N	Non shorting	Manual, Dip	11.5×4.7×5.0	—	14
SSSS915001	Horizontal	2.0	1	2	3±1.5N	Non shorting	Manual, Dip	11.5×4.7×5.0	—	15
SSSS91B900	Horizontal	2.0	1	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×4.7×5.0	—	16
SSSS926400	Horizontal	2.0	2	2	3±1.5N	Non shorting	Manual, Dip	11.5×7.2×5.0	—	17
SSSS928500	Horizontal	2.0	2	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×7.2×5.0	—	18
SSSS916400	Horizontal	2.0	1	2	3±1.5N	Non shorting	Manual, Dip	11.5×4.7×5.0	—	19
SSSS914503	Horizontal	2.0	1	2	3±1.5N	Non shorting	Manual, Dip	11.5×4.7×5.0	—	20
SSSS91B600	Horizontal	2.0	1	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×4.7×5.0	—	21
SSSS91A601	Horizontal	2.0	1	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×4.7×5.0	—	22
SSSS925800	Horizontal	2.0	2	2	3±1.5N	Non shorting	Manual, Dip	11.5×7.2×5.0	—	23
SSSS923802	Horizontal	2.0	2	2	3±1.5N	Non shorting	Manual, Dip	11.5×7.2×5.0	—	24
SSSS928200	Horizontal	2.0	2	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×7.2×5.0	—	25
SSSS925701	Horizontal	2.0	2	3	a, c → b 2±1N b → a, c 3±1.5N	Not specified	Manual, Dip	14.0×7.2×5.0	—	26

5.0 (H) mm, 2.0mm-travel

SSSS9 Series

Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).

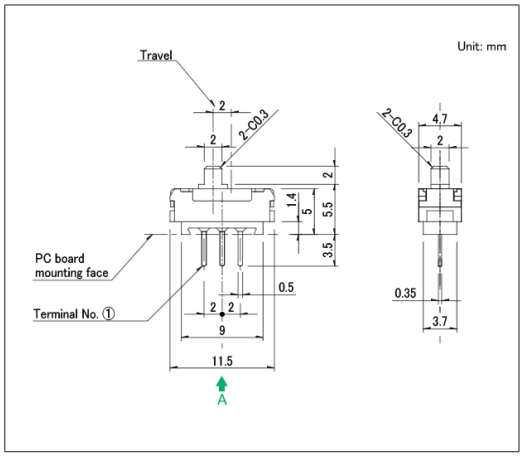
■ Packing Specifications

Bulk

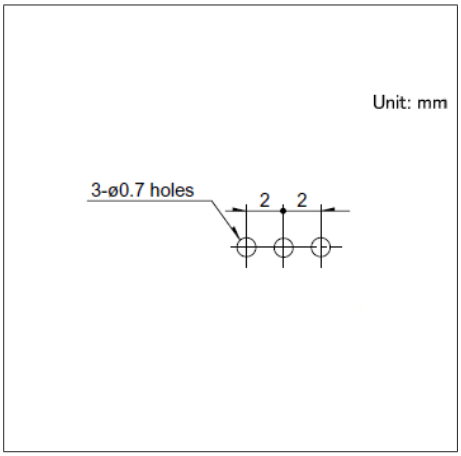
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SSSS912000 SSSS910400 SSSS919500 SSSS918500 SSSS922000 SSSS912500 SSSS910800 SSSS919800 SSSS918700 SSSS922500 SSSS916900 SSSS915001 SSSS91B900 SSSS926400 SSSS916400 SSSS914503 SSSS91B600 SSSS91A601 SSSS925800 SSSS923802	1,000	5,000	400 x 270 x 290
SSSS921800 SSSS923200 SSSS920600 SSSS928500 SSSS928200 SSSS925701	800	4,000	400 x 270 x 290

Drawing No.1

■ Dimensions

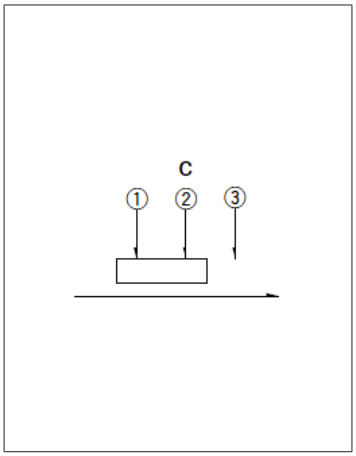


■ Mounting Hole Dimensions



Viewed from direction A in the dimensions.

■ Circuit Diagram

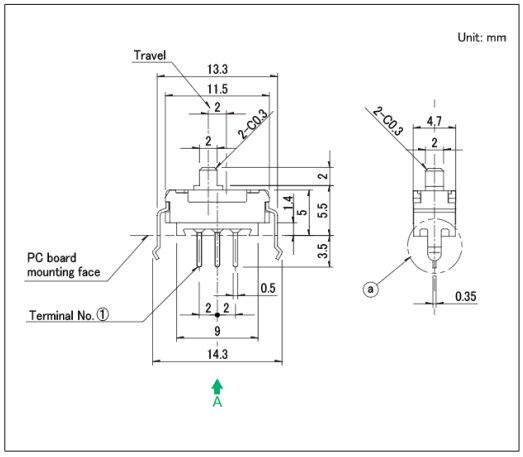


5.0 (H) mm, 2.0mm-travel

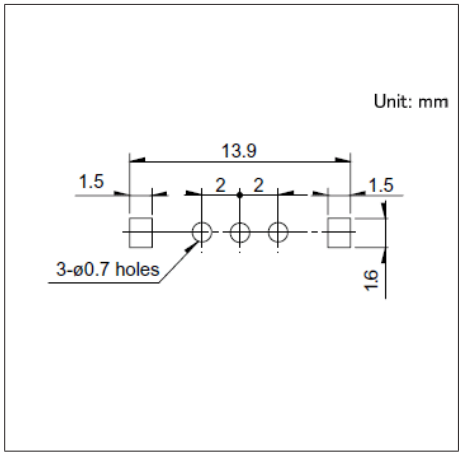
SSSS9 Series

Drawing No.2

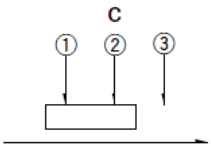
■ Dimensions



■ Mounting Hole Dimensions



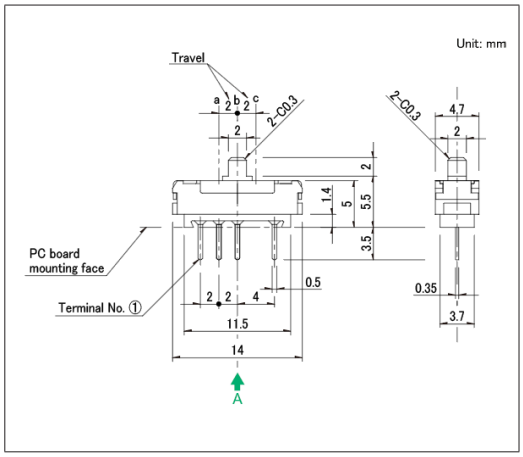
■ Circuit Diagram



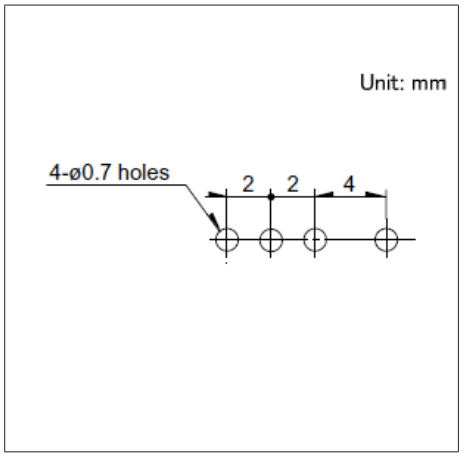
Viewed from direction A in the dimensions.

Drawing No.3

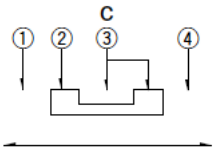
■ Dimensions



■ Mounting Hole Dimensions



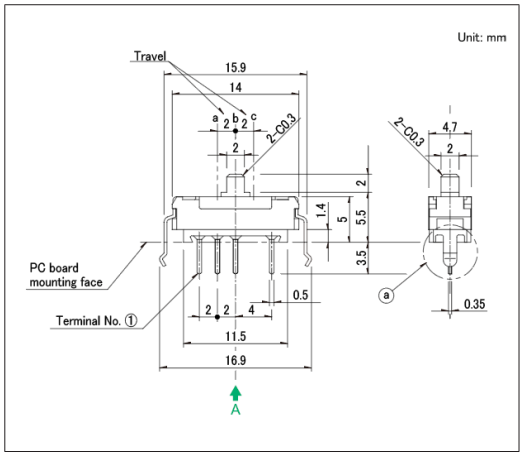
■ Circuit Diagram



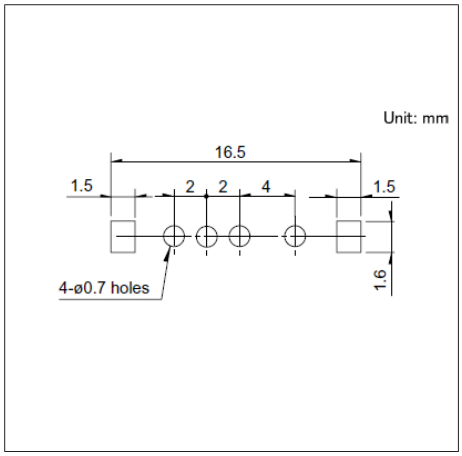
Viewed from direction A in the dimensions.

Drawing No.4

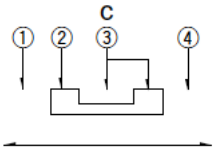
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



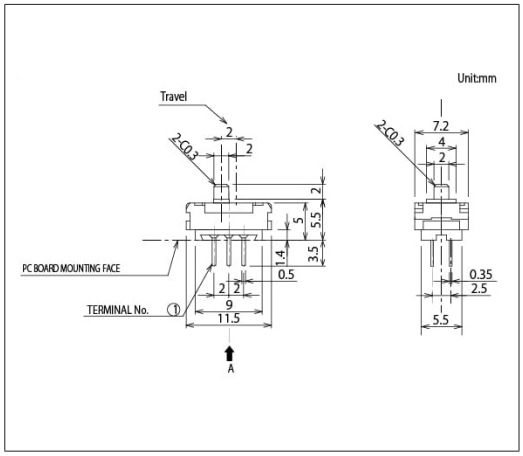
Viewed from direction A in the dimensions.

5.0 (H) mm, 2.0mm-travel

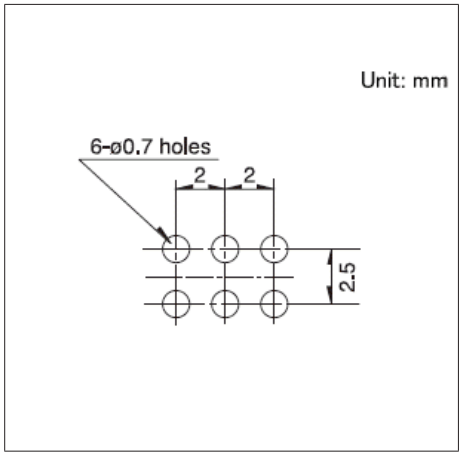
SSSS9 Series

Drawing No.5

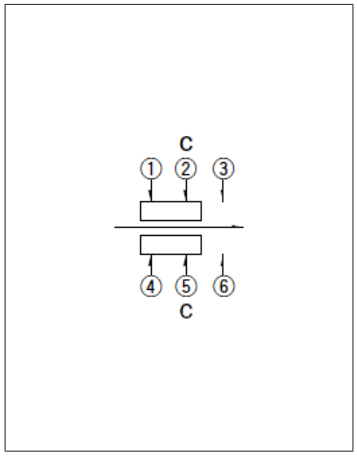
■ Dimensions



■ Mounting Hole Dimensions



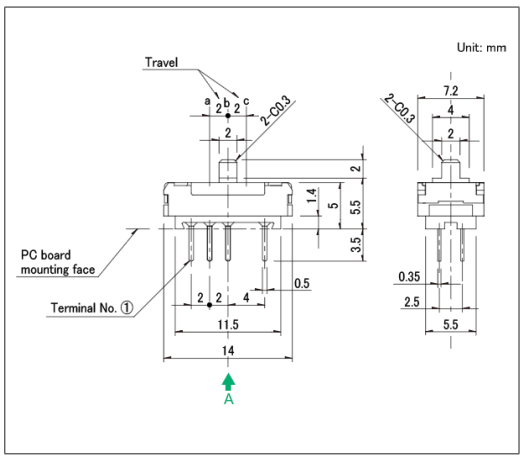
■ Circuit Diagram



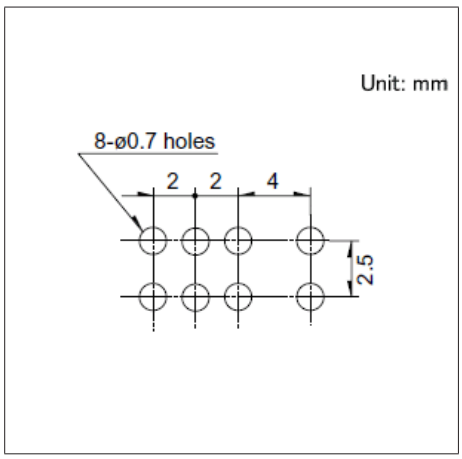
Viewed from direction A in the dimensions.

Drawing No.6

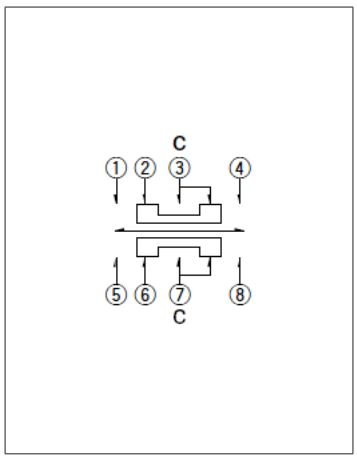
■ Dimensions



■ Mounting Hole Dimensions



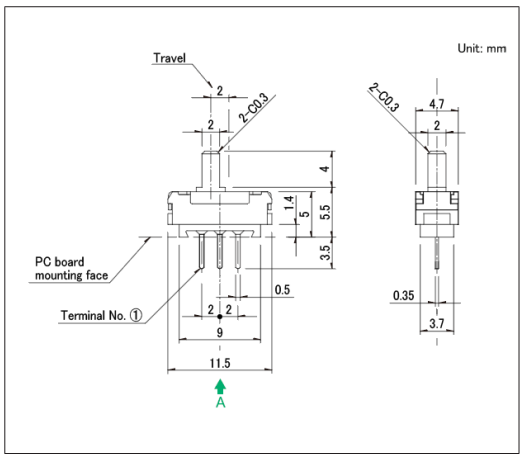
■ Circuit Diagram



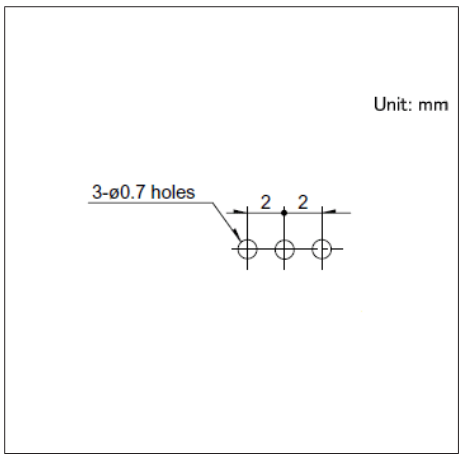
Viewed from direction A in the dimensions.

Drawing No.7

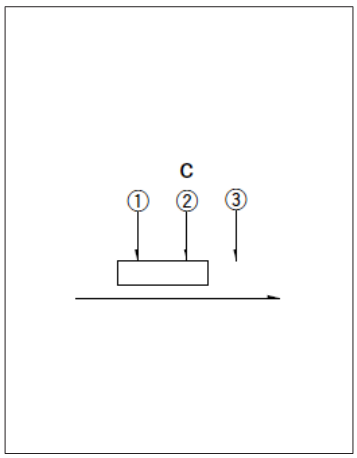
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



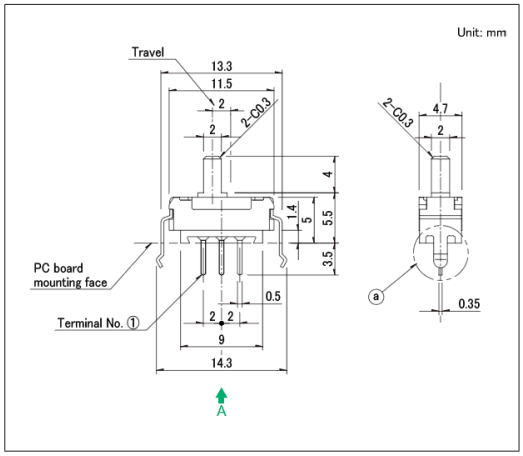
Viewed from direction A in the dimensions.

5.0 (H) mm, 2.0mm-travel

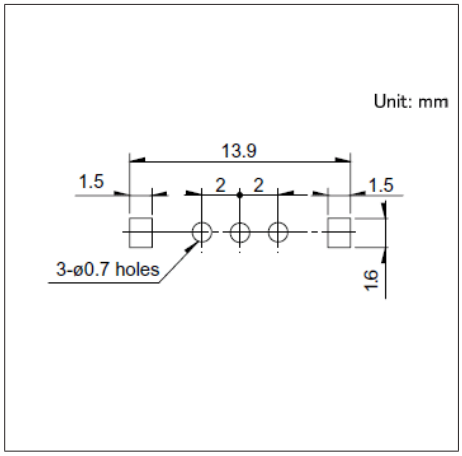
SSSS9 Series

Drawing No.8

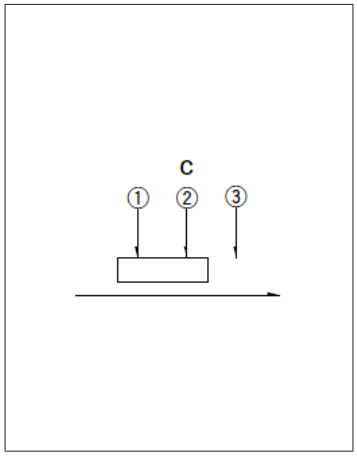
■ Dimensions



■ Mounting Hole Dimensions



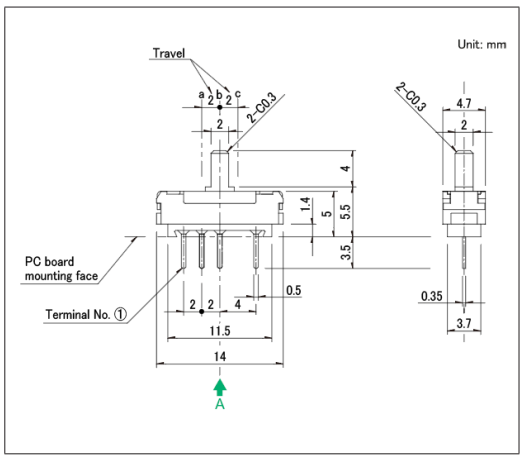
■ Circuit Diagram



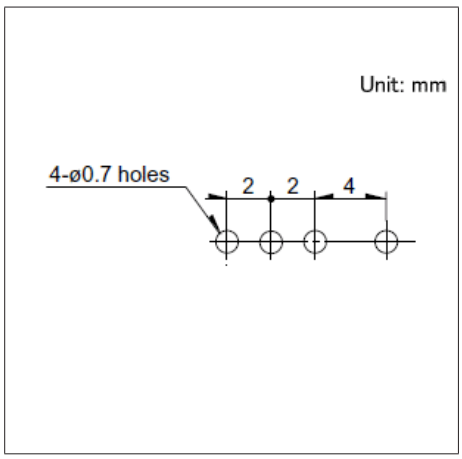
Viewed from direction A in the dimensions.

Drawing No.9

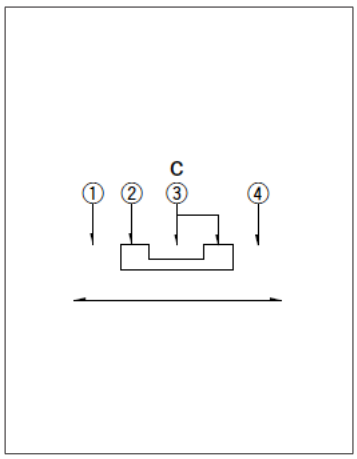
■ Dimensions



■ Mounting Hole Dimensions



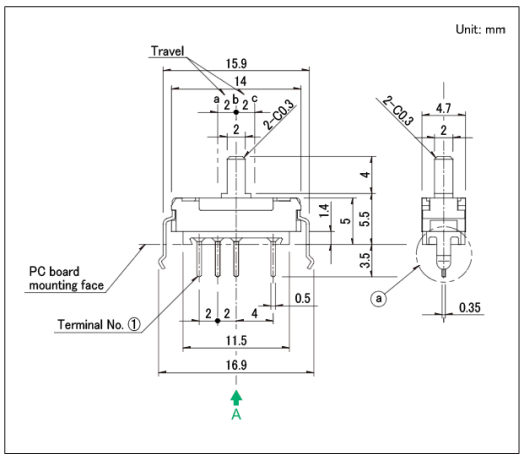
■ Circuit Diagram



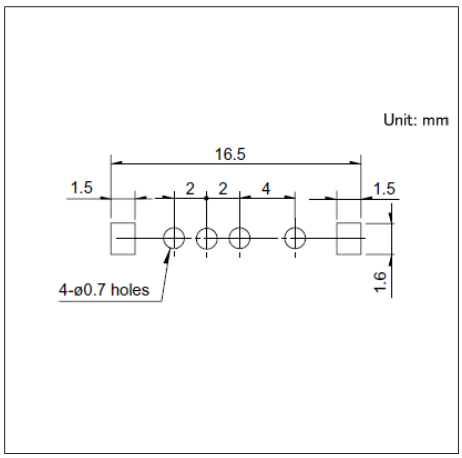
Viewed from direction A in the dimensions.

Drawing No.10

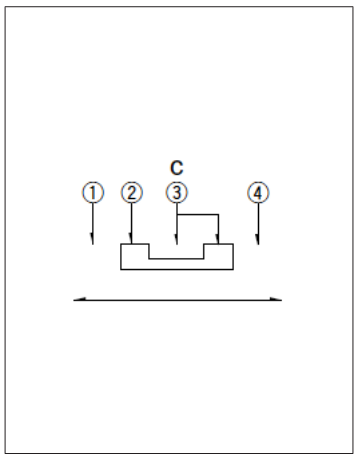
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



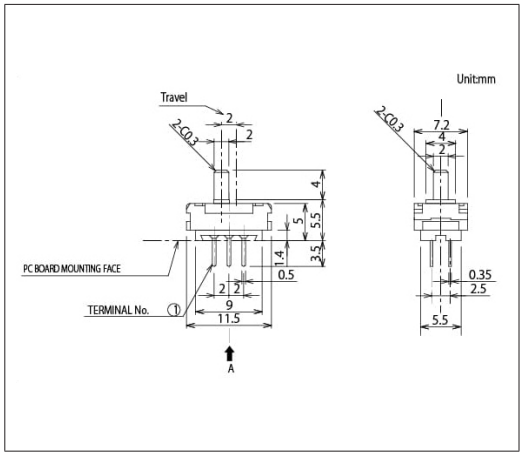
Viewed from direction A in the dimensions.

5.0 (H) mm, 2.0mm-travel

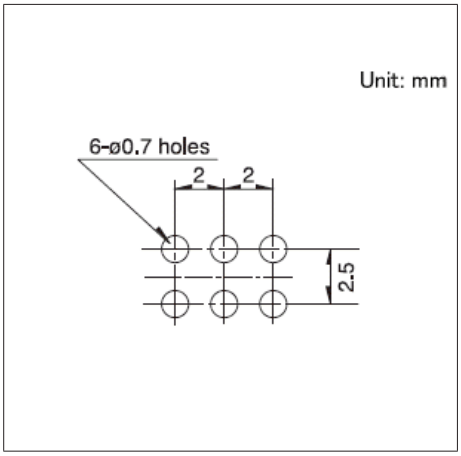
SSSS9 Series

Drawing No.11

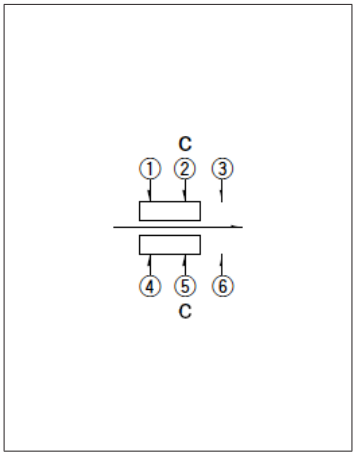
■ Dimensions



■ Mounting Hole Dimensions



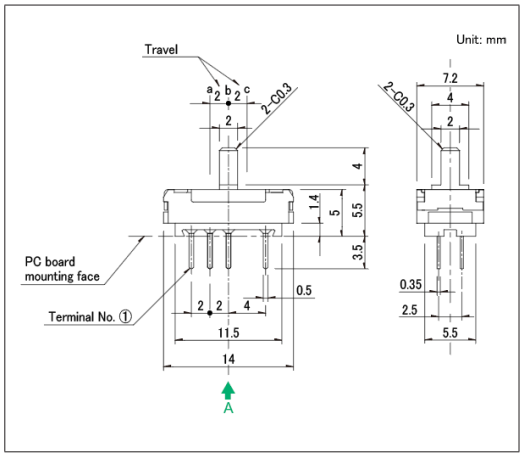
■ Circuit Diagram



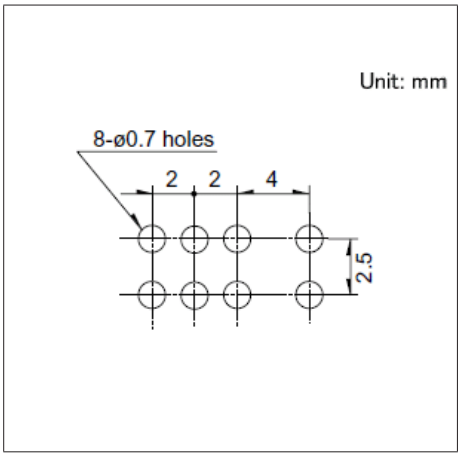
Viewed from direction A in the dimensions.

Drawing No.12

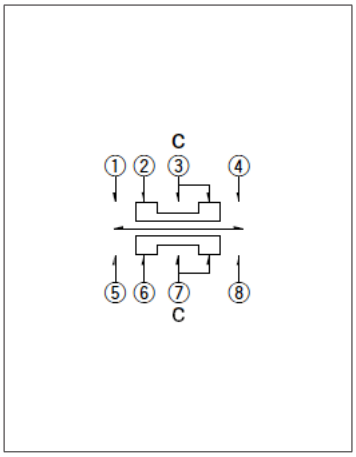
■ Dimensions



■ Mounting Hole Dimensions



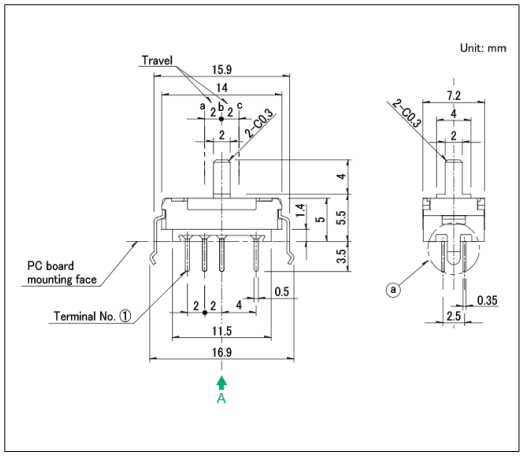
■ Circuit Diagram



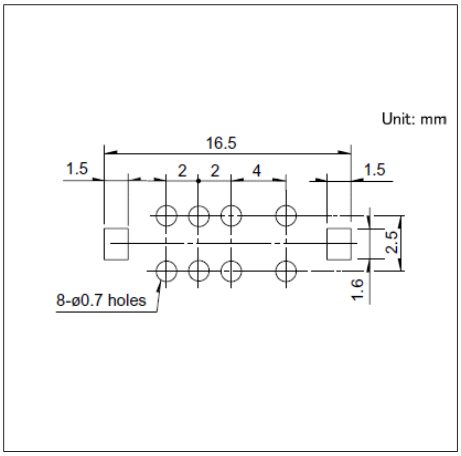
Viewed from direction A in the dimensions.

Drawing No.13

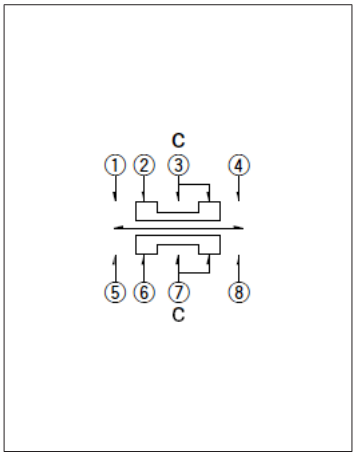
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



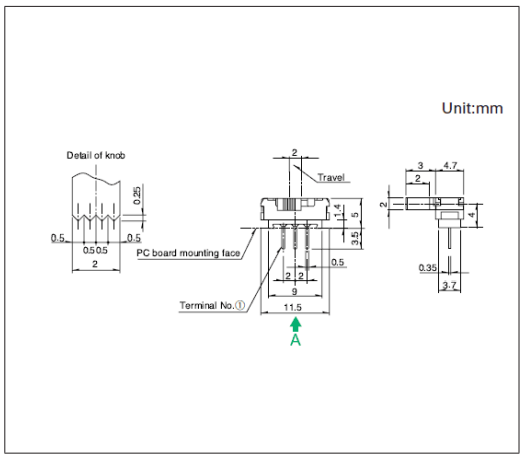
Viewed from direction A in the dimensions.

5.0 (H) mm, 2.0mm-travel

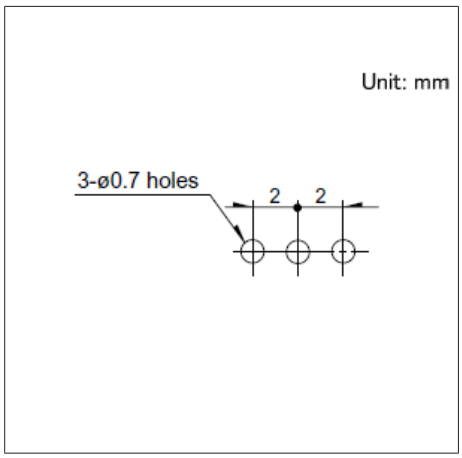
SSSS9 Series

Drawing No.14

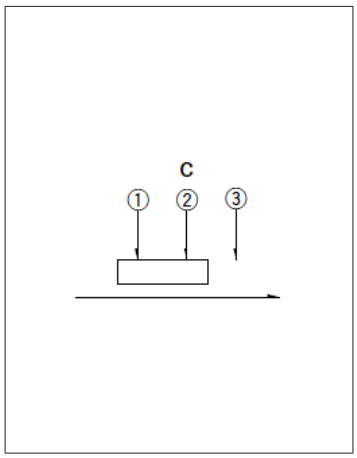
■ Dimensions



■ Mounting Hole Dimensions



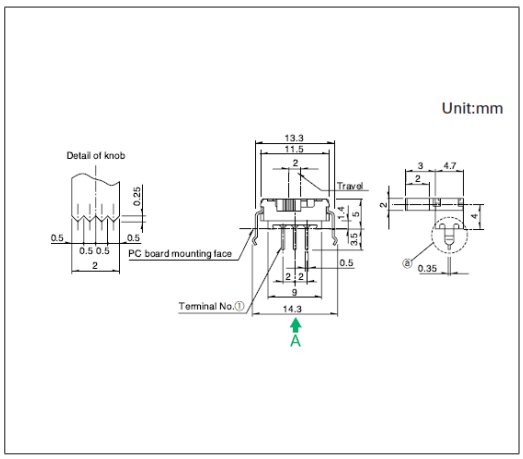
■ Circuit Diagram



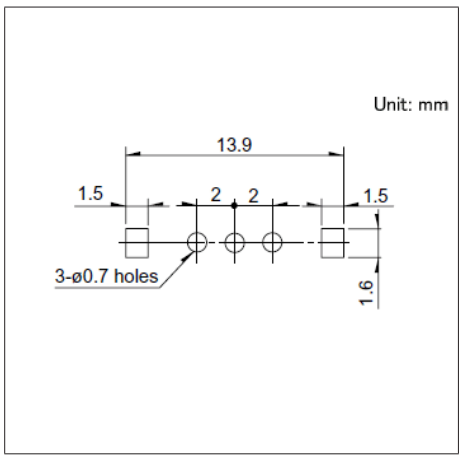
Viewed from direction A in the dimensions.

Drawing No.15

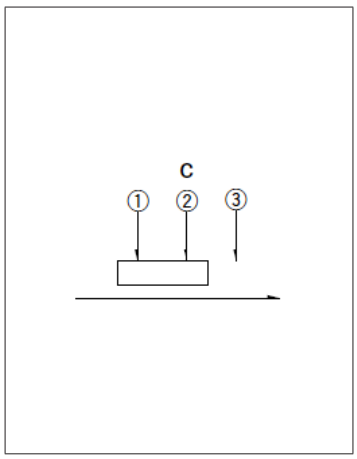
■ Dimensions



■ Mounting Hole Dimensions



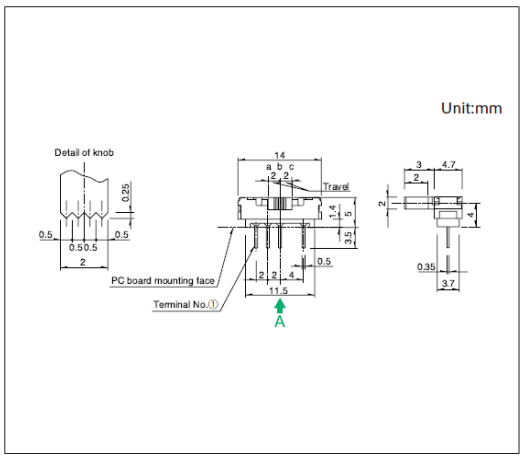
■ Circuit Diagram



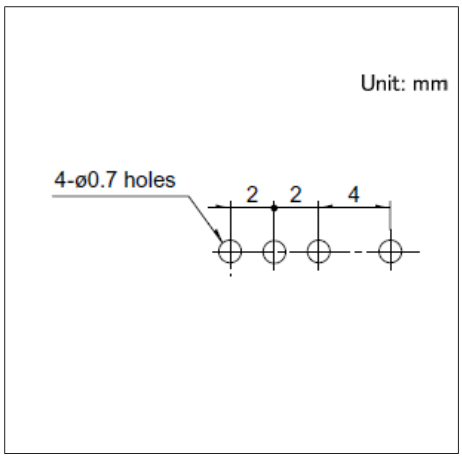
Viewed from direction A in the dimensions.

Drawing No.16

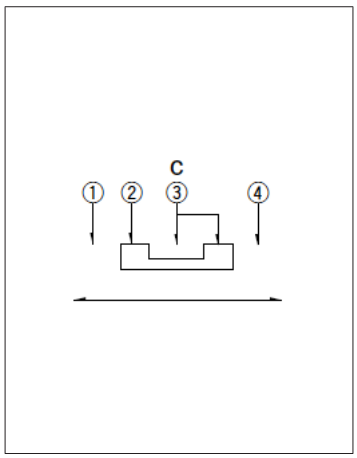
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



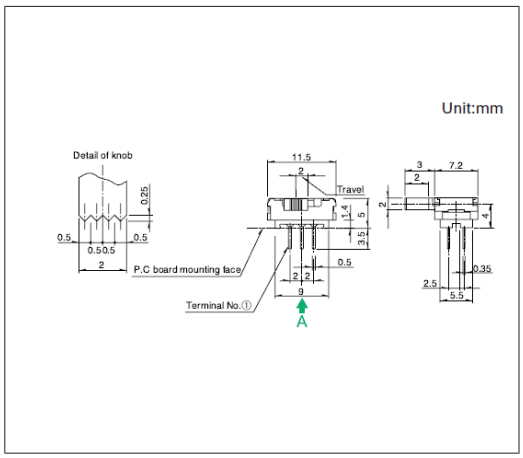
Viewed from direction A in the dimensions.

5.0 (H) mm, 2.0mm-travel

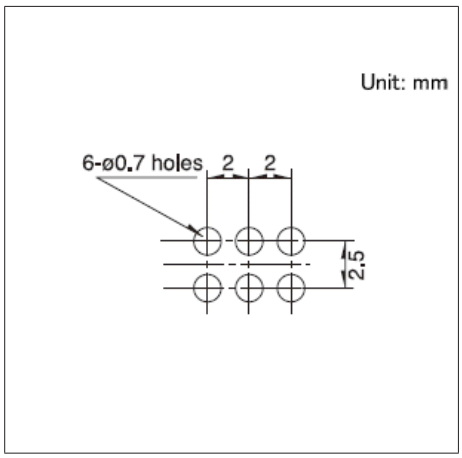
SSSS9 Series

Drawing No.17

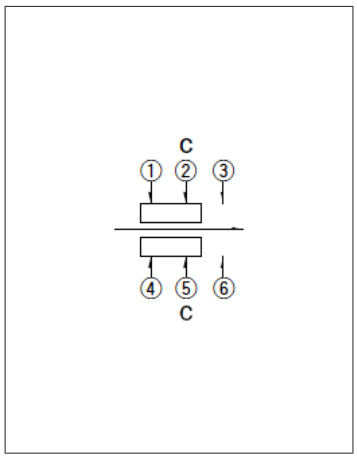
■ Dimensions



■ Mounting Hole Dimensions



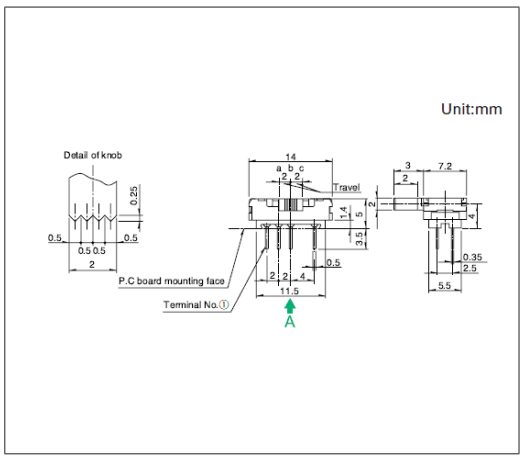
■ Circuit Diagram



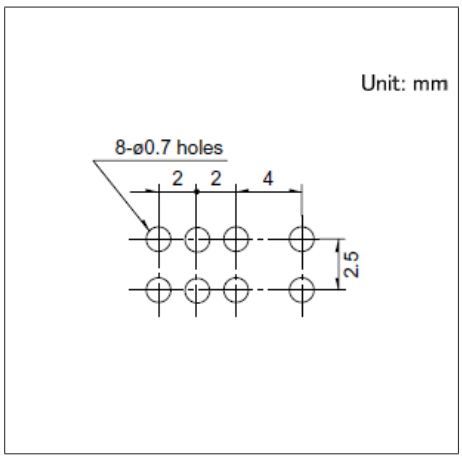
Viewed from direction A in the dimensions.

Drawing No.18

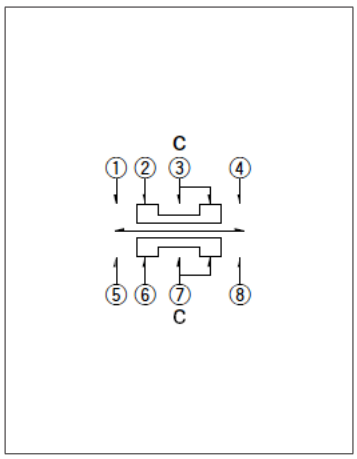
■ Dimensions



■ Mounting Hole Dimensions



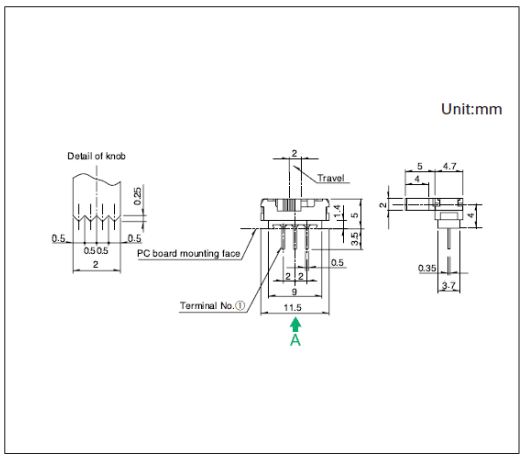
■ Circuit Diagram



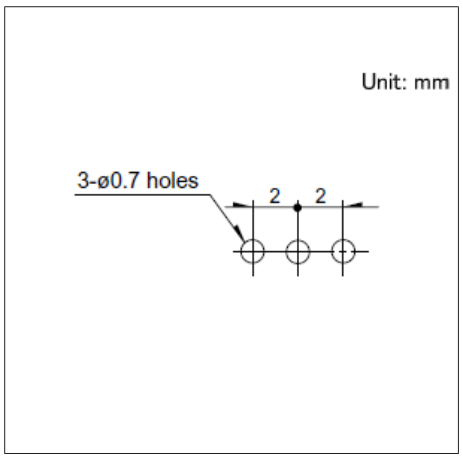
Viewed from direction A in the dimensions.

Drawing No.19

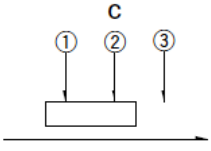
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



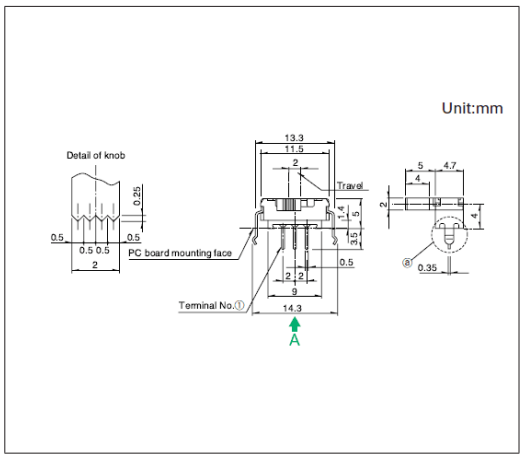
Viewed from direction A in the dimensions.

5.0 (H) mm, 2.0mm-travel

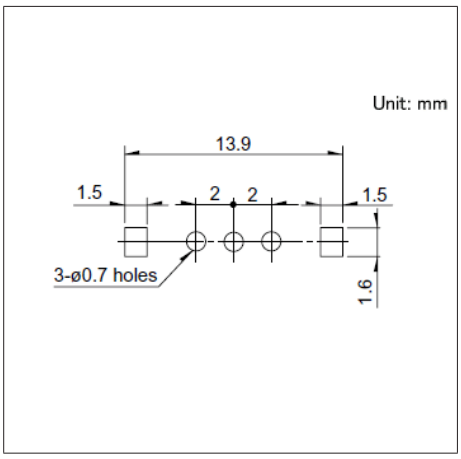
SSSS9 Series

Drawing No.20

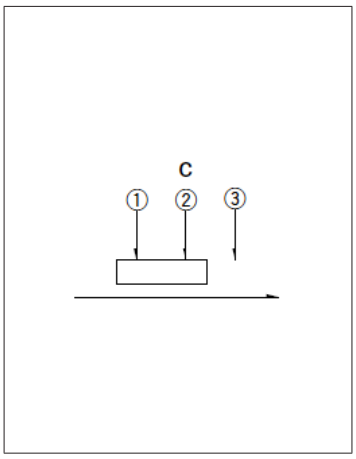
■ Dimensions



■ Mounting Hole Dimensions



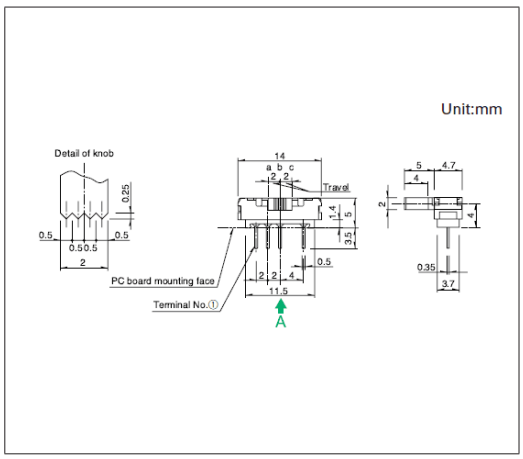
■ Circuit Diagram



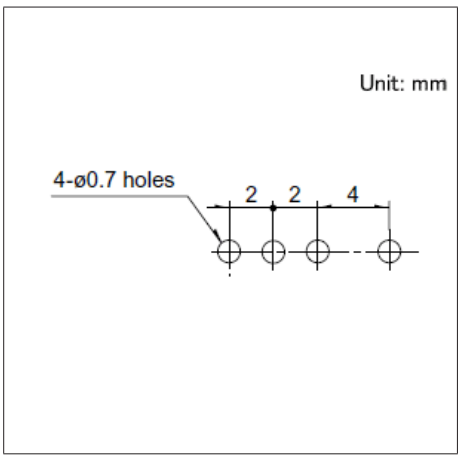
Viewed from direction A in the dimensions.

Drawing No.21

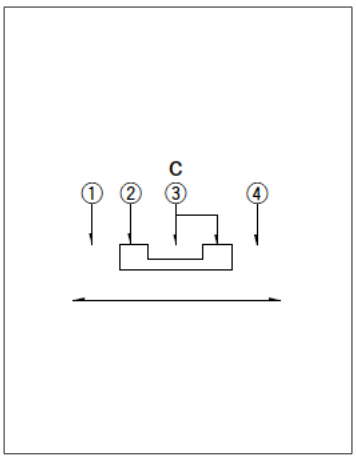
■ Dimensions



■ Mounting Hole Dimensions



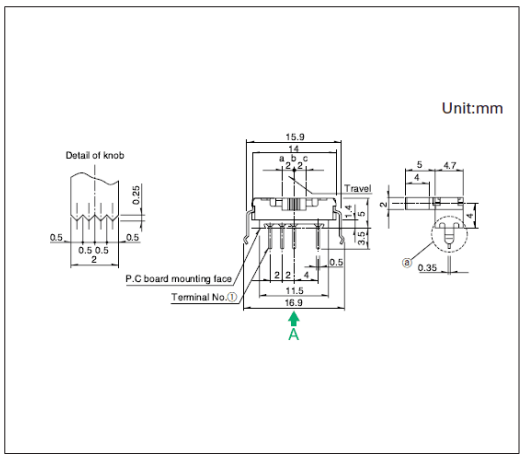
■ Circuit Diagram



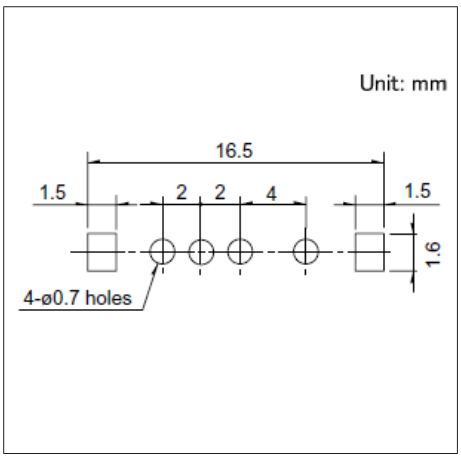
Viewed from direction A in the dimensions.

Drawing No.22

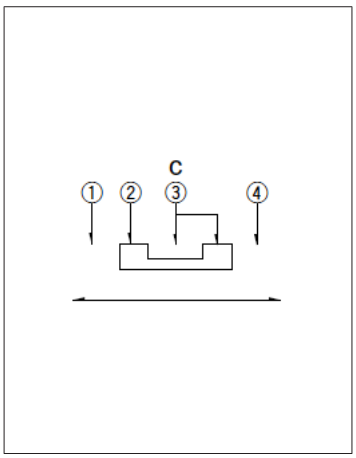
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



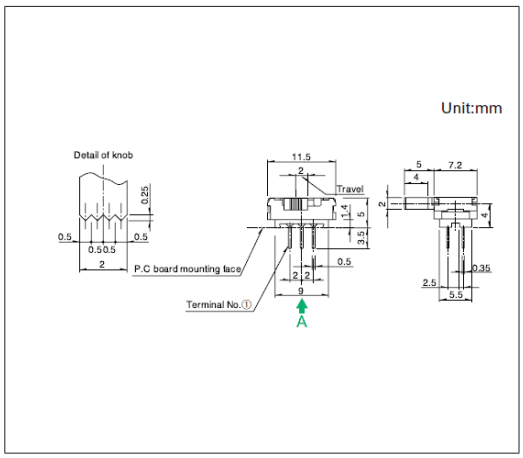
Viewed from direction A in the dimensions.

5.0 (H) mm, 2.0mm-travel

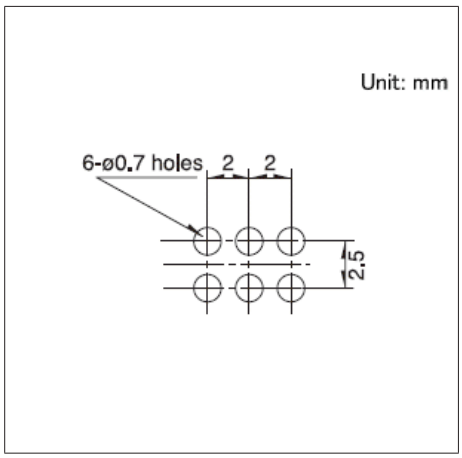
SSSS9 Series

Drawing No.23

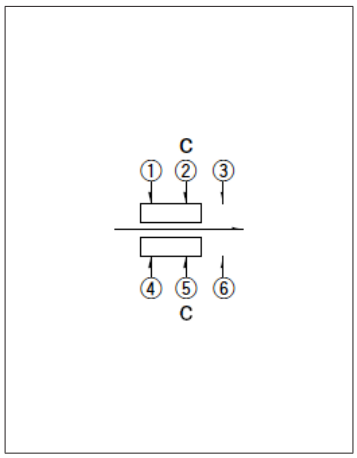
■ Dimensions



■ Mounting Hole Dimensions



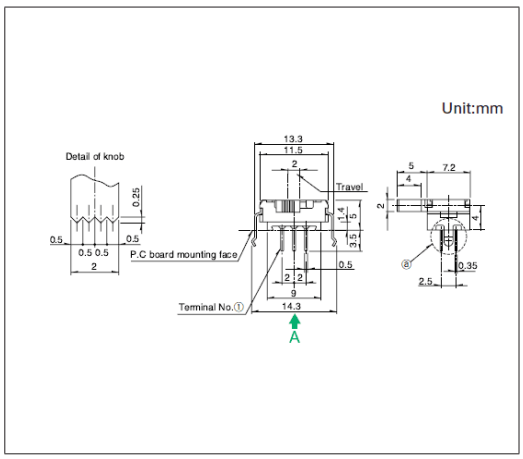
■ Circuit Diagram



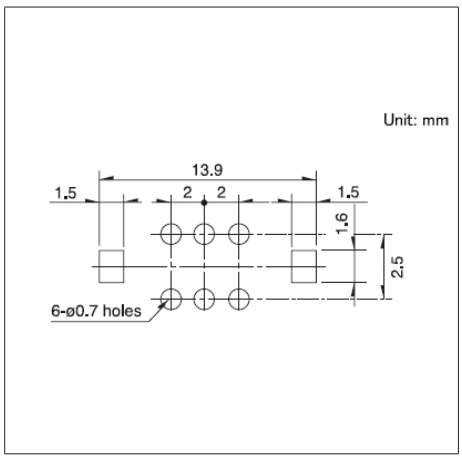
Viewed from direction A in the dimensions.

Drawing No.24

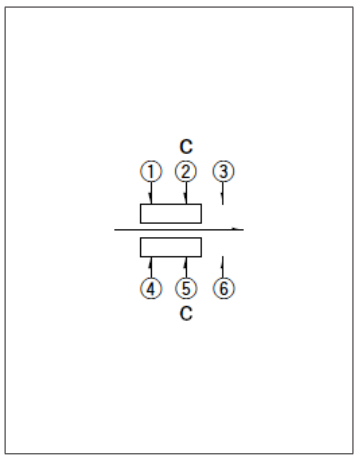
■ Dimensions



■ Mounting Hole Dimensions



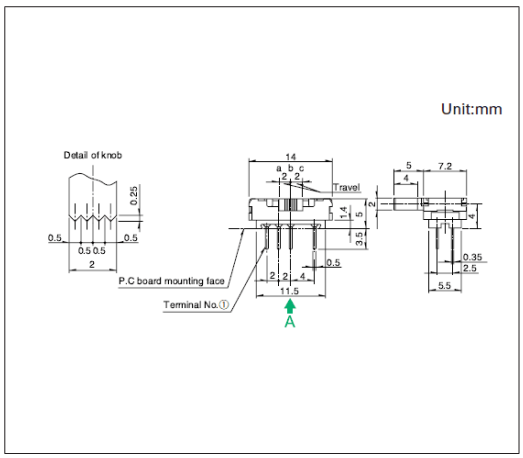
■ Circuit Diagram



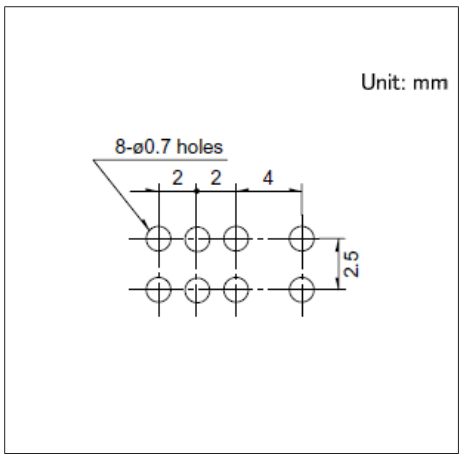
Viewed from direction A in the dimensions.

Drawing No.25

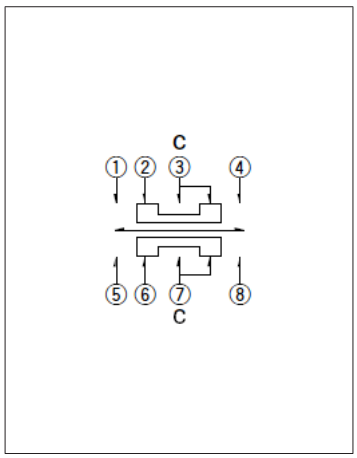
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



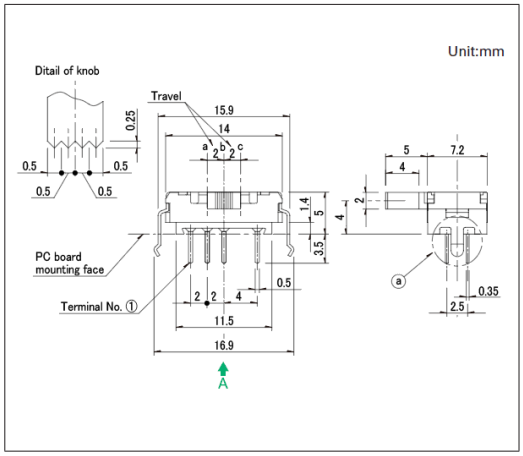
Viewed from direction A in the dimensions.

5.0 (H) mm, 2.0mm-travel

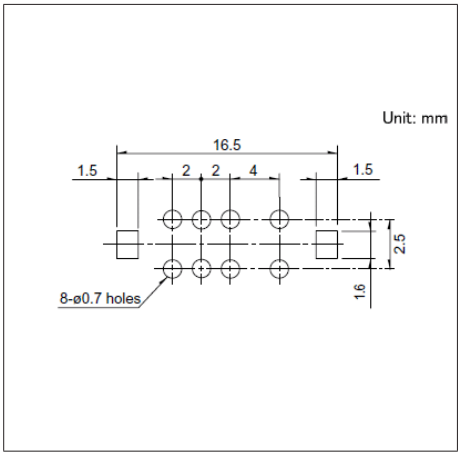
SSSS9 Series

Drawing No.26

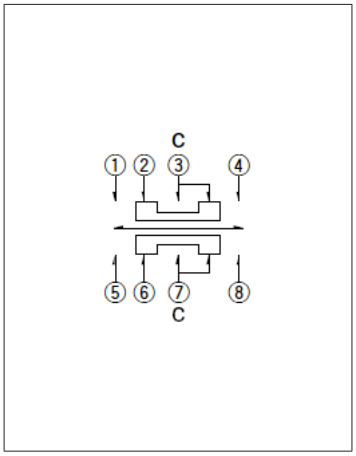
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram

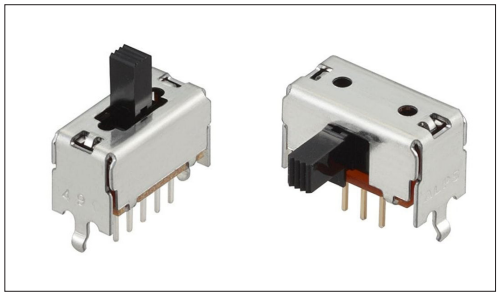


Viewed from direction A in the dimensions.

8.5 (H) mm, 2.0mm-travel

SSSF Series

Large general-purpose type with a proven track record across diverse industries.



- Rating (max.)/(min.) (Resistive load):0.1A 30V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  25mΩ max./65mΩ max.
- Operating life without load:10,000 cycles 45mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 65mΩ max.

Applications:Audio_TV:Audio

■ Product List

Products No.	Actuator directions	Travel (mm)	Poles	Positions	Operating force	Changeover timing	Soldering	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SSSF011700	Vertical	2.0	1	2	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	1
SSSF012100	Vertical	2.0	1	2	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	2
SSSF014800	Vertical	2.0	1	3	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	3
SSSF021500	Vertical	2.0	2	2	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	4
SSSF021900	Vertical	2.0	2	2	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	5
SSSF024800	Vertical	2.0	2	3	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	6
SSSF025100	Vertical	2.0	2	3	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	7
SSSF040800	Vertical	2.0	4	2	Refer to the dimensions.	Non shorting	Manual, Dip	16.5×7.0×8.5	—	8
SSSF111800	Horizontal	2.0	1	2	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	9
SSSF112500	Horizontal	2.0	1	2	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	10
SSSF114900	Horizontal	2.0	1	3	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	11
SSSF115300	Horizontal	2.0	1	3	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	12
SSSF121900	Horizontal	2.0	2	2	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	13
SSSF122400	Horizontal	2.0	2	2	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	14
SSSF125300	Horizontal	2.0	2	3	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	15
SSSF125800	Horizontal	2.0	2	3	Refer to the dimensions.	Non shorting	Manual, Dip	14.5×7.0×8.5	—	16
SSSF141000	Horizontal	2.0	4	2	Refer to the dimensions.	Non shorting	Manual, Dip	16.5×7.0×8.5	—	17
SSSF141300	Horizontal	2.0	4	2	Refer to the dimensions.	Non shorting	Manual, Dip	16.5×7.0×8.5	—	18

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).

8.5 (H) mm, 2.0mm-travel

SSSF Series

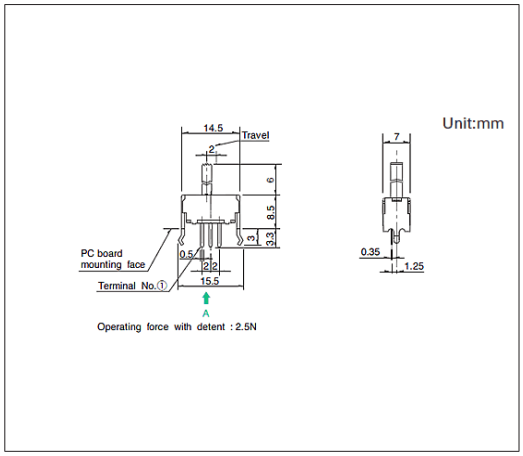
■ Packing Specifications

Bulk

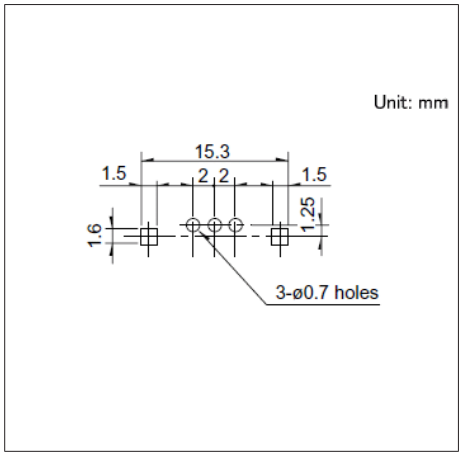
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SSSF011700 SSSF012100 SSSF014800 SSSF021500 SSSF021900 SSSF024800 SSSF025100 SSSF040800 SSSF112500 SSSF115300 SSSF122400 SSSF125800 SSSF141000 SSSF141300	800	4,000	400 x 270 x 290
SSSF111800 SSSF114900 SSSF121900 SSSF125300	600	3,000	400 x 270 x 290

Drawing No.1

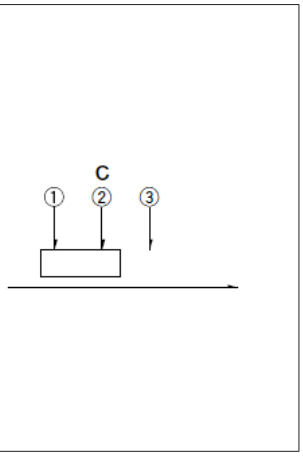
■ Dimensions



■ Mounting Hole Dimensions



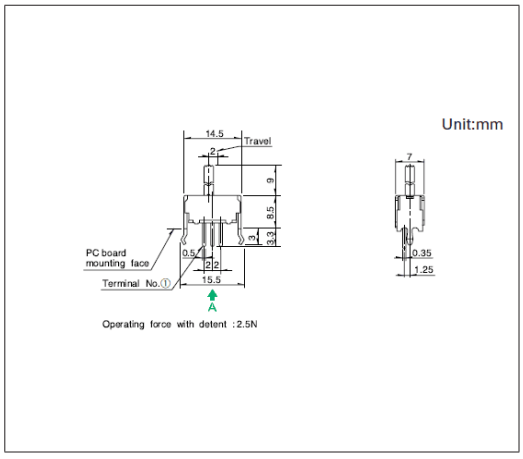
■ Circuit Diagram



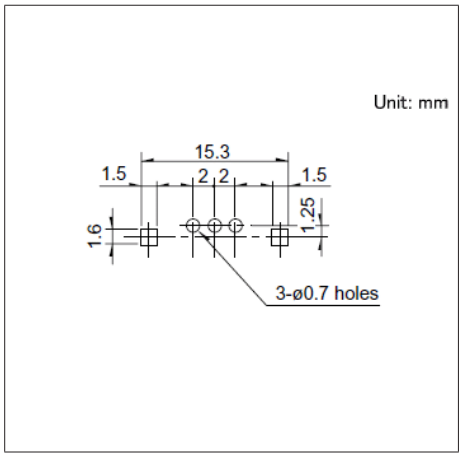
Viewed from direction A in the dimensions.

Drawing No.2

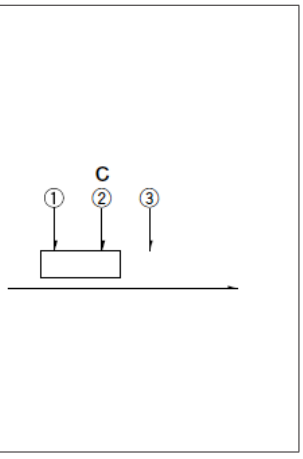
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



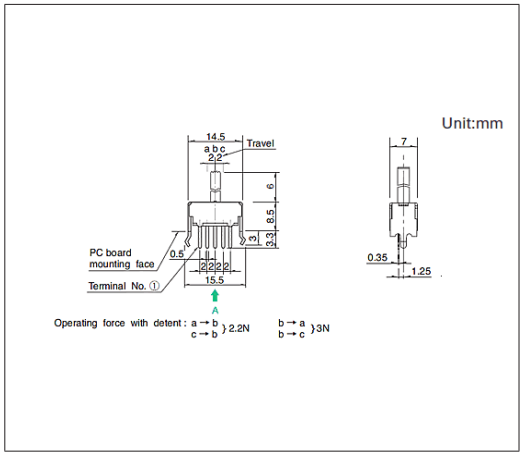
Viewed from direction A in the dimensions.

8.5 (H) mm, 2.0mm-travel

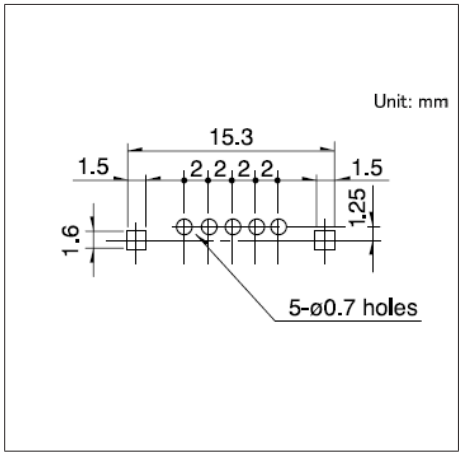
SSSF Series

Drawing No.3

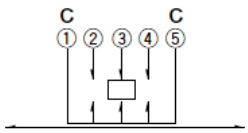
■ Dimensions



■ Mounting Hole Dimensions



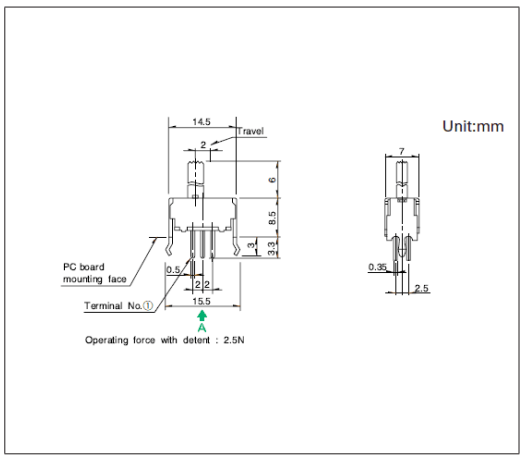
■ Circuit Diagram



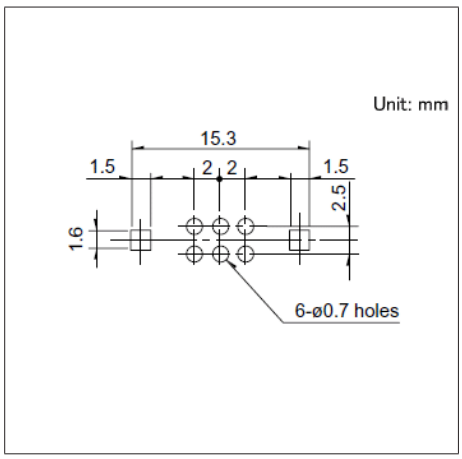
Viewed from direction A in the dimensions.

Drawing No.4

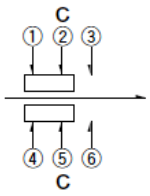
■ Dimensions



■ Mounting Hole Dimensions



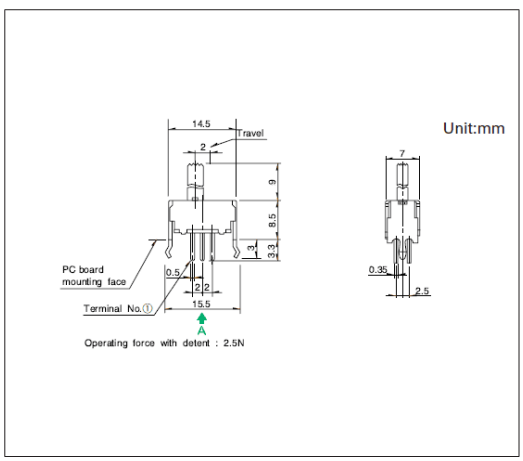
■ Circuit Diagram



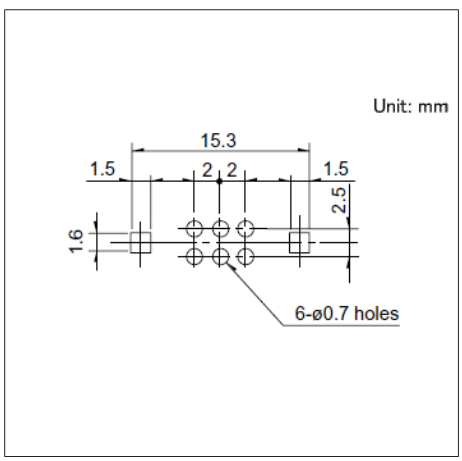
Viewed from direction A in the dimensions.

Drawing No.5

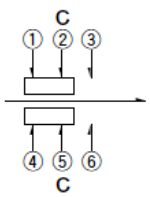
■ Dimensions



■ Mounting Hole Dimensions



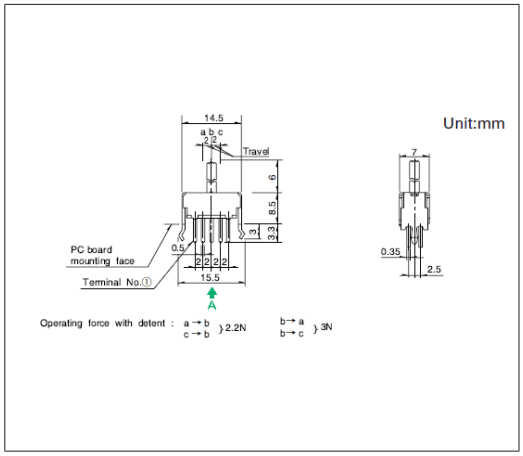
■ Circuit Diagram



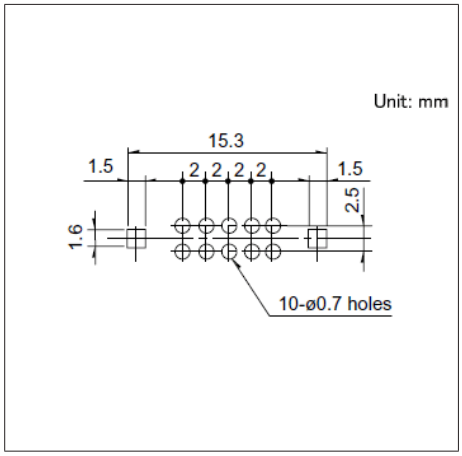
Viewed from direction A in the dimensions.

Drawing No.6

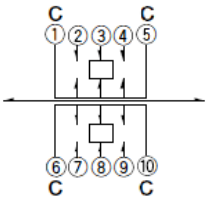
■ Dimensions



■ Mounting Hole Dimensions



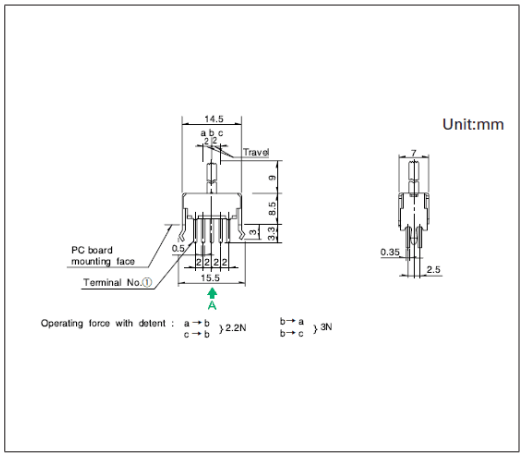
■ Circuit Diagram



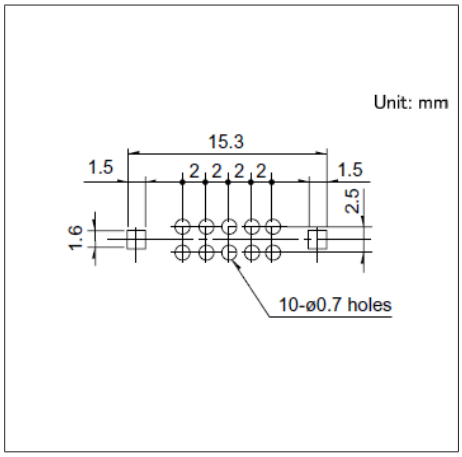
Viewed from direction A in the dimensions.

Drawing No.7

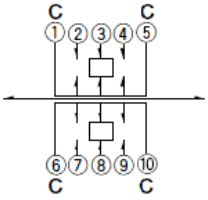
■ Dimensions



■ Mounting Hole Dimensions



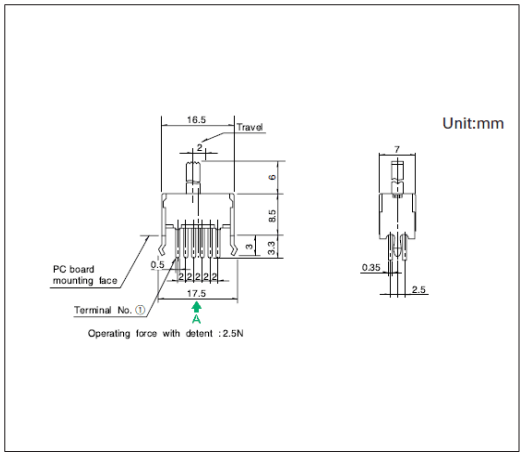
■ Circuit Diagram



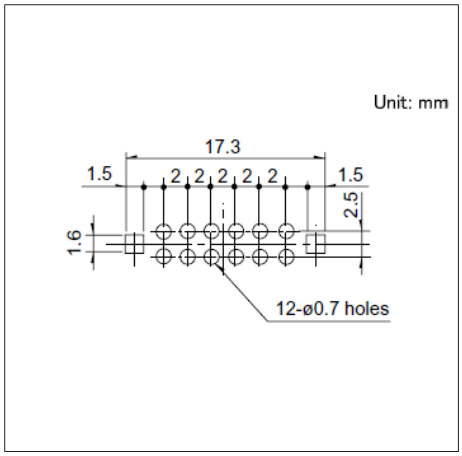
Viewed from direction A in the dimensions.

Drawing No.8

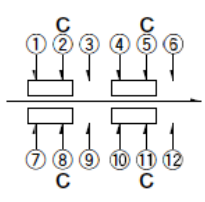
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



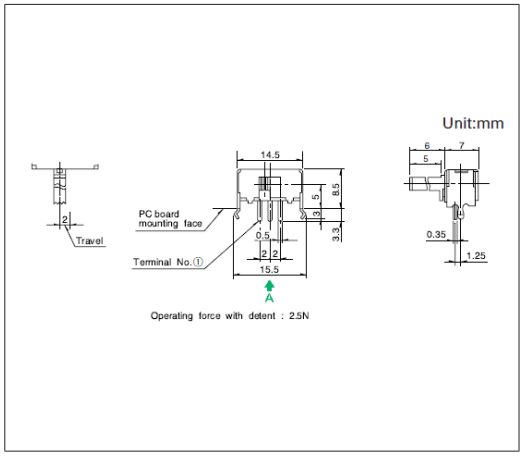
Viewed from direction A in the dimensions.

8.5 (H) mm, 2.0mm-travel

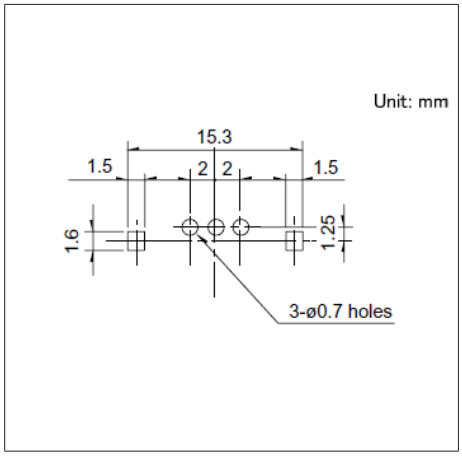
SSSF Series

Drawing No.9

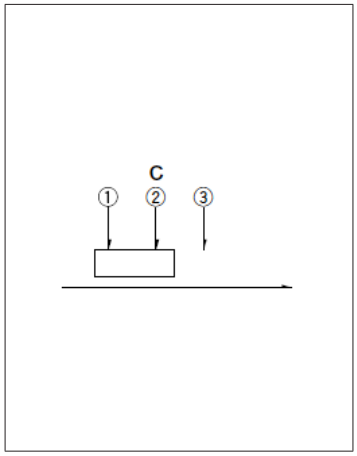
■ Dimensions



■ Mounting Hole Dimensions



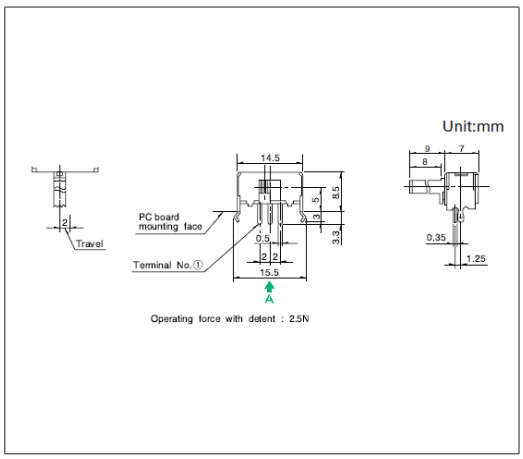
■ Circuit Diagram



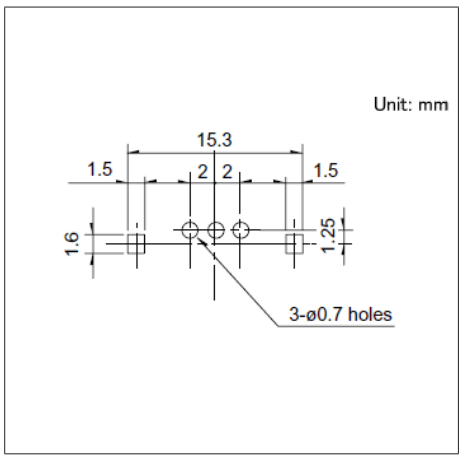
Viewed from direction A in the dimensions.

Drawing No.10

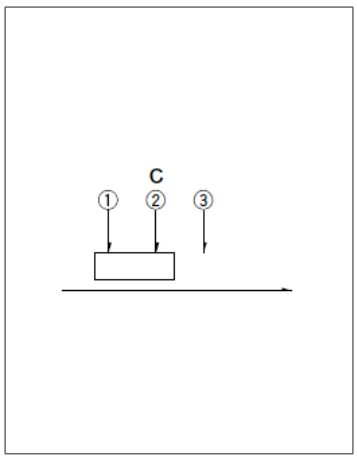
■ Dimensions



■ Mounting Hole Dimensions



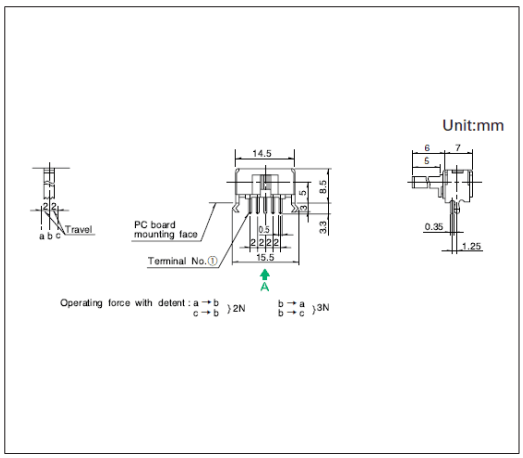
■ Circuit Diagram



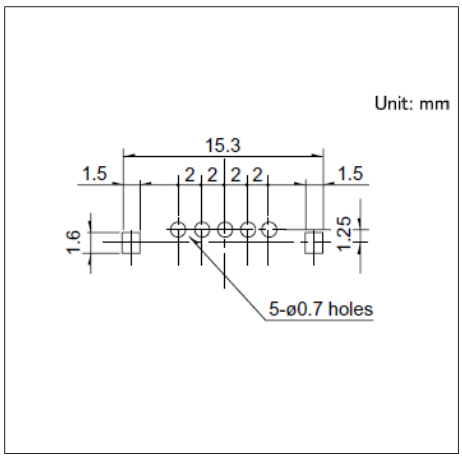
Viewed from direction A in the dimensions.

Drawing No.11

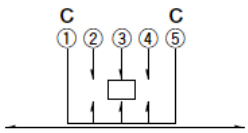
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



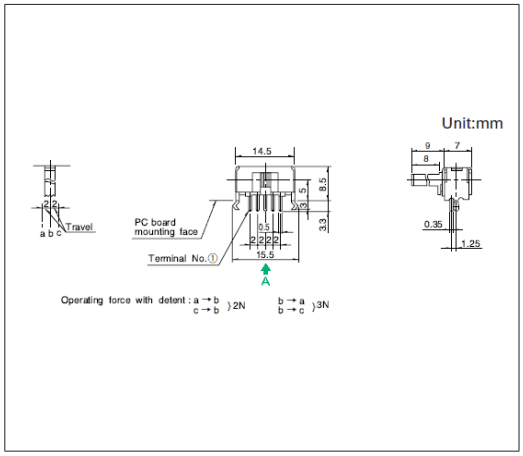
Viewed from direction A in the dimensions.

8.5 (H) mm, 2.0mm-travel

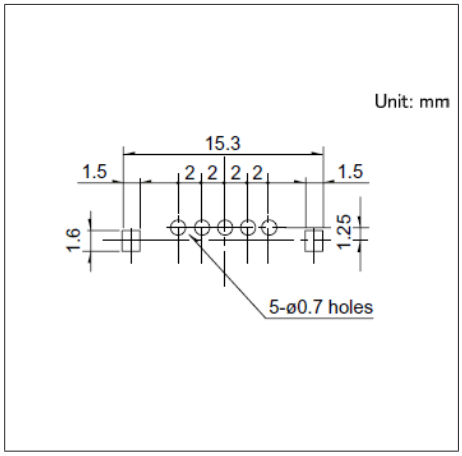
SSSF Series

Drawing No.12

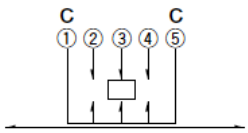
■ Dimensions



■ Mounting Hole Dimensions



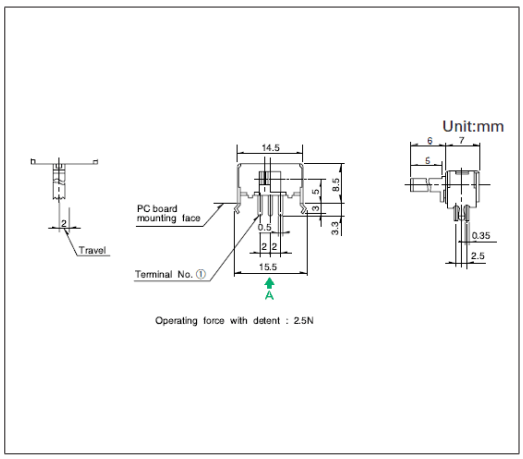
■ Circuit Diagram



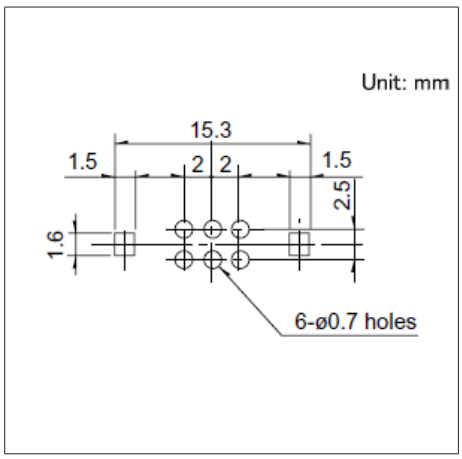
Viewed from direction A in the dimensions.

Drawing No.13

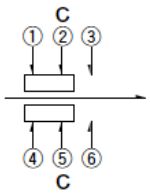
■ Dimensions



■ Mounting Hole Dimensions



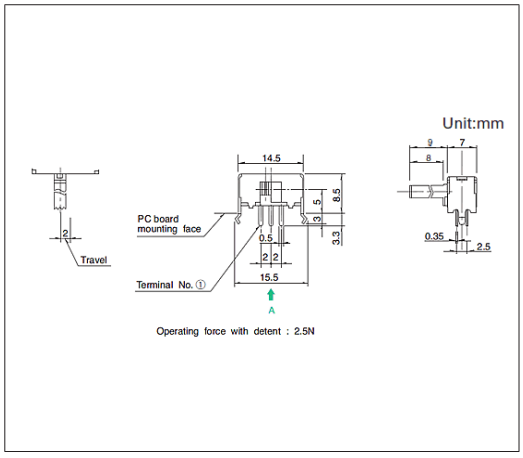
■ Circuit Diagram



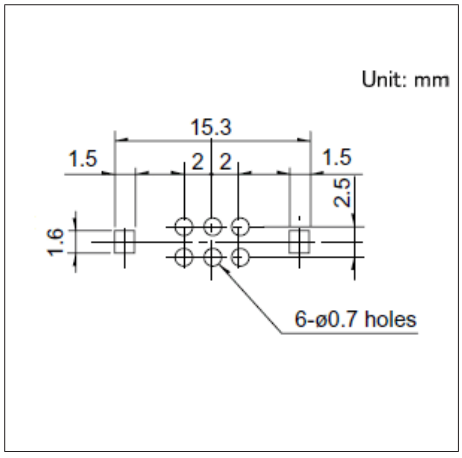
Viewed from direction A in the dimensions.

Drawing No.14

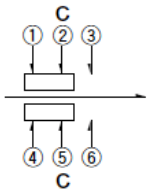
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



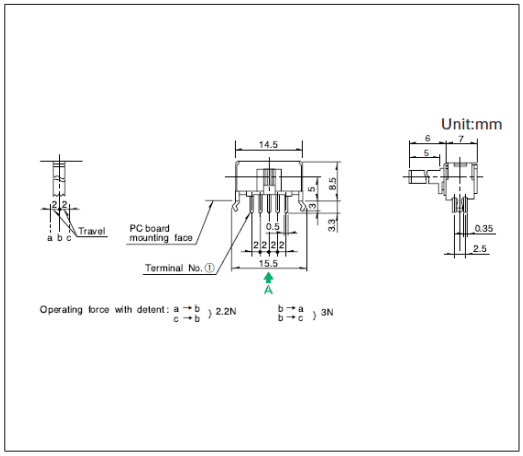
Viewed from direction A in the dimensions.

8.5 (H) mm, 2.0mm-travel

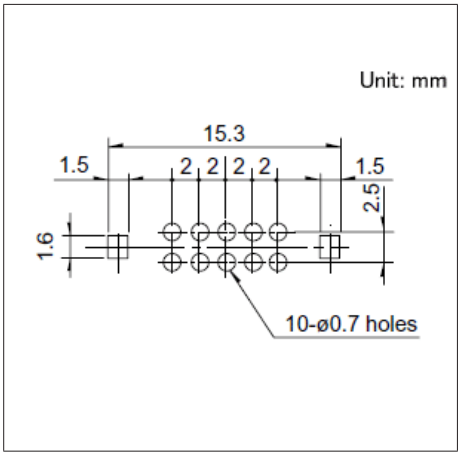
SSSF Series

Drawing No.15

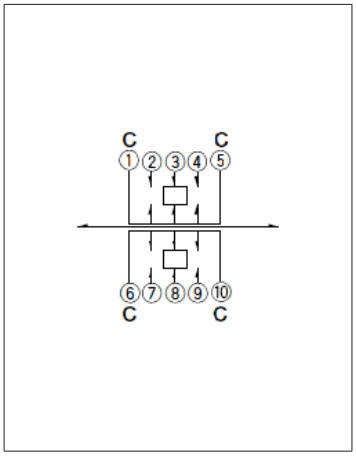
■ Dimensions



■ Mounting Hole Dimensions



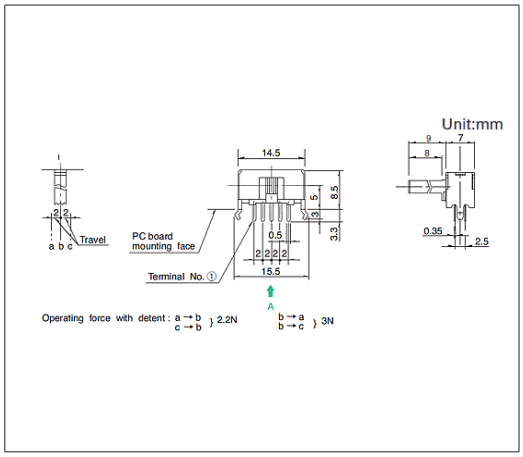
■ Circuit Diagram



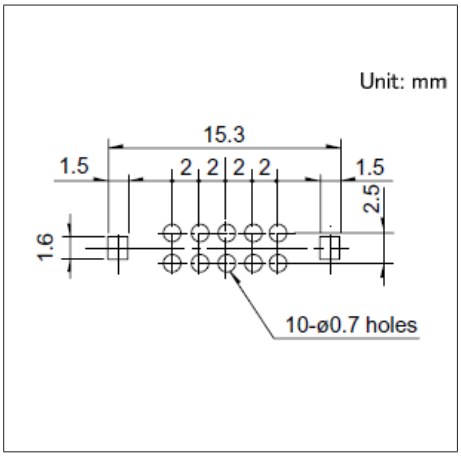
Viewed from direction A in the dimensions.

Drawing No.16

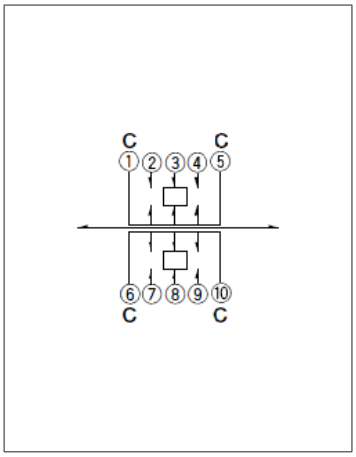
■ Dimensions



■ Mounting Hole Dimensions



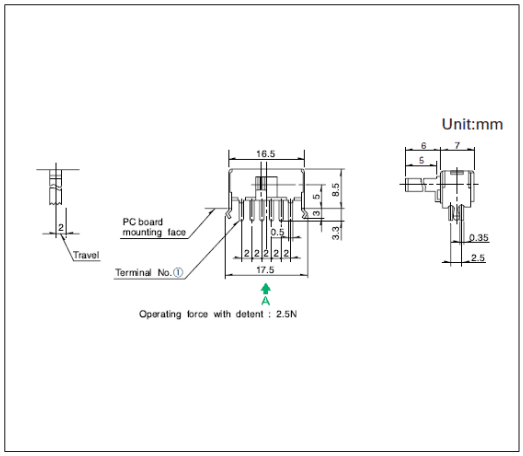
■ Circuit Diagram



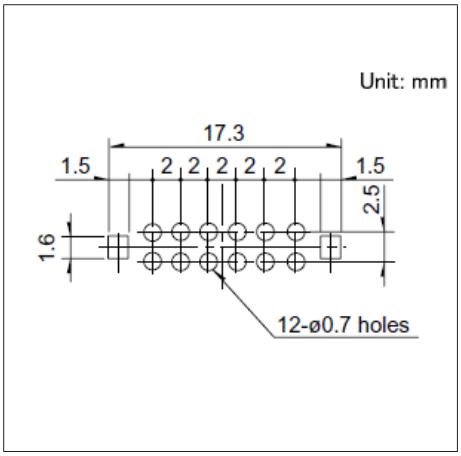
Viewed from direction A in the dimensions.

Drawing No.17

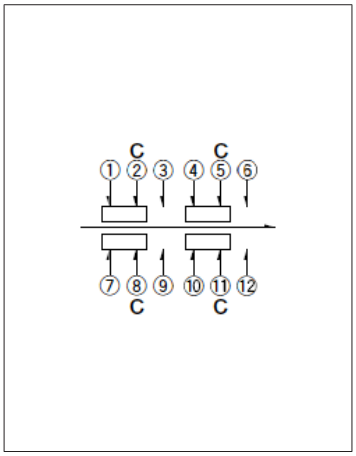
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



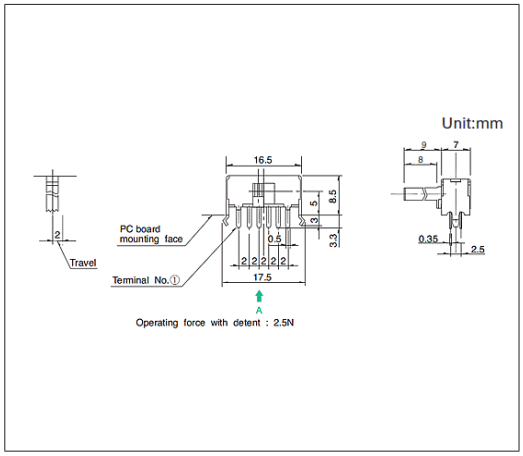
Viewed from direction A in the dimensions.

8.5 (H) mm, 2.0mm-travel

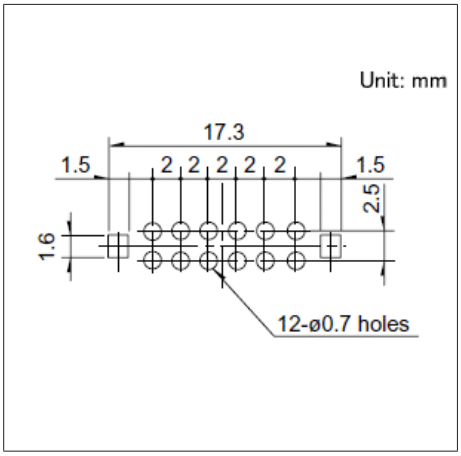
SSSF Series

Drawing No.18

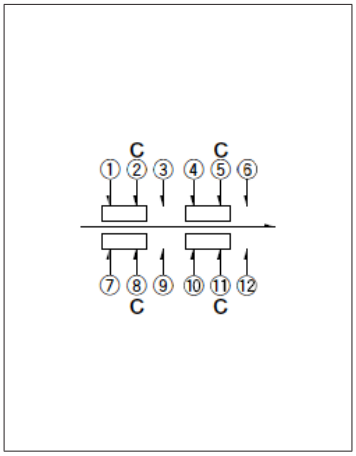
■ Dimensions



■ Mounting Hole Dimensions



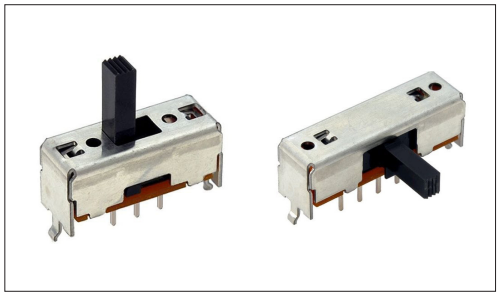
■ Circuit Diagram



Viewed from direction A in the dimensions.

8.5 (H) mm, 3.0mm-travel
SSSU Series

Large general-purpose type with a wide variety of knob options.



- Rating (max.)/(min.) (Resistive load):0.1A 30V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  25mΩ max./65mΩ max.
- Operating life without load:10,000 cycles 45mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 65mΩ max.

Applications:Audio_TV:Audio

■ Product List

Products No.	Actuator directions	Travel (mm)	Poles	Positions	Operating force	Changeover timing	Soldering	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SSSU011700	Vertical	3.0	1	2	Refer to the dimensions.	Non shorting	Manual, Dip	18.5×7.0×8.5	—	1
SSSU012200	Vertical	3.0	1	2	Refer to the dimensions.	Non shorting	Manual, Dip	18.5×7.0×8.5	—	2
SSSU014800	Vertical	3.0	1	3	Refer to the dimensions.	Non shorting	Manual, Dip	24.5×7.0×8.5	—	3
SSSU015100	Vertical	3.0	1	3	Refer to the dimensions.	Non shorting	Manual, Dip	24.5×7.0×8.5	—	4
SSSU022400	Vertical	3.0	2	2	Refer to the dimensions.	Non shorting	Manual, Dip	18.5×7.0×8.5	—	5
SSSU022800	Vertical	3.0	2	2	Refer to the dimensions.	Non shorting	Manual, Dip	18.5×7.0×8.5	—	6
SSSU025800	Vertical	3.0	2	3	Refer to the dimensions.	Non shorting	Manual, Dip	24.5×7.0×8.5	—	7
SSSU026300	Vertical	3.0	2	3	Refer to the dimensions.	Non shorting	Manual, Dip	24.5×7.0×8.5	—	8
SSSU041700	Vertical	3.0	4	2	Refer to the dimensions.	Non shorting	Manual, Dip	21.5×7.0×8.5	—	9
SSSU042100	Vertical	3.0	4	2	Refer to the dimensions.	Non shorting	Manual, Dip	21.5×7.0×8.5	—	10
SSSU111400	Horizontal	3.0	1	2	Refer to the dimensions.	Non shorting	Manual, Dip	18.5×7.0×8.5	—	11
SSSU113200	Horizontal	3.0	1	3	Refer to the dimensions.	Non shorting	Manual, Dip	24.5×7.0×8.5	—	12
SSSU121700	Horizontal	3.0	2	2	Refer to the dimensions.	Non shorting	Manual, Dip	18.5×7.0×8.5	—	13
SSSU122200	Horizontal	3.0	2	2	Refer to the dimensions.	Non shorting	Manual, Dip	18.5×7.0×8.5	—	14
SSSU124900	Horizontal	3.0	2	3	Refer to the dimensions.	Non shorting	Manual, Dip	24.5×7.0×8.5	—	15

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).

8.5 (H) mm, 3.0mm-travel

SSSU Series

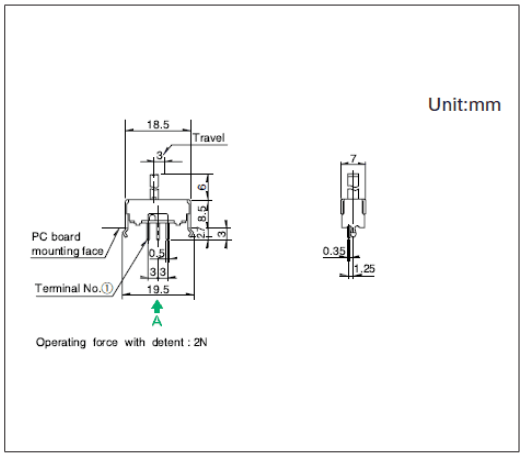
■ Packing Specifications

Bulk

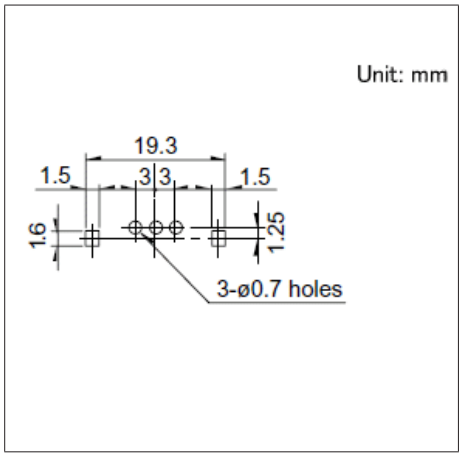
Products No.	Number of packages (pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SSSU011700 SSSU012200 SSSU022400 SSSU022800 SSSU124900	400	2,000	400 x 270 x 290
SSSU014800 SSSU015100 SSSU025800 SSSU026300 SSSU041700 SSSU042100 SSSU113200	500	2,500	400 x 270 x 290
SSSU111400 SSSU121700 SSSU122200	700	3,500	400 x 270 x 290

Drawing No.1

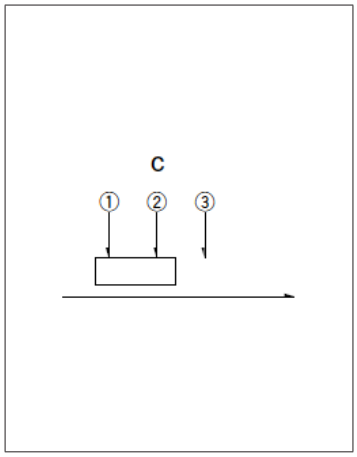
■ Dimensions



■ Mounting Hole Dimensions



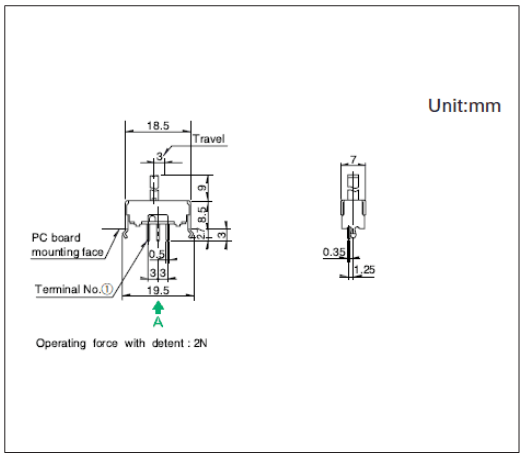
■ Circuit Diagram



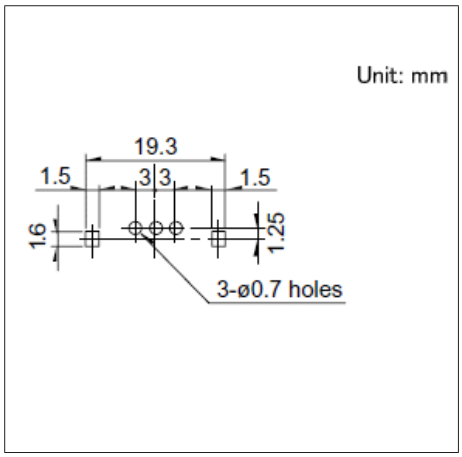
Viewed from direction A in the dimensions.

Drawing No.2

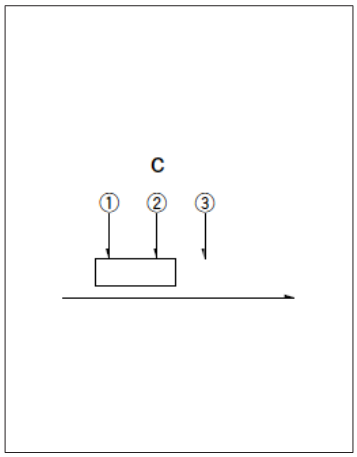
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



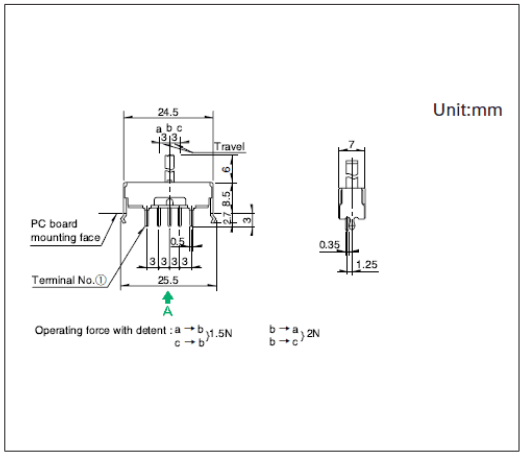
Viewed from direction A in the dimensions.

8.5 (H) mm, 3.0mm-travel

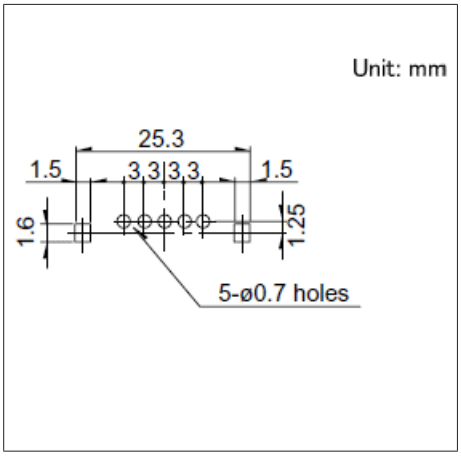
SSSU Series

Drawing No.3

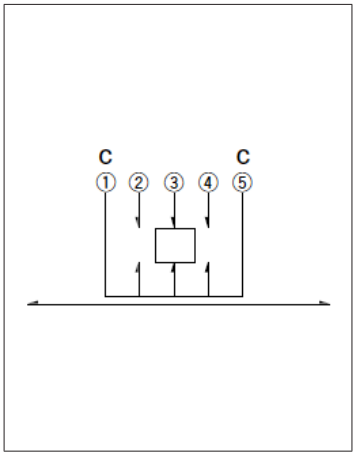
■ Dimensions



■ Mounting Hole Dimensions



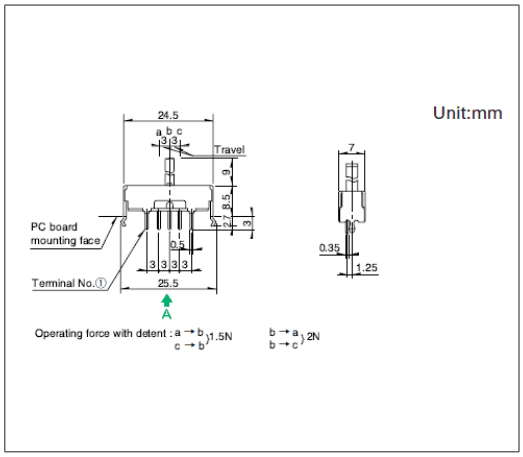
■ Circuit Diagram



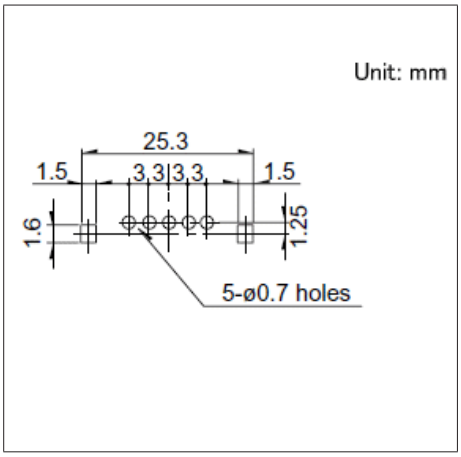
Viewed from direction A in the dimensions.

Drawing No.4

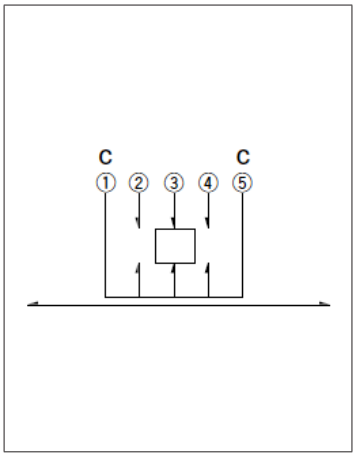
■ Dimensions



■ Mounting Hole Dimensions



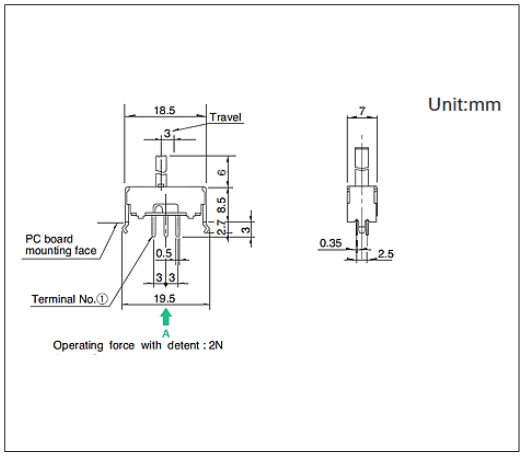
■ Circuit Diagram



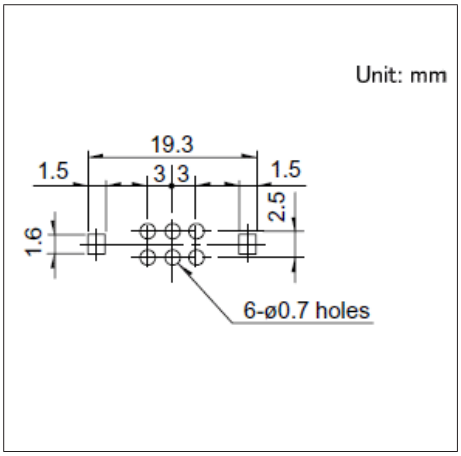
Viewed from direction A in the dimensions.

Drawing No.5

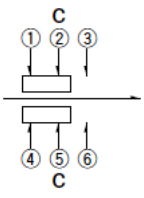
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



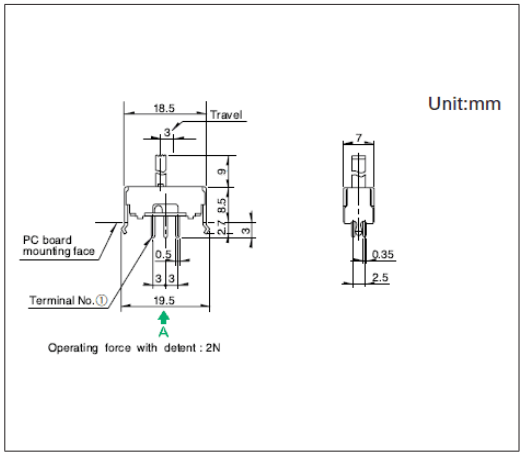
Viewed from direction A in the dimensions.

8.5 (H) mm, 3.0mm-travel

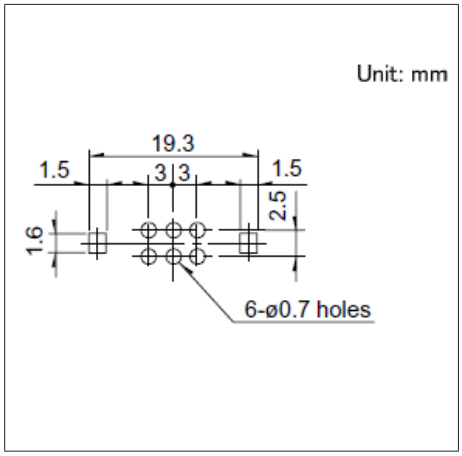
SSSU Series

Drawing No.6

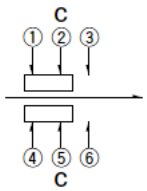
■ Dimensions



■ Mounting Hole Dimensions



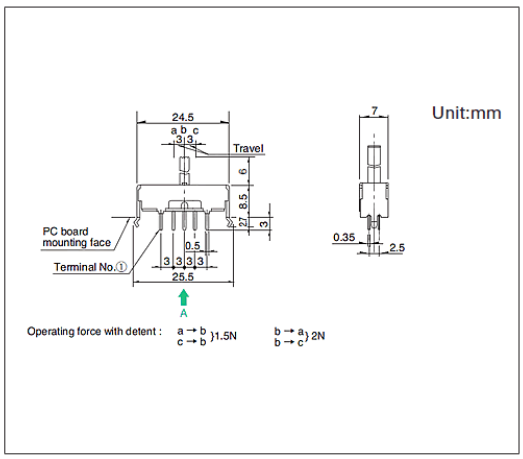
■ Circuit Diagram



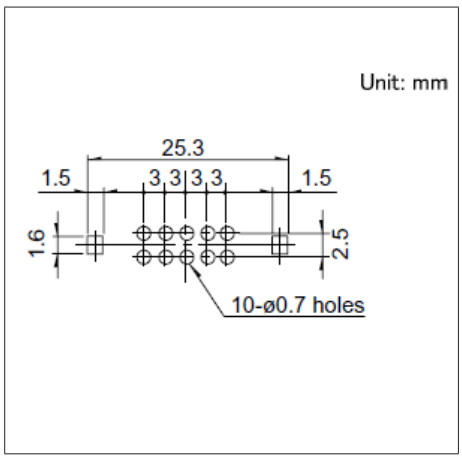
Viewed from direction A in the dimensions.

Drawing No.7

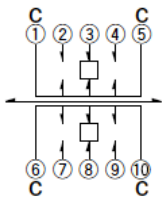
■ Dimensions



■ Mounting Hole Dimensions



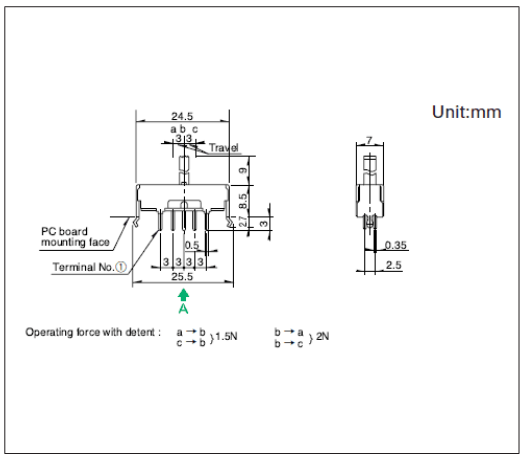
■ Circuit Diagram



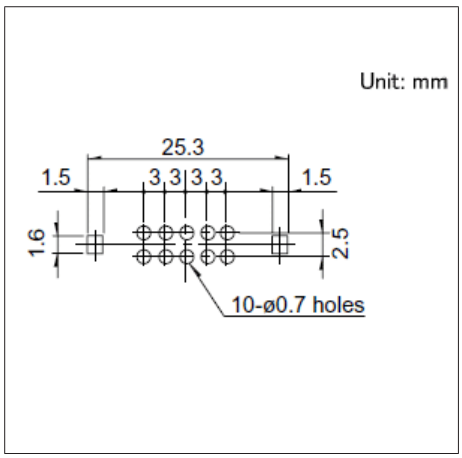
Viewed from direction A in the dimensions.

Drawing No.8

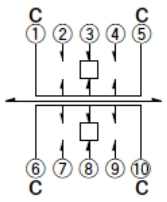
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



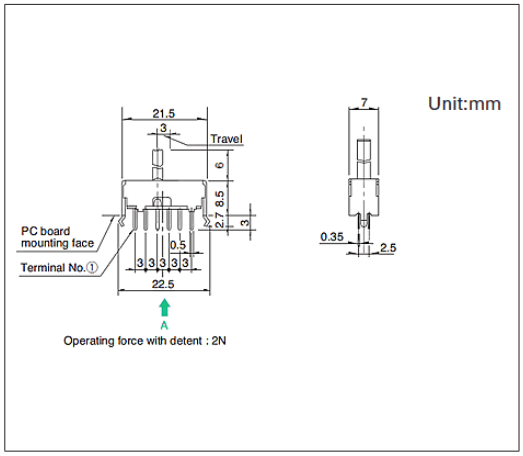
Viewed from direction A in the dimensions.

8.5 (H) mm, 3.0mm-travel

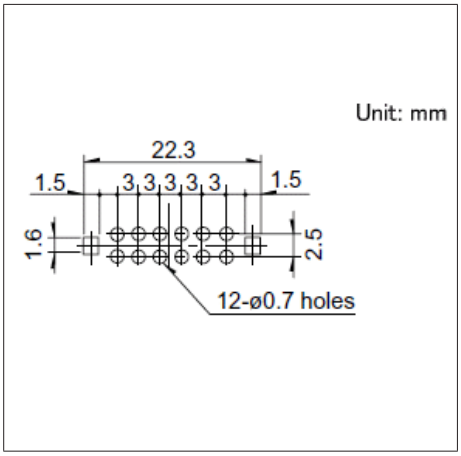
SSSU Series

Drawing No.9

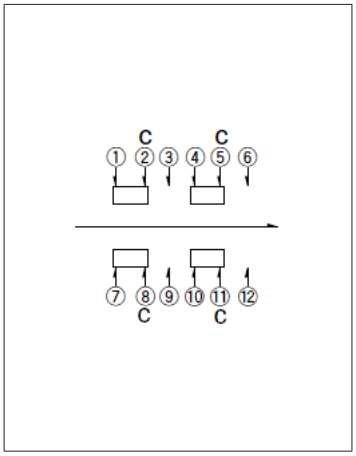
■ Dimensions



■ Mounting Hole Dimensions



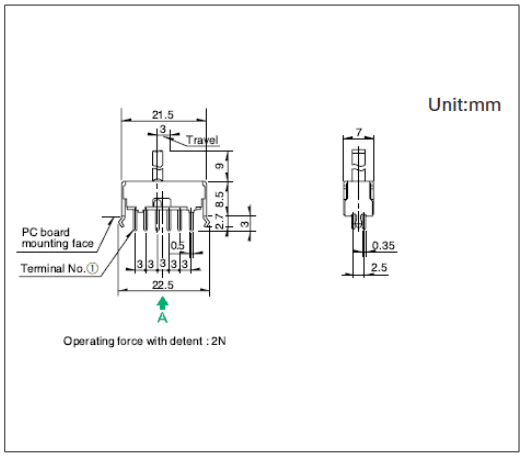
■ Circuit Diagram



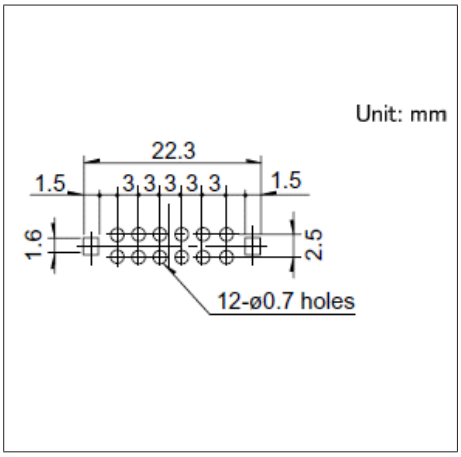
Viewed from direction A in the dimensions.

Drawing No.10

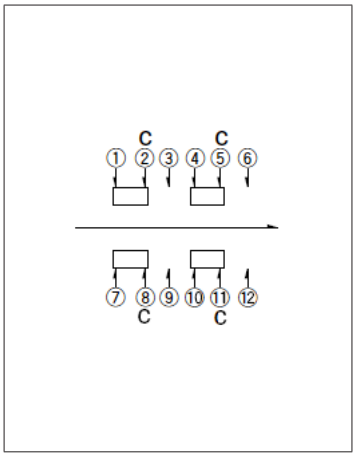
■ Dimensions



■ Mounting Hole Dimensions



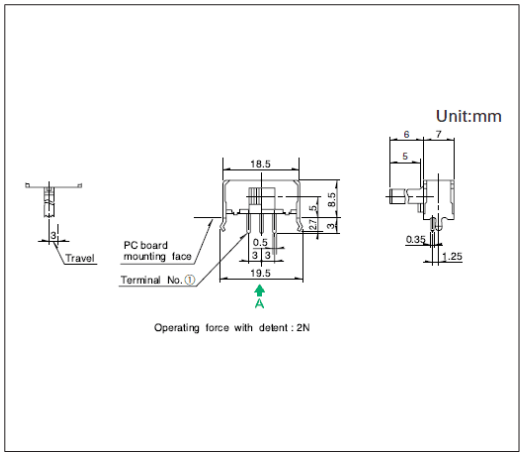
■ Circuit Diagram



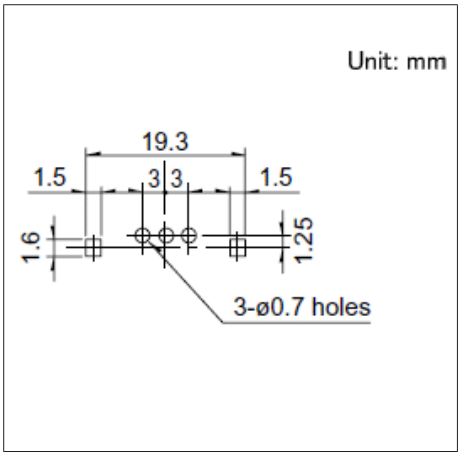
Viewed from direction A in the dimensions.

Drawing No.11

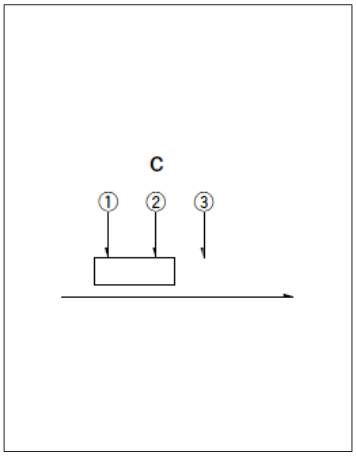
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



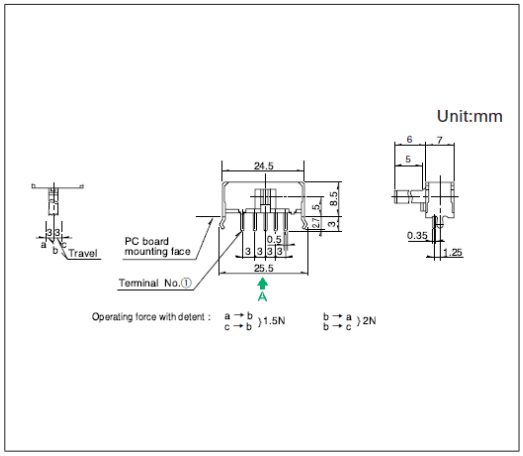
Viewed from direction A in the dimensions.

8.5 (H) mm, 3.0mm-travel

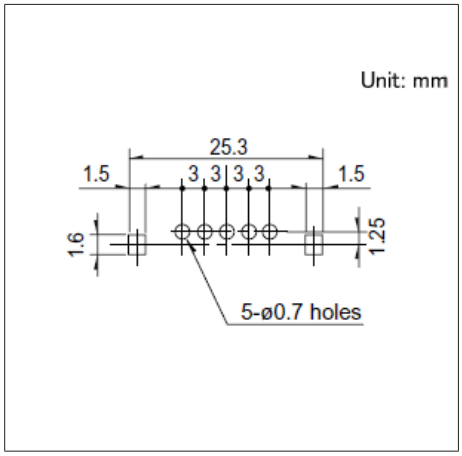
SSSU Series

Drawing No.12

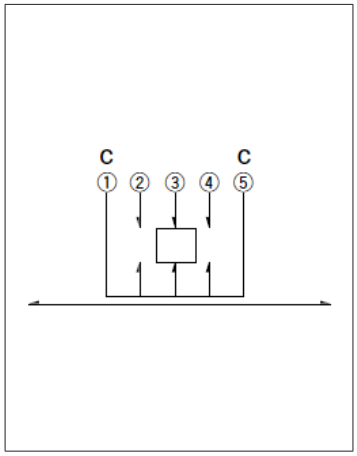
■ Dimensions



■ Mounting Hole Dimensions



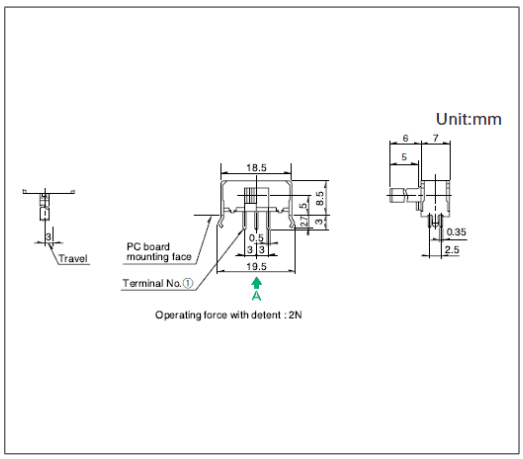
■ Circuit Diagram



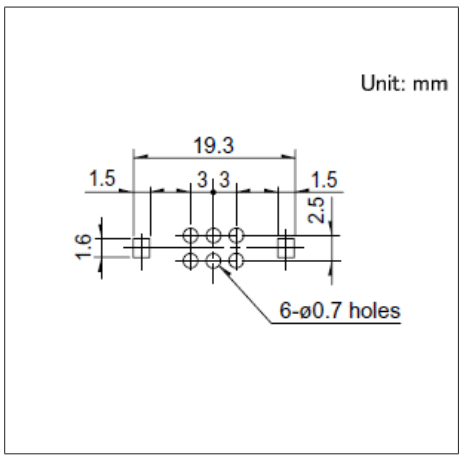
Viewed from direction A in the dimensions.

Drawing No.13

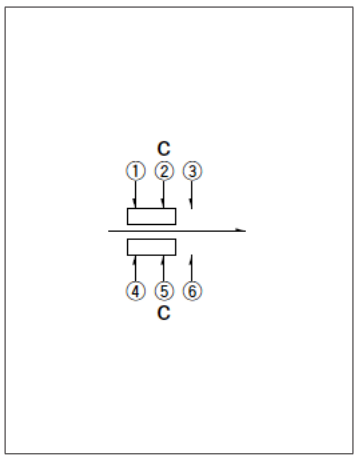
■ Dimensions



■ Mounting Hole Dimensions



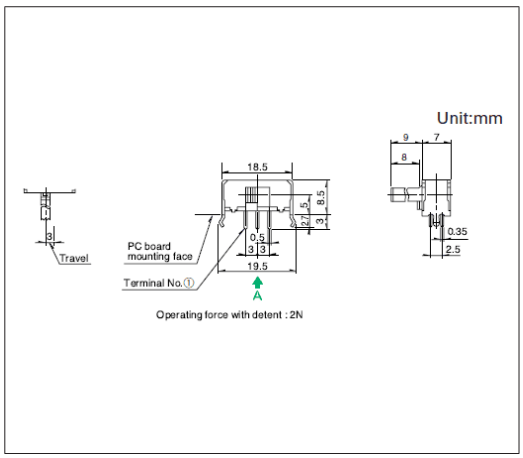
■ Circuit Diagram



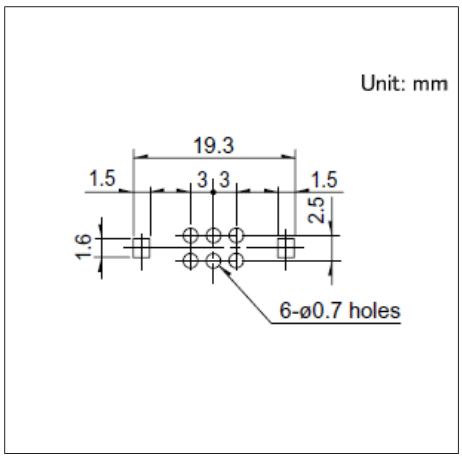
Viewed from direction A in the dimensions.

Drawing No.14

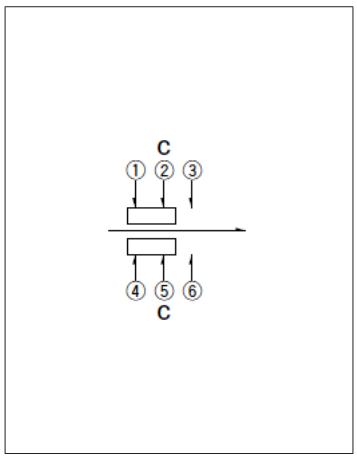
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



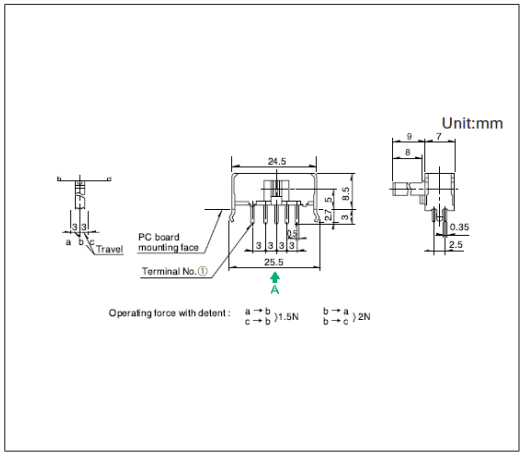
Viewed from direction A in the dimensions.

8.5 (H) mm, 3.0mm-travel

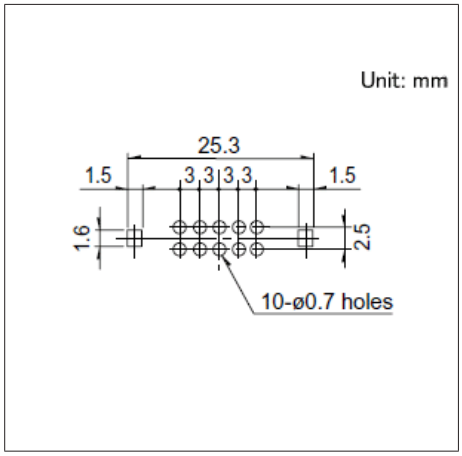
SSSU Series

Drawing No.15

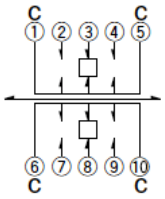
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram

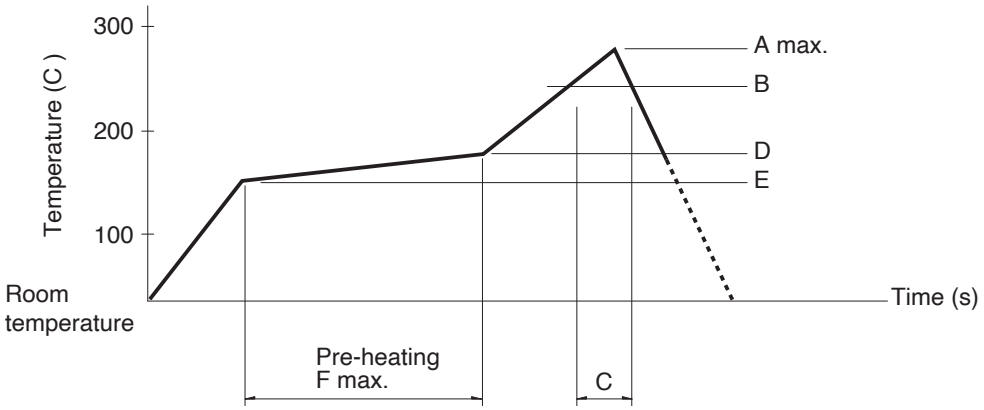


Viewed from direction A in the dimensions.

Slide Switches / Soldering Conditions

■ Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple ϕ0.1 to 0.2 CA (K) or CC (T) at soldering portion (copper foil surface).
   A heat resisting tape should be used for fixed measurement.
3. Temperature profile



Series (Reflow type)			A (℃) 3s max.	B (℃)	C (s)	D (℃)	E (℃)	F (s)
SSSS2	Vertical	1-pole, 3-position	260	230	40	180	150	120
	Horizontal	1-pole, 2-position 1-pole, 3-position 2-pole, 3-position						
	Vertical	1-pole, 2-position	250					
SSAG, SSAJ, SSSS8, SSS7			260					

⚠Note

1. The condition mentioned above is the temperature on the mounting surface of a PC board. There are cases where the PC board' s temperature greatly differs from that of the switch, depending on the PC board' s material, size, thickness, etc. The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines. Prior verification of soldering condition is highly recommended.

■ Reference for Hand Soldering

Series	Soldering temperature	Soldering time
SSSF, SSSU	350±10℃	3+1/0s
SSSS2	350±10℃	4s max.
SSSS9	350±10℃	3s max.
SSAG, SSAJ	350±5℃	3s max.
SSSS8	330±5℃	3s max.
SSSS7	320±5℃	3s max.

■ Reference for Dip Soldering

(For PC board terminal types)

Series	Items		Dip soldering	
	Preheating temperature	Preheating time	Soldering temperature	Duration of immersion
SSSS2	100℃ max.	60s max.	260±5℃	3±1s
SSSS9	120℃ max.	60s max.	260±5℃	5+0/-1s (2 times)
SSSF, SSSU	100℃ max.	60s max.	260±5℃	10±1s/5±1s

Slide Switches / Cautions

1. Appling load to terminals during soldering under certain conditions may cause deformation and electrical property degradation.
2. Avoid use of water-soluble soldering flux, since it may corrode the switches.
3. Check and conform to soldering requirements under actual mass production conditions.
4. When soldering twice, wait until the first soldered portion cools to normal temperature. Continuous heating will deform the external portions, loosen or dislodge terminals, or may deteriorate their electrical characteristics.
5. Flux from around and above the PC board should not adhere to the switches.
6. After mounting the switches, if you intend to put the board into an oven in order to harden adhesive for other parts, please consult with us.
7. If you use a through-hole PC board or a PC board thinner or thicker than the recommendation, here may be greater heat stress. Verify the soldering conditions thoroughly before use.
8. Solder the switches with detent at the detent position. Soldering switches fixed at the center of the detent may deform the detent mechanisms.
9. No cleaning.
10. Protect small and thin switches from external forces in the set mounting process.
11. Tighten the mounting screws by applying the specified torque. Tightening with larger torque than the specified one will result in malfunction or breakage of screws.
12. Insert these switches to the specified mounting surface and mount them horizontally. If not mounted horizontally, these switches will malfunction.
13. The products are designed and manufactured for direct current resistance. Contact us for use of other resistances such as inductive (L) or capacitive (C).
14. The switch will be break if you apply a greater stress than that specified. Take great care not to let the switch be subject to greater stress than specified.
15. Use of the switches in a dusty environment may lead the dusts entering through the openings and cause imperfect contact or malfunction. Take this into account for set design.
16. Corrosive gas if generated by peripheral parts of a set, malfunction such as imperfect contact may occur. Thorough investigation shall be required beforehand.
17. Storage
    Store the products as delivered at normal temperature and humidity, out of direct sunlight and away from corrosive gases. Use them as soon as possible and no later than six months after delivery.
    Once the seal is broken, use them as soon as possible.

Switches

Push Switches

List of Varieties

Series			SPPJ3	SPPJ2	SPUJ	SPUN	SPEJ	SPPH4	SPPH1
Photo									
Dimensions (mm)			12.0×5.0×8.3 12.0×6.6×8.3	12.0×7.2×9.6 14.0×17.7×9.6	15.2×7.5×8.8	24.0×10.0×13.0	7.0×7.0×5.95	8.5×6.5×8.5	10.0×10.0×8.5
Travel (mm)			2.5		2.0	2.5	—	2.2	1.5
Total travel (mm)			3.5		3.0	3.5	1.7	3.0	2.5
Poles			1 2	2	2 4		2		
Operating force			2.3 ±1N 3.3 ±1N	3 ±1.5N	1.5 ±1N 2.3 ±1N	2 ±1N 2.5 ±1N 3 ±1.5N 4 ±2N	3.5 ±0.7N	2 ±1N	2 (+1, -0.7)N 3 (+1, -0.7)N
Operating temperature range			-40℃ to +85℃	-10℃ to +60℃			-40℃ to +85℃	-10℃ to +60℃	
Rating (max.)/(min.) (Resistive load)			0.2A 30V DC/50μA 3V DC		0.1A 30V DC/ 50μA 3V DC	0.1A 30V DC/ 50μA 3V DC 1A 25V DC/ -	0.2A 14V DC/ -	0.1A 30V DC/50μA 3V DC	
Electrical performance	Contact resistance (Initial performance/ After lifetime)		20mΩ max./40mΩ max.				150mΩ max./ 150mΩ max.	100mΩ max. (Initial performance)	20mΩ max./ 40mΩ max.
	Insulation resistance		100MΩ min. 500V DC						
	Voltage proof		500V AC for 1 minute						
Mechanical performance	Terminal strength		5N for 1 minute				—	5N for 1 minute	
	Actuator strength	Operating direction	50N	30N	50N		49N	30N	50N
		Pulling direction	—		50N		—	10N	—
Durability	Operating life without load		10,000 cycles 40mΩ max.			10,000 cycles 40mΩ max. 30,000 cycles 40mΩ max.	10,000 cycles 150mΩ max.	10,000 cycles 100mΩ max.	10,000 cycles 40mΩ max.
	Operating life with load (at max. rated load)		10,000 cycles 40mΩ max.			5,000 cycles 40mΩ max. 10,000 cycles 40mΩ max.	10,000 cycles 150mΩ max.	10,000 cycles 100mΩ max.	10,000 cycles 40mΩ max.
Environmental performance	Cold		-40℃ 96h	-20℃ 96h			-40℃ 500h	-20℃ 96h	
	Dry heat		85℃ 96h				85℃ 500h	85℃ 96h	
	Damp heat		40℃, 90 to 95%RH 96h				60℃, 90 to 95%RH 500h	40℃, 90 to 95%RH 96h	
Automotive			●	●	—	—	●	—	●

Note

● Indicates applicability to all products in the series, while ○ indicates applicability to some products in the series.

Push Switches

Series			SPEF	SPED2	SPED3	SPED4
Photo						
Dimensions (mm)			9.4×9.0×6.9	16.8×14.0×9.5	18.0×14.0×7.4	18.0×14.0×7.27
Travel (mm)			- 1.5	—		
Total travel (mm)			2.7	4.5	3.8	
Poles			1	1 2	1	
Operating force			3 N 5 N	4.17 ±0.74N		
Operating temperature range			-40℃ to +85℃		-40℃ to +95℃	
Rating (max.)/(min.) (Resistive load)			1A 14.5V DC/ 50μA 3V DC	1A 14.5V DC/ -	2A 14.5V DC/ -	
Electrical performance	Contact resistance (Initial performance/ After lifetime)		100mΩ max./ 1Ω max.	100mΩ max./100mΩ max.		
	Insulation resistance		3MΩ min. 100V DC	3MΩ min. 500V DC		
	Voltage proof		100V AC for 1 minute			
Mechanical performance	Terminal strength		—			
	Actuator strength	Operating direction	90N		98N	90N
		Pulling direction	30N	—		
Durability	Operating life without load		—			
	Operating life with load (at max. rated load)		30,000 cycles 100mΩ max.			
Environmental performance	Cold		-40℃ 96h			
	Dry heat		85℃ 96h	85℃ 96h 105℃ 192h	105℃ 192h	
	Damp heat		40℃, 90 to 95%RH 96h			
Automotive			●	●	●	●

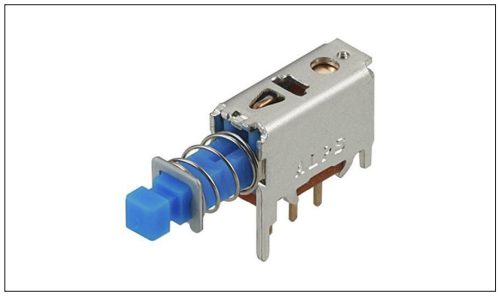
⚠Note

● Indicates applicability to all products in the series, while ○ indicates applicability to some products in the series.

2.5mm-travel Compact-sized Horizontal Type

SPPJ3 Series

Compact type with a lever height of 4.7mm.



Automotive

- Rating (max.)/(min.) (Resistive load):0.2A 30V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  20mΩ max./40mΩ max.
- Operating life without load:10,000 cycles 40mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 40mΩ max.

Applications:Healthcare:Healthcare equipment
Automotive:Navigation/audio systems, HVAC

■ Product List

Products No.	Travel (mm)	Total travel (mm)	Poles	Operating force	Changeover timing	Mounting method	Operation	Terminal type	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SPPJ310500	2.5	3.5	1	2.3±1N	Non shorting	PC board	Latching	For PC board	12.0×5.0×8.3	●	1
SPPJ311500	2.5	3.5	1	2.3±1N	Non shorting	PC board	Momentary	For PC board	12.0×5.0×8.3	●	
SPPJ320600	2.5	3.5	2	3.3±1N	Non shorting	PC board	Latching	For PC board	12.0×6.6×8.3	●	2
SPPJ322300	2.5	3.5	2	3.3±1N	Non shorting	PC board	Momentary	For PC board	12.0×6.6×8.3	●	

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.
4. The SPPJ3 series should be operated in the direction of the arrow 2 as shown in the following figure and used within an angle of 15° in reference to the center. If an excessive force is applied from the direction of the arrow 1 against the lever, it might fall as illustrated, resulting in malfunction.

■ Packing Specifications

Bulk

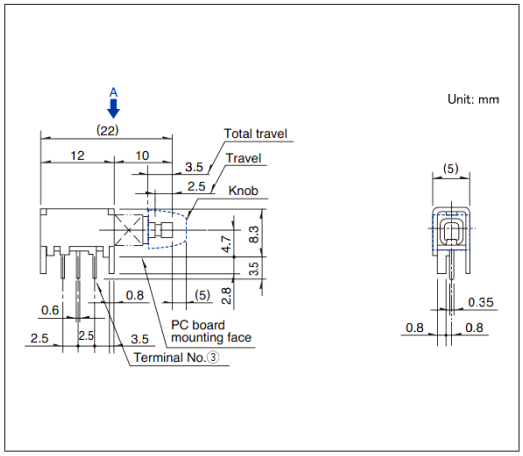
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
900	4,500	400 x 270 x 290

2.5mm-travel Compact-sized Horizontal Type

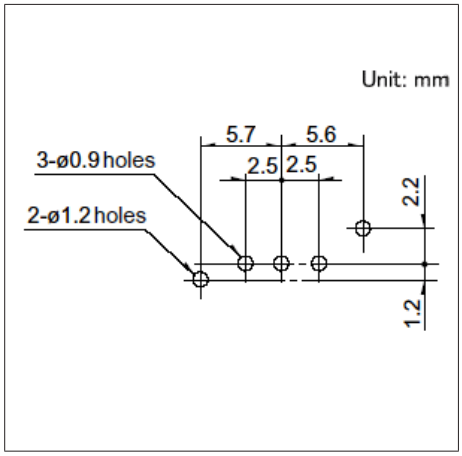
SPPJ3 Series

Drawing No.1

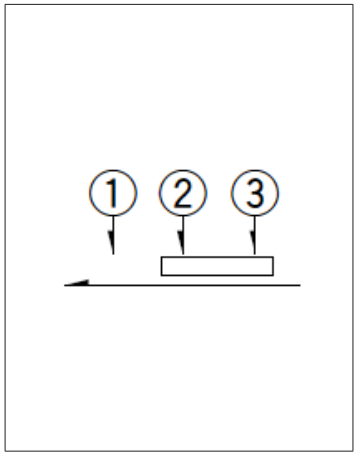
■ Dimensions



■ Mounting Hole Dimensions



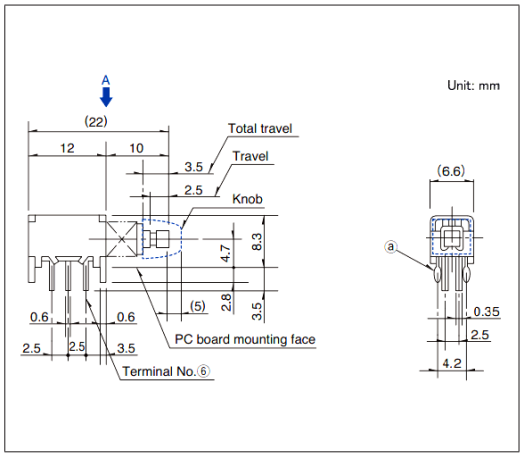
■ Circuit Diagram



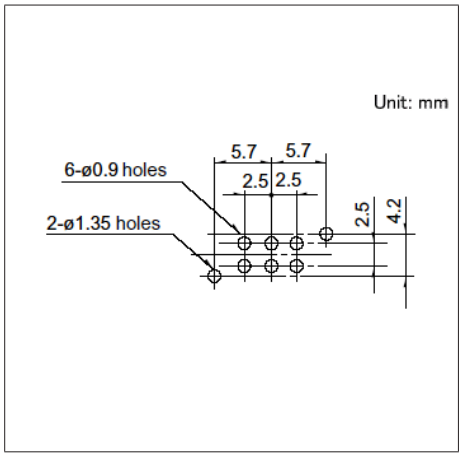
Viewed from direction A in the dimensions.

Drawing No.2

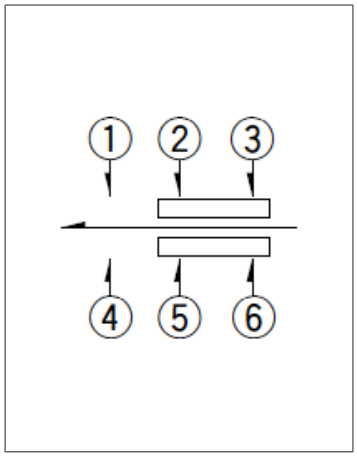
■ Dimensions



■ Mounting Hole Dimensions



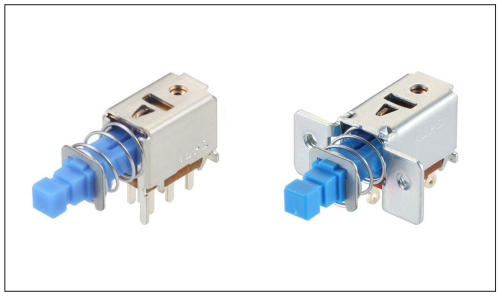
■ Circuit Diagram



Viewed from direction A in the dimensions.

2.5mm-travel Horizontal Type
SPPJ2 Series

Lever height of 5.5mm, mountable directly on panels.



Automotive

- Rating (max.)/(min.) (Resistive load):0.2A 30V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  20mΩ max./40mΩ max.
- Operating life without load:10,000 cycles 40mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 40mΩ max.

Applications:Automotive:Navigation/audio systems, HVAC

■ Product List

Products No.	Travel (mm)	Total travel (mm)	Poles	Operating force	Changeover timing	Mounting method	Operation	Terminal type	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SPPJ222200	2.5	3.5	2	3±1.5N	Non shorting	PC board	Latching	For PC board	12.0×7.2×9.6	●	1
SPPJ223200	2.5	3.5	2	3±1.5N	Non shorting	PC board	Momentary	For PC board	12.0×7.2×9.6	●	
SPPJ225800	2.5	3.5	2	3±1.5N	Non shorting	M2-screw	Latching	Lead	14.0×17.7×9.6	●	2
SPPJ226400	2.5	3.5	2	3±1.5N	Non shorting	M2-screw	Momentary	Lead	14.0×17.7×9.6	●	

Note

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2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

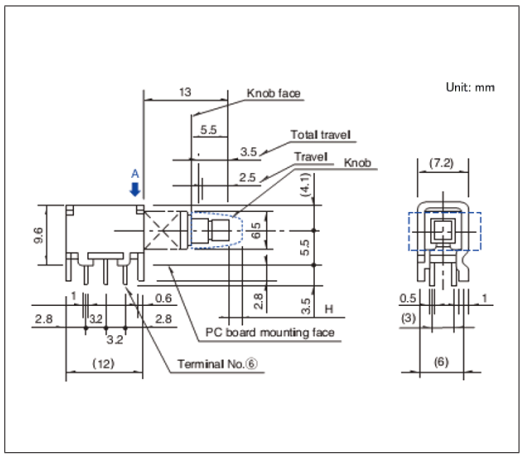
■ Packing Specifications

Bulk

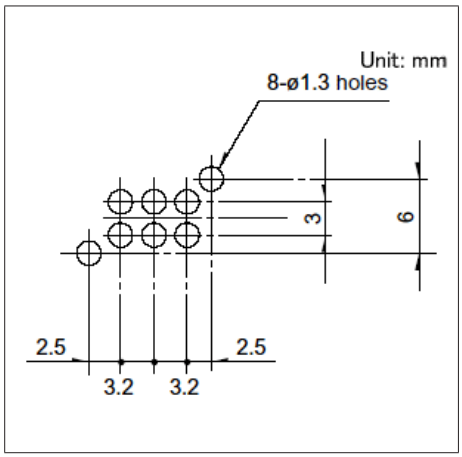
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SPPJ222200 SPPJ223200	700	3,500	400 x 270 x 290
SPPJ225800 SPPJ226400	500	2,500	400 x 270 x 290

Drawing No.1

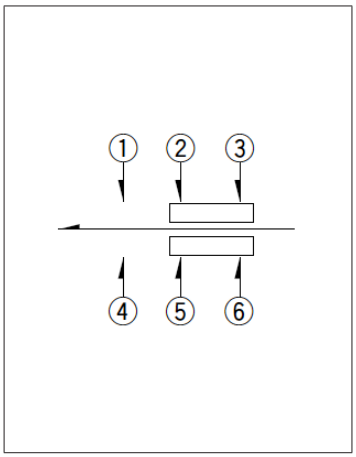
■ Dimensions



■ Mounting Hole Dimensions



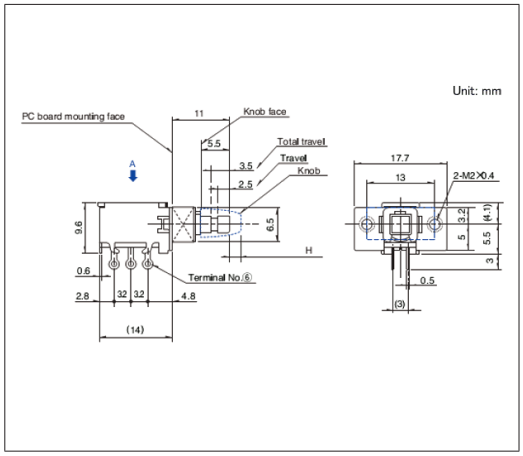
■ Circuit Diagram



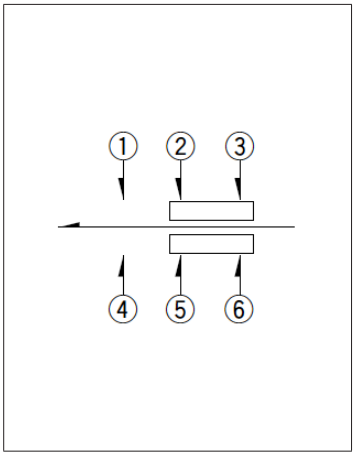
Viewed from direction A in the dimensions.

Drawing No.2

■ Dimensions



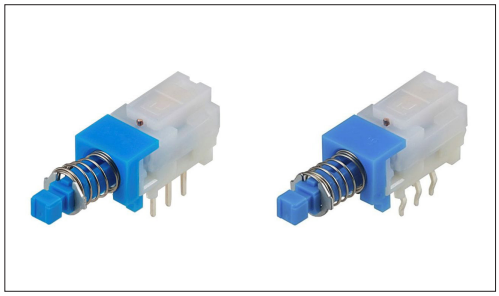
■ Circuit Diagram



2.0mm-travel Horizontal Type

SPUJ Series

Lever height of 5.0mm, supporting multi-circuit configurations.



- Rating (max.)/(min.) (Resistive load):0.1A 30V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  20mΩ max./40mΩ max.
- Operating life without load:10,000 cycles 40mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 40mΩ max.

Applications:Audio_TV:Audio

■ Product List

Products No.	Travel (mm)	Total travel (mm)	Poles	Operating force	Changeover timing	Mounting method	Operation	Terminal type	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SPUJ190900	2.0	3.0	2	1.5±1N	Non shorting	PC board	Latching	Straight	15.2×7.5×8.8	—	1
SPUJ191000	2.0	3.0	2	1.5±1N	Non shorting	PC board	Latching	Snap-in	15.2×7.5×8.8	—	2
SPUJ191500	2.0	3.0	2	1.5±1N	Non shorting	PC board	Momentary	Straight	15.2×7.5×8.8	—	1
SPUJ191900	2.0	3.0	2	1.5±1N	Non shorting	PC board	Momentary	Snap-in	15.2×7.5×8.8	—	2
SPUJ193700	2.0	3.0	4	2.3±1N	Non shorting	PC board	Latching	Straight	15.2×7.5×8.8	—	3
SPUJ193900	2.0	3.0	4	2.3±1N	Non shorting	PC board	Latching	Snap-in	15.2×7.5×8.8	—	4
SPUJ194500	2.0	3.0	4	2.3±1N	Non shorting	PC board	Momentary	Straight	15.2×7.5×8.8	—	3

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).

■ Packing Specifications

Bulk

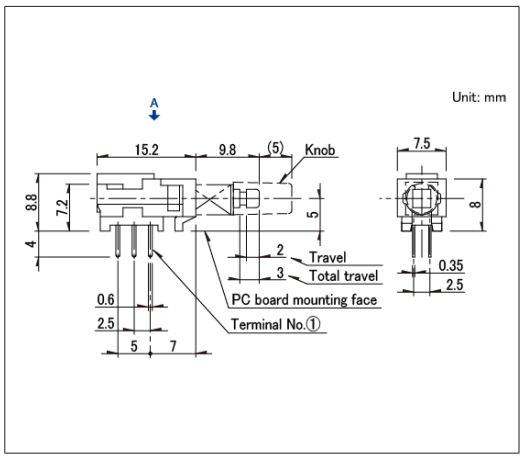
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SPUJ190900 SPUJ191000 SPUJ191500 SPUJ191900	600	3,000	400 x 270 x 290
SPUJ193700 SPUJ193900 SPUJ194500	400	2,000	400 x 270 x 290

2.0mm-travel Horizontal Type

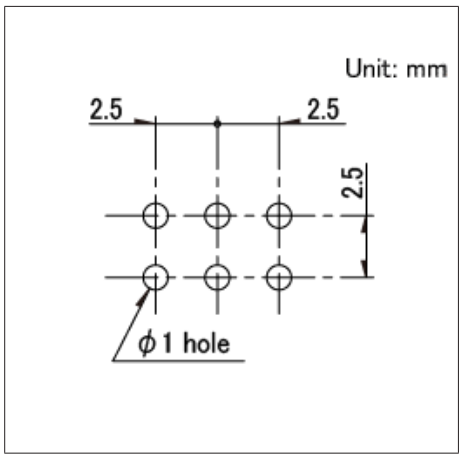
SPUJ Series

Drawing No.1

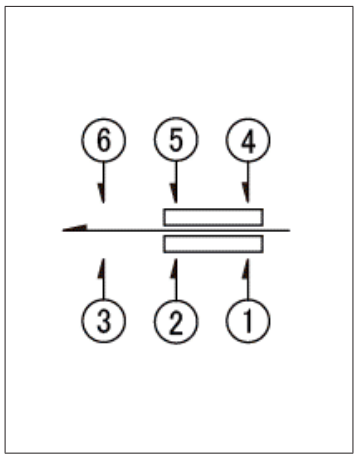
■ Dimensions



■ Mounting Hole Dimensions



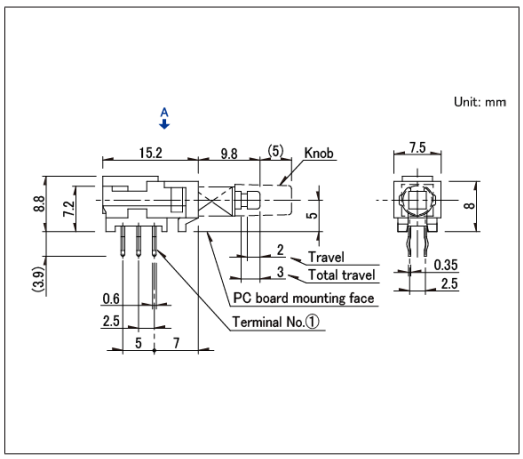
■ Circuit Diagram



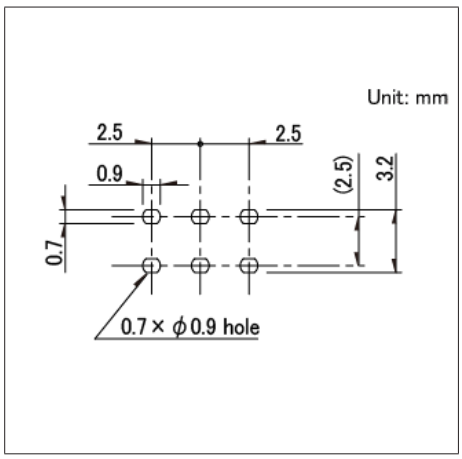
Viewed from direction A in the dimensions.

Drawing No.2

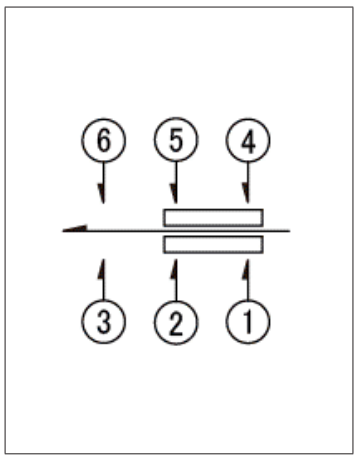
■ Dimensions



■ Mounting Hole Dimensions



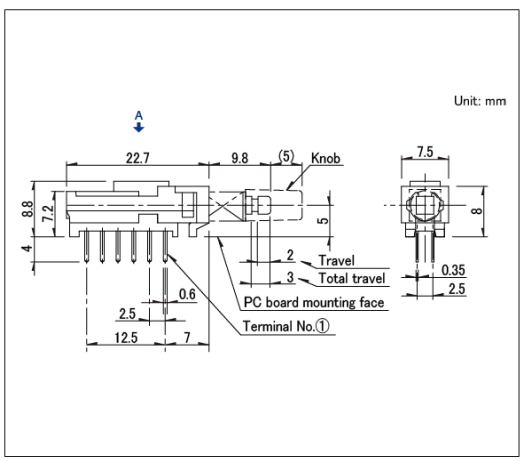
■ Circuit Diagram



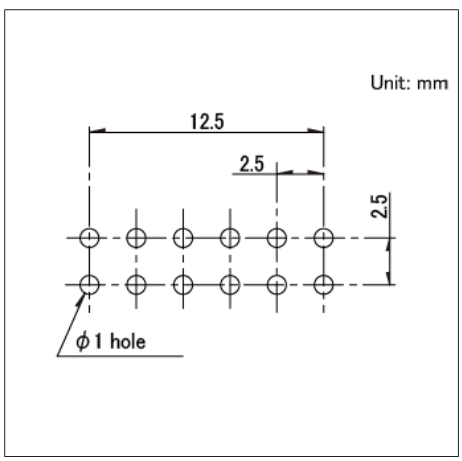
Viewed from direction A in the dimensions.

Drawing No.3

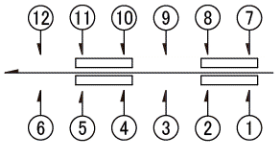
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



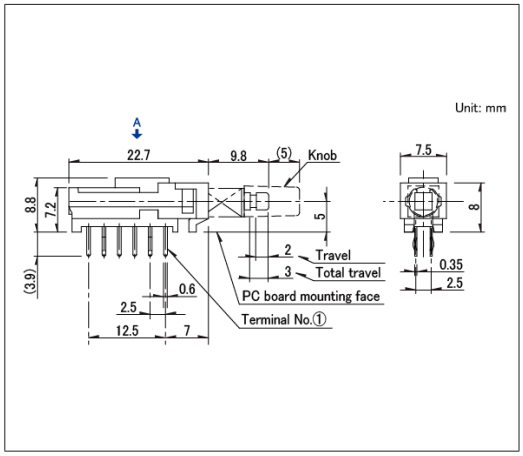
Viewed from direction A in the dimensions.

2.0mm-travel Horizontal Type

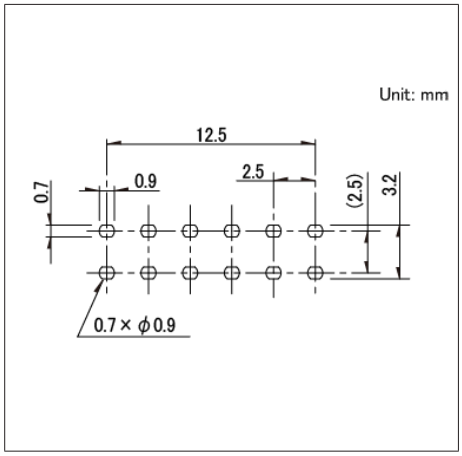
SPUJ Series

Drawing No.4

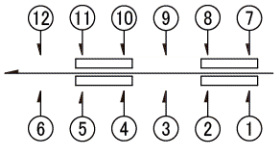
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram

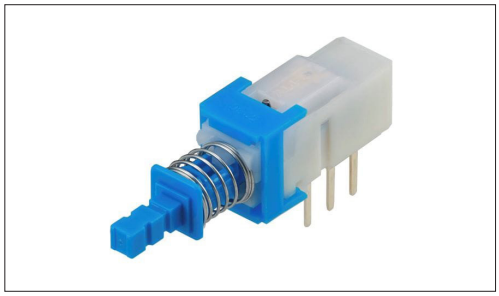


Viewed from direction A in the dimensions.

Switches | Push Switches

2.5mm-travel Large-sized Horizontal Type
SPUN Series

Includes multi-circuit and medium-current options in the lineup.



- Rating (max.)/(min.) (Resistive load):0.1A 30V DC/50μA 3V DC(Standard)
  1A 25V DC/ - (Medium-current)
- Contact resistance (Initial performance/After lifetime):
  20mΩ max./40mΩ max.
- Operating life without load:30,000 cycles 40mΩ max. (Standard)
  10,000 cycles 40mΩ max. (Medium-current)
- Operating life with load (at max. rated load):
  10,000 cycles 40mΩ max. (Standard)
  5,000 cycles 40mΩ max. (Medium-current)

Applications:Audio_TV:Audio

■ Product List

Products No.	Travel (mm)	Total travel (mm)	Rating	Poles	Operating force	Changeover timing	Mounting method	Operation	Terminal type	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SPUN191400	2.5	3.5	Standard	2	2±1N	Non shorting	PC board	Latching	Straight	24.0×10.0×13.0	—	1
SPUN191600	2.5	3.5	Standard	2	2±1N	Non shorting	PC board	Latching	Snap-in	24.0×10.0×13.0	—	2
SPUN190900	2.5	3.5	Standard	2	2±1N	Non shorting	PC board	Momentary	Straight	24.0×10.0×13.0	—	1
SPUN191000	2.5	3.5	Standard	2	2±1N	Non shorting	PC board	Momentary	Snap-in	24.0×10.0×13.0	—	2
SPUN194700	2.5	3.5	Standard	4	2.5±1N	Non shorting	PC board	Latching	Straight	24.0×10.0×13.0	—	3
SPUN194900	2.5	3.5	Standard	4	2.5±1N	Non shorting	PC board	Latching	Snap-in	24.0×10.0×13.0	—	4
SPUN192600	2.5	3.5	Medium-current	2	3±1.5N	Non shorting	PC board	Latching	Straight	24.0×10.0×13.0	—	5
SPUN192800	2.5	3.5	Medium-current	2	3±1.5N	Non shorting	PC board	Latching	Snap-in	24.0×10.0×13.0	—	2
SPUN19C400	2.5	3.5	Medium-current	4	4±2N	Non shorting	PC board	Latching	Snap-in	24.0×10.0×13.0	—	4

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).

■ Packing Specifications

Bulk

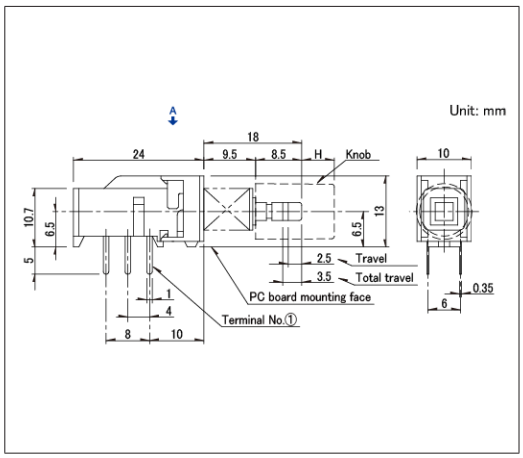
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SPUN191400 SPUN191600 SPUN190900 SPUN191000 SPUN192600 SPUN192800	250	1,250	400 x 270 x 290
SPUN194700 SPUN194900 SPUN19C400	140	700	400 x 270 x 290

2.5mm-travel Large-sized Horizontal Type

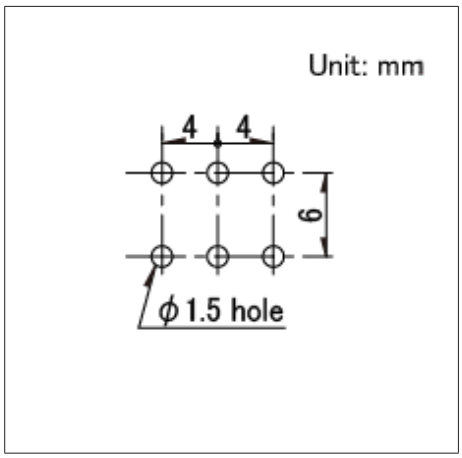
SPUN Series

Drawing No.1

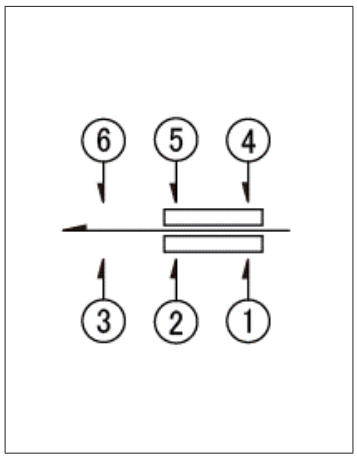
■ Dimensions



■ Mounting Hole Dimensions



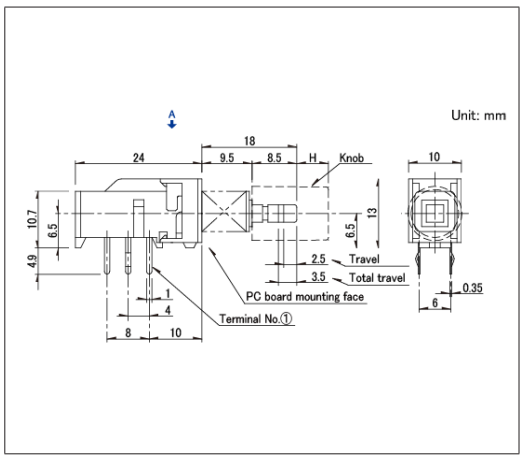
■ Circuit Diagram



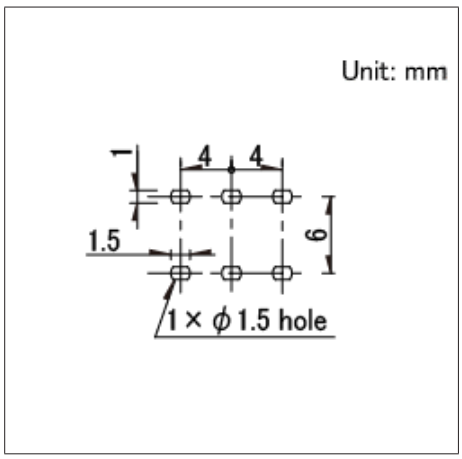
Viewed from direction A in the dimensions.

Drawing No.2

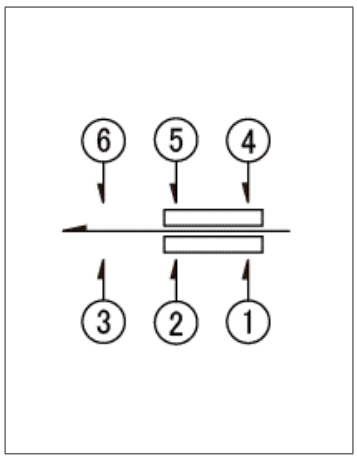
■ Dimensions



■ Mounting Hole Dimensions



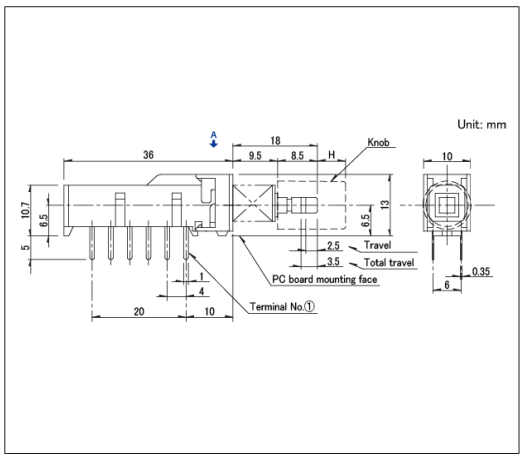
■ Circuit Diagram



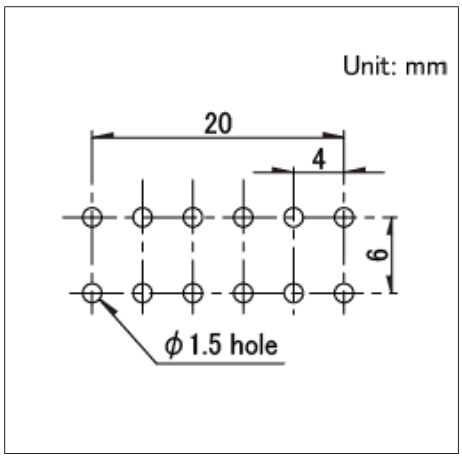
Viewed from direction A in the dimensions.

Drawing No.3

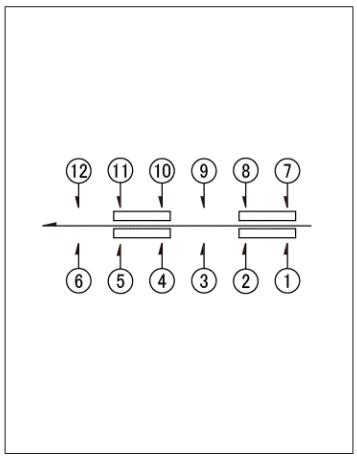
■ Dimensions



■ Mounting Hole Dimensions



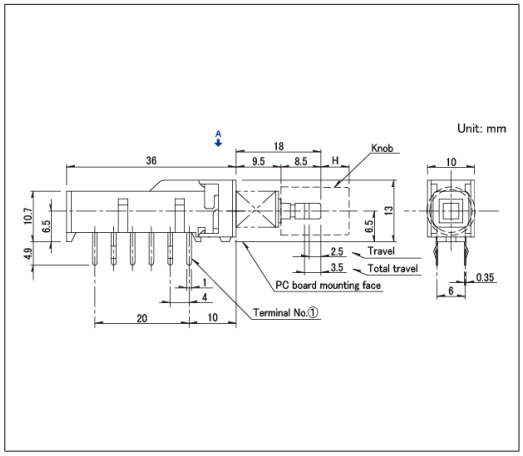
■ Circuit Diagram



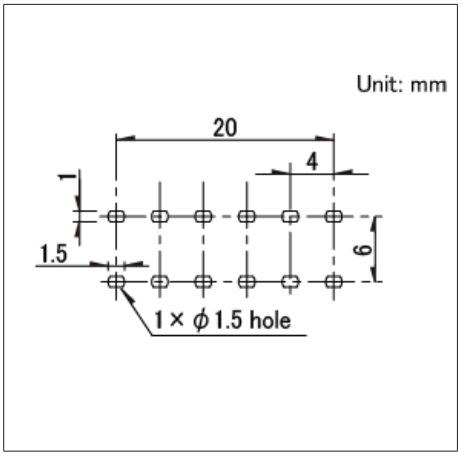
Viewed from direction A in the dimensions.

Drawing No.4

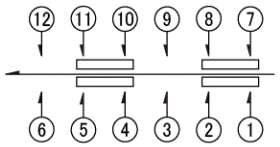
■ Dimensions



■ Mounting Hole Dimensions



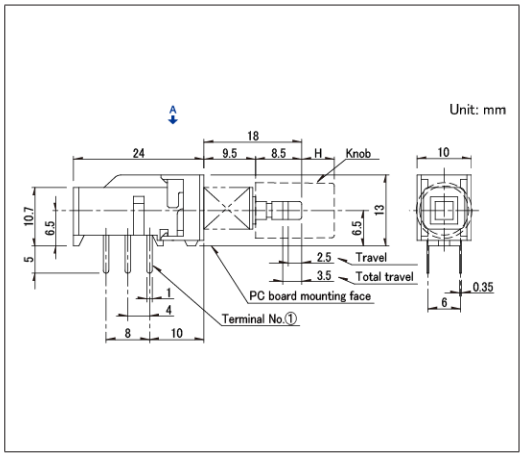
■ Circuit Diagram



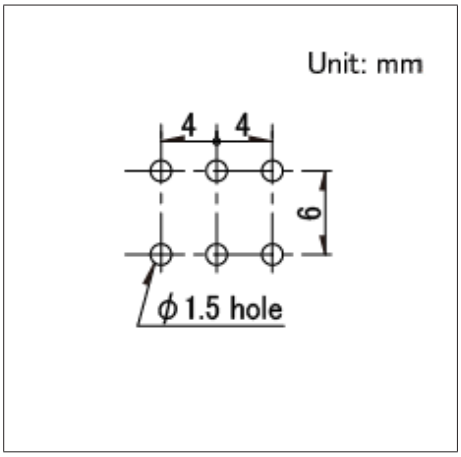
Viewed from direction A in the dimensions.

Drawing No.5

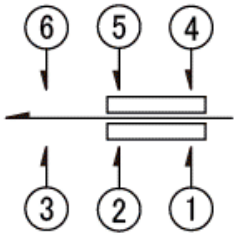
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



Viewed from direction A in the dimensions.

Switches | Push Switches

Compact Momentary Type
SPEJ Series

Dual-circuit, dual-contact momentary action with a satisfying click feel.

Automotive

- Rating (max.)/(min.) (Resistive load):0.2A 14V DC/ -
- Contact resistance (Initial performance/After lifetime):
  150mΩ max./150mΩ max.
- Operating life without load:10,000 cycles 150mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 150mΩ max.

Applications:Automotive:Side Mirror,Power Windows

■ Product List

Products No.	Total travel (mm)	Poles	Positions	Operating force	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SPEJ110100	1.7	2	2	3.5±0.7N	7.0×7.0×5.95	●	1

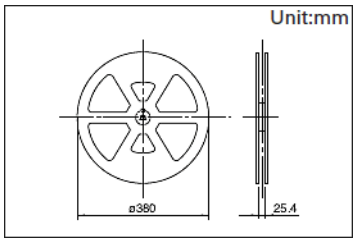
Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders for taping products per minimum order unit (1 reel or a case).

■ Packing Specifications

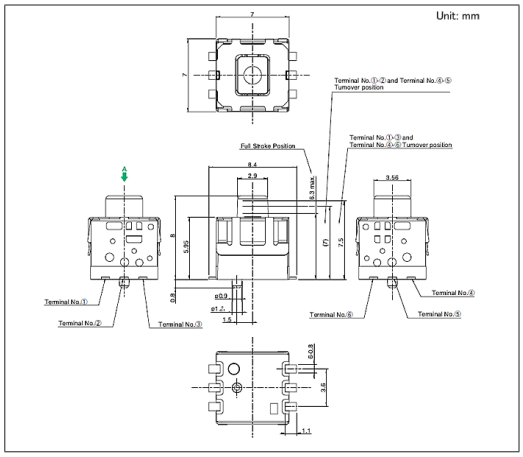
Taping

Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
500	1,000	2,000	24	404 x 397 x 140

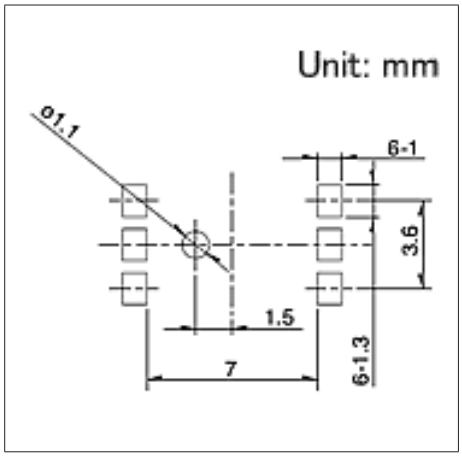


Drawing No.1

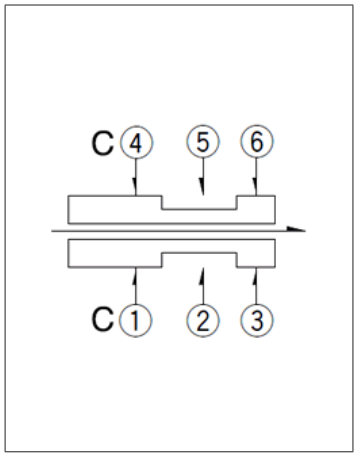
■ Dimensions



■ Recommend Pattern



■ Circuit Diagram

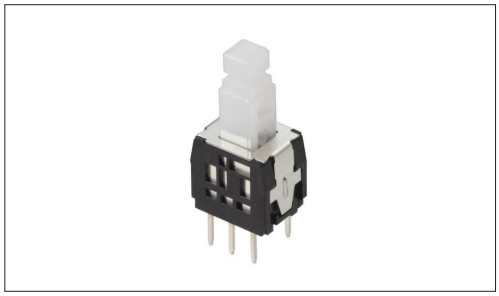


Switches | Push Switches

2.2mm-travel Medium-sized Vertical Type

SPPH4 Series

Medium-sized design prioritizing ease of use.



- Rating (max.)/(min.) (Resistive load):0.1A 30V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  100mΩ max. (Initial performance)
- Operating life without load:10,000 cycles 100mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 100mΩ max.

Applications:Audio_TV:Visual,Audio,Pro audio

■ Product List

Products No.	Travel (mm)	Total travel (mm)	Poles	Operating force	Changeover timing	Mounting method	Operation	Terminal type	Location lug	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SPPH410100	2.2	3.0	2	2±1N	Non shorting	PC board	Latching	Straight	With	8.5×6.5×8.5	—	1
SPPH410200	2.2	3.0	2	2±1N	Non shorting	PC board	Momentary	Straight	With	8.5×6.5×8.5	—	
SPPH420100	2.2	3.0	2	2±1N	Non shorting	PC board	Latching	Straight	Without	8.5×6.5×8.5	—	2
SPPH430100	2.2	3.0	2	2±1N	Non shorting	PC board	Latching	Snap-in	With	8.5×6.5×8.5	—	3
SPPH430200	2.2	3.0	2	2±1N	Non shorting	PC board	Momentary	Snap-in	With	8.5×6.5×8.5	—	

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).

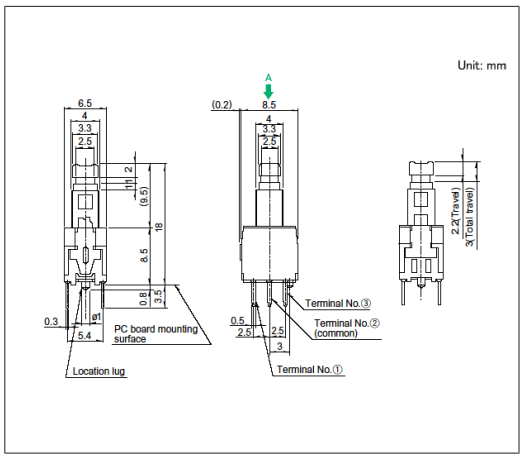
■ Packing Specifications

Bulk

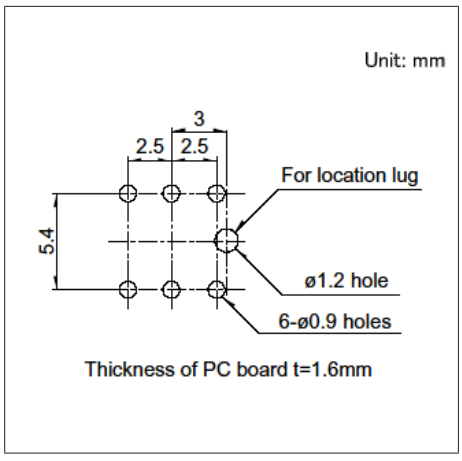
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
1,200	6,000	400 x 270 x 290

Drawing No.1

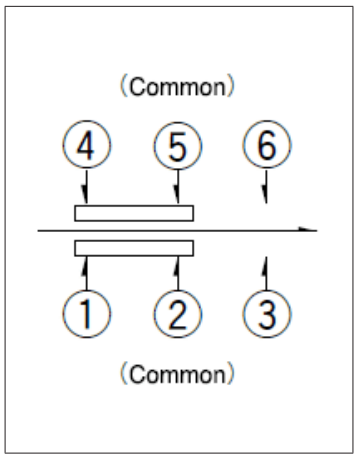
■ Dimensions



■ Mounting Hole Dimensions



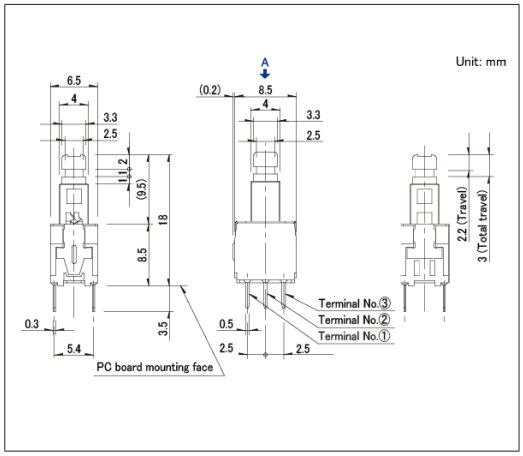
■ Circuit Diagram



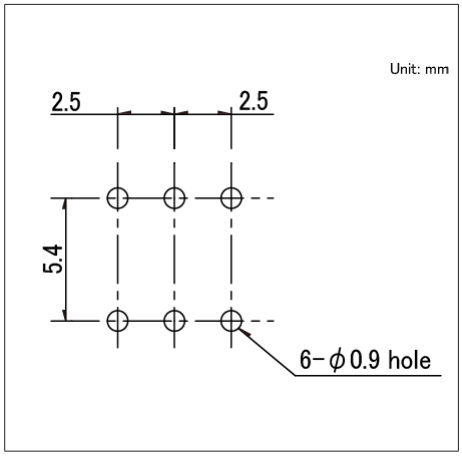
Viewed from direction A in the dimensions.

Drawing No.2

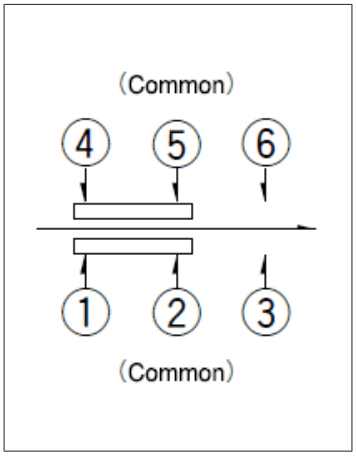
■ Dimensions



■ Mounting Hole Dimensions



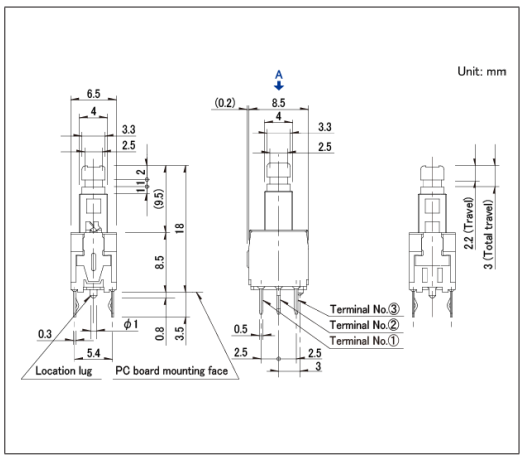
■ Circuit Diagram



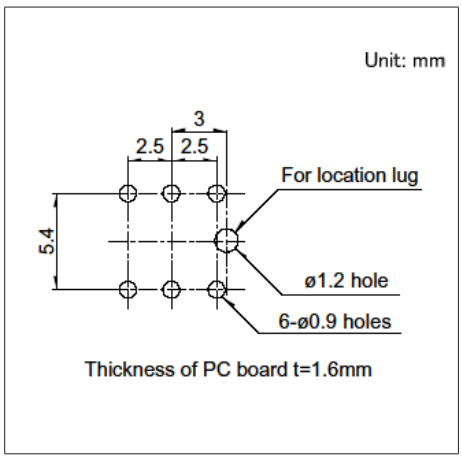
Viewed from direction A in the dimensions.

Drawing No.3

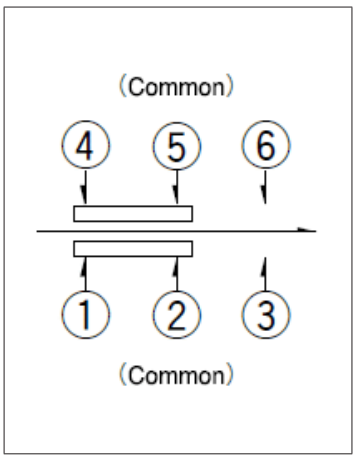
■ Dimensions



■ Mounting Hole Dimensions



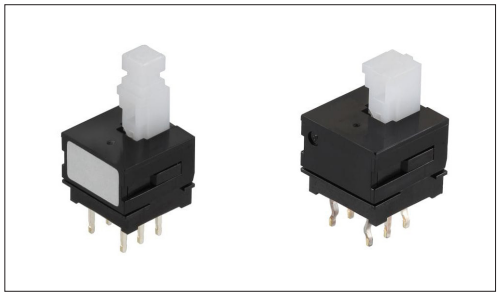
■ Circuit Diagram



Viewed from direction A in the dimensions.

1.5mm-travel Vertical Type
SPPH1 Series

Offers a lineup of two types of knob shapes.



Automotive

- Rating (max.)/(min.) (Resistive load):0.1A 30V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  20mΩ max./40mΩ max.
- Operating life without load:10,000 cycles 40mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 40mΩ max.

Applications:Audio_TV:Visual,Audio,Pro audio
Automotive:Navigation/audio systems, HVAC

■ Product List

Products No.	Travel (mm)	Total travel (mm)	Poles	Operating force	Changeover timing	Mounting method	Operation	Terminal type	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SPPH110800	1.5	2.5	2	2 (+1, -0.7) N	Non shorting	PC board	Latching	Straight	10.0×10.0×8.5	●	1
SPPH110300	1.5	2.5	2	2 (+1, -0.7) N	Non shorting	PC board	Momentary	Straight	10.0×10.0×8.5	●	2
SPPH120400	1.5	2.5	2	2 (+1, -0.7) N	Non shorting	PC board	Latching	Straight	10.0×10.0×8.5	●	3
SPPH120100	1.5	2.5	2	2 (+1, -0.7) N	Non shorting	PC board	Momentary	Straight	10.0×10.0×8.5	●	4
SPPH130400	1.5	2.5	2	2 (+1, -0.7) N	Non shorting	PC board	Latching	Snap-in	10.0×10.0×8.5	●	5
SPPH130100	1.5	2.5	2	2 (+1, -0.7) N	Non shorting	PC board	Momentary	Snap-in	10.0×10.0×8.5	●	6
SPPH140300	1.5	2.5	2	2 (+1, -0.7) N	Non shorting	PC board	Latching	Snap-in	10.0×10.0×8.5	●	7
SPPH140100	1.5	2.5	2	2 (+1, -0.7) N	Non shorting	PC board	Momentary	Snap-in	10.0×10.0×8.5	●	8
SPPH110900	1.5	2.5	2	3 (+1, -0.7) N	Non shorting	PC board	Latching	Straight	10.0×10.0×8.5	●	9
SPPH130500	1.5	2.5	2	3 (+1, -0.7) N	Non shorting	PC board	Latching	Snap-in	10.0×10.0×8.5	●	10
SPPH140400	1.5	2.5	2	3 (+1, -0.7) N	Non shorting	PC board	Latching	Snap-in	10.0×10.0×8.5	●	11

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

■ Packing Specifications

Bulk

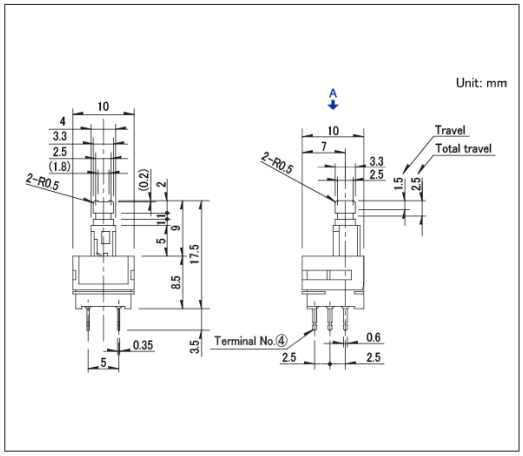
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
800	4,000	400 x 270 x 290

1.5mm-travel Vertical Type

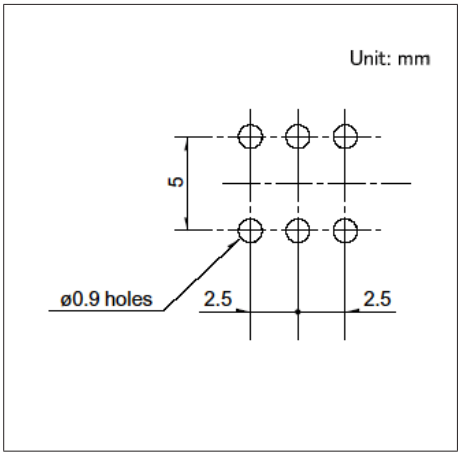
SPPH1 Series

Drawing No.1

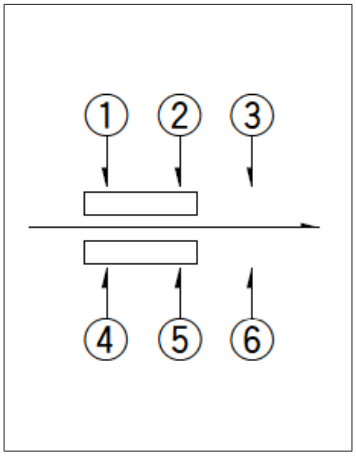
■ Dimensions



■ Mounting Hole Dimensions



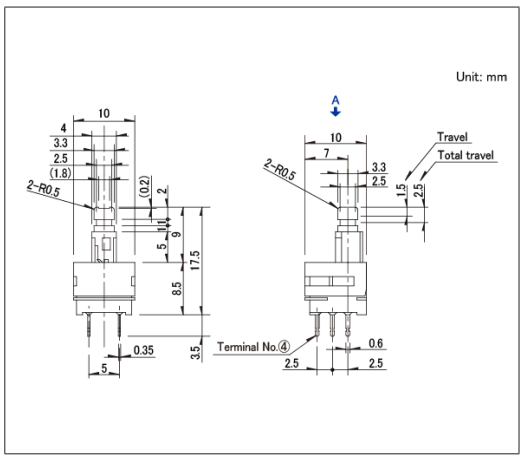
■ Circuit Diagram



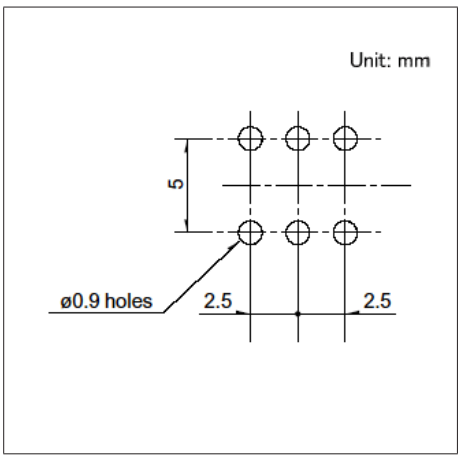
Viewed from direction A in the dimensions.

Drawing No.2

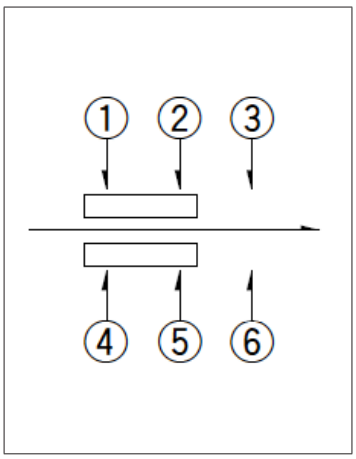
■ Dimensions



■ Mounting Hole Dimensions



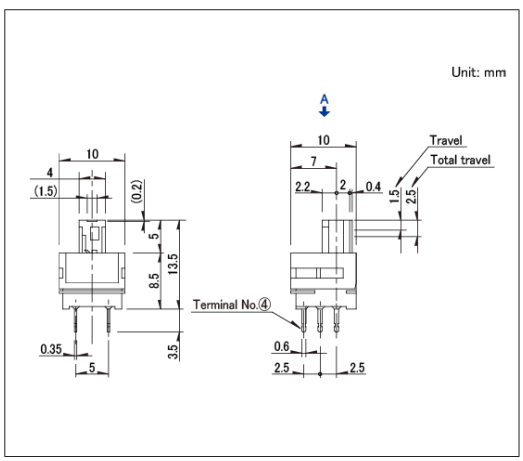
■ Circuit Diagram



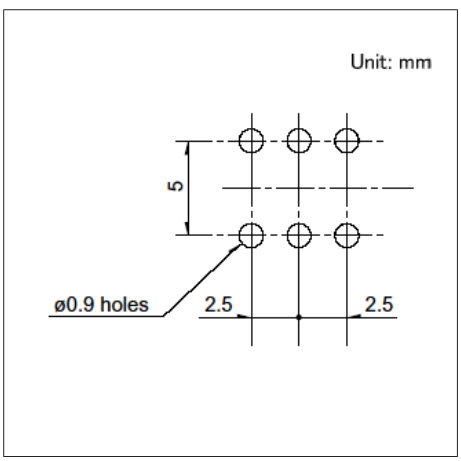
Viewed from direction A in the dimensions.

Drawing No.3

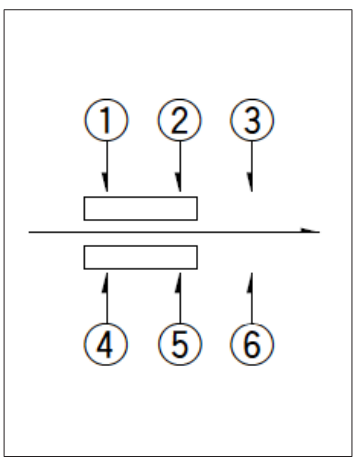
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



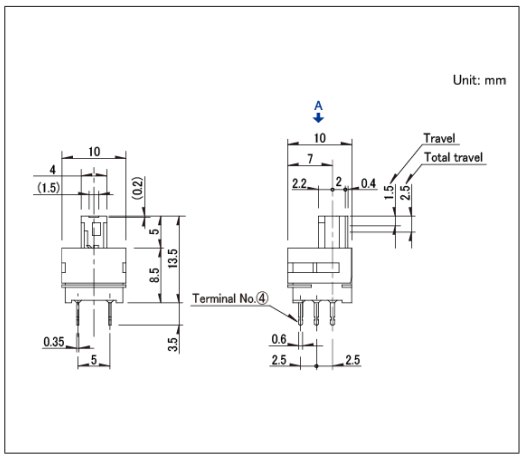
Viewed from direction A in the dimensions.

1.5mm-travel Vertical Type

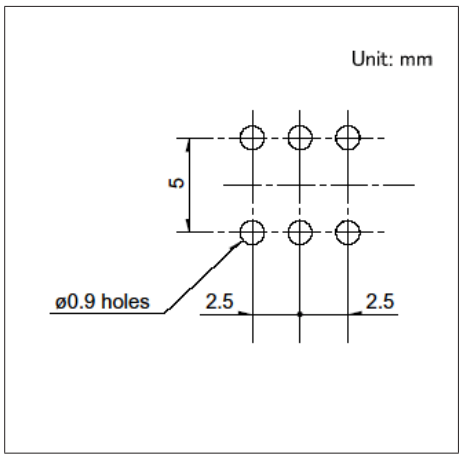
SPPH1 Series

Drawing No.4

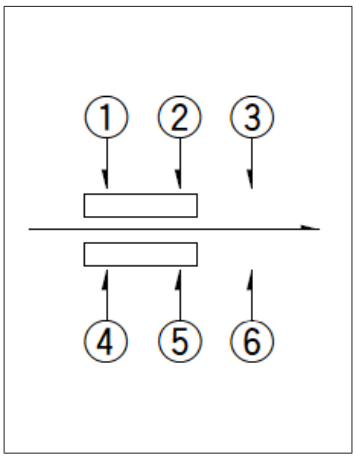
■ Dimensions



■ Mounting Hole Dimensions



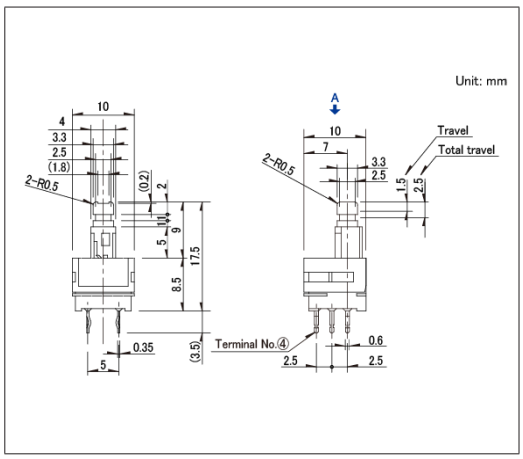
■ Circuit Diagram



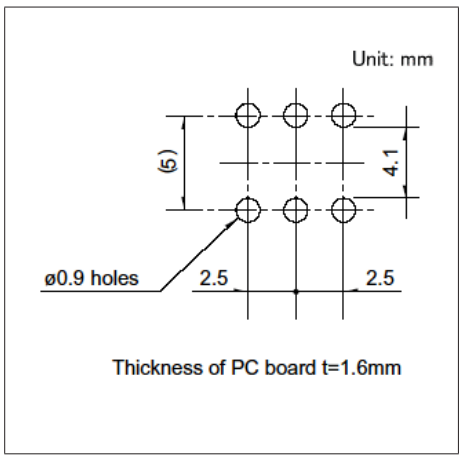
Viewed from direction A in the dimensions.

Drawing No.5

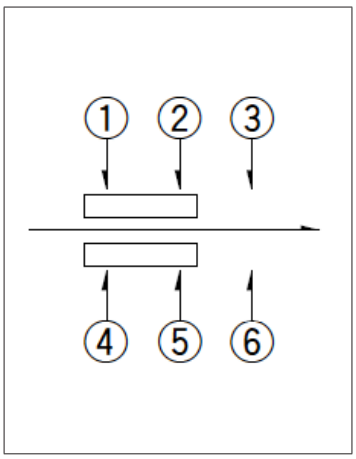
■ Dimensions



■ Mounting Hole Dimensions



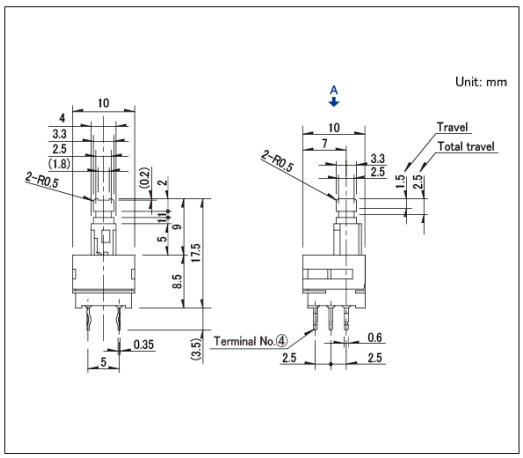
■ Circuit Diagram



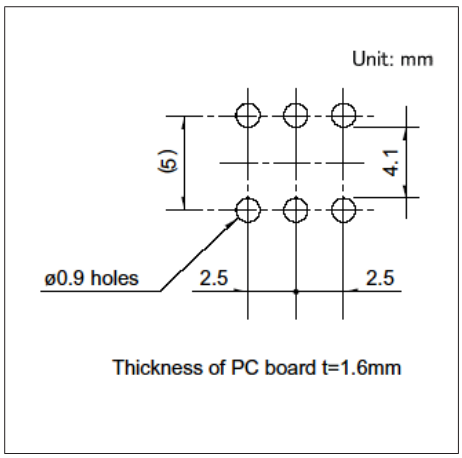
Viewed from direction A in the dimensions.

Drawing No.6

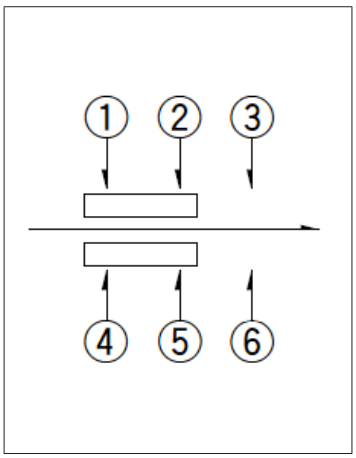
■ Dimensions



■ Mounting Hole Dimensions



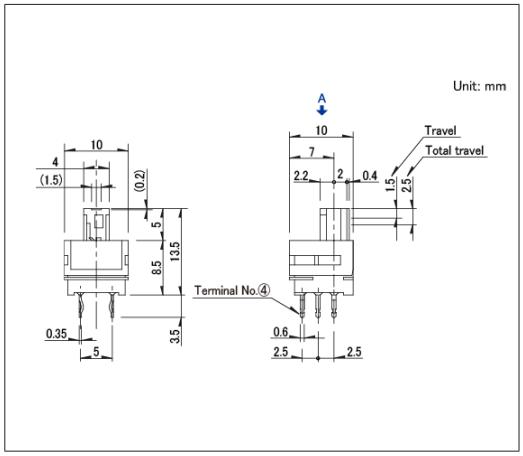
■ Circuit Diagram



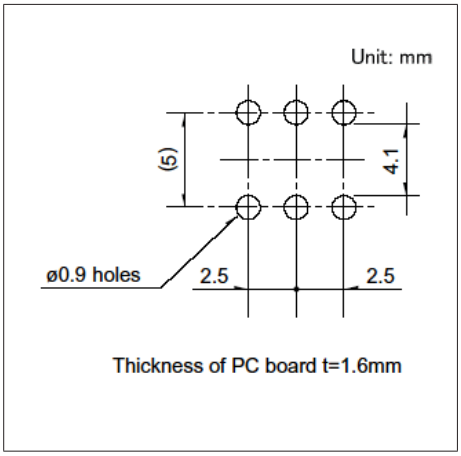
Viewed from direction A in the dimensions.

Drawing No.7

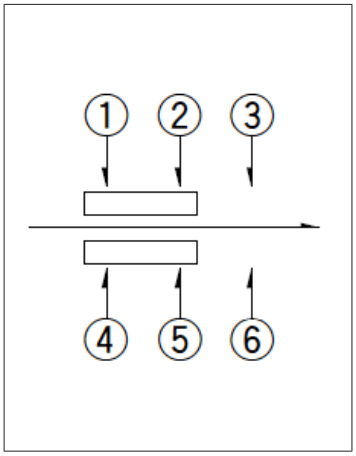
■ Dimensions



■ Mounting Hole Dimensions



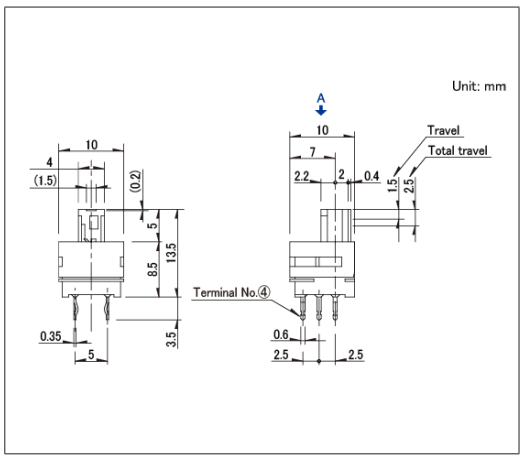
■ Circuit Diagram



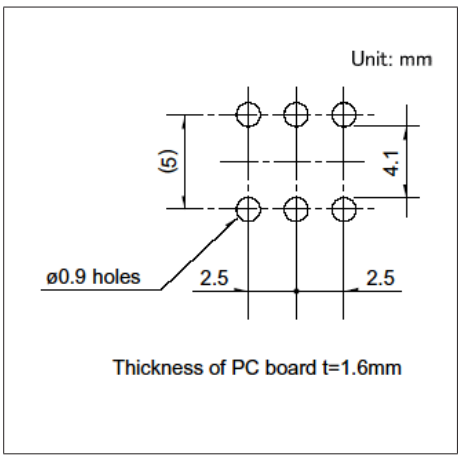
Viewed from direction A in the dimensions.

Drawing No.8

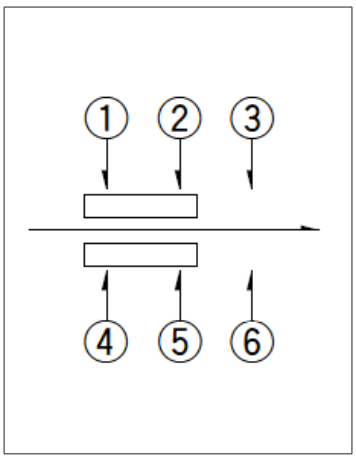
■ Dimensions



■ Mounting Hole Dimensions



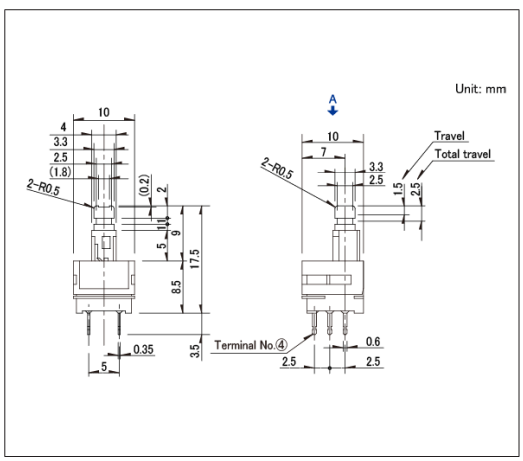
■ Circuit Diagram



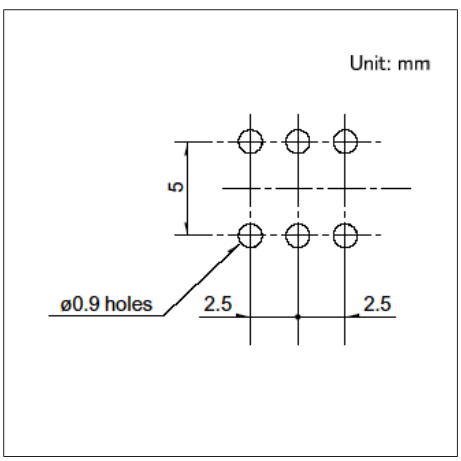
Viewed from direction A in the dimensions.

Drawing No.9

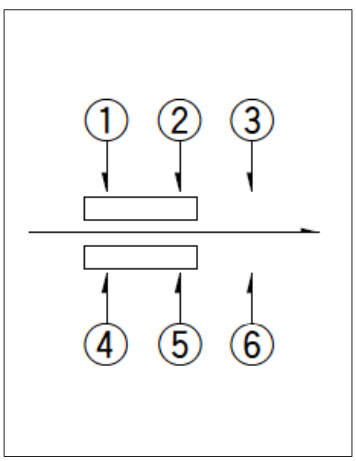
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



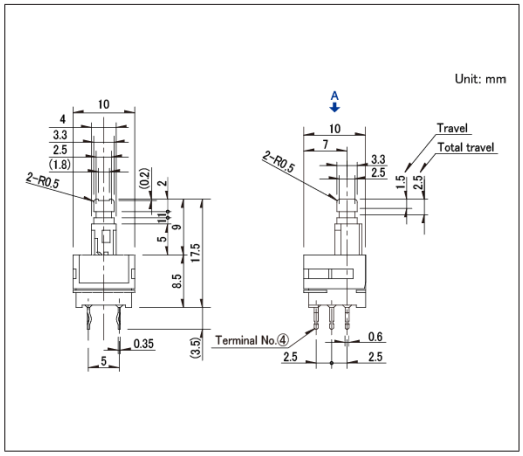
Viewed from direction A in the dimensions.

1.5mm-travel Vertical Type

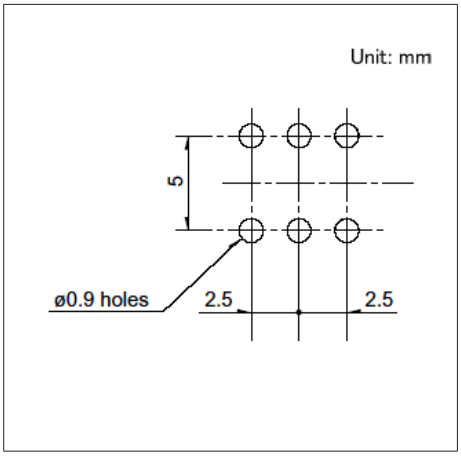
SPPH1 Series

Drawing No.10

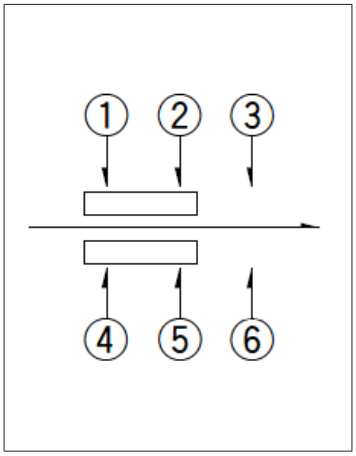
■ Dimensions



■ Mounting Hole Dimensions



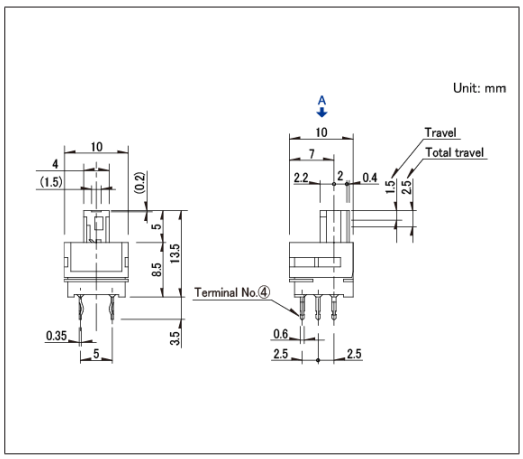
■ Circuit Diagram



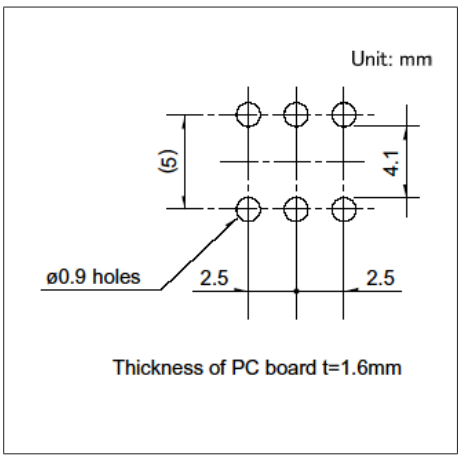
Viewed from direction A in the dimensions.

Drawing No.11

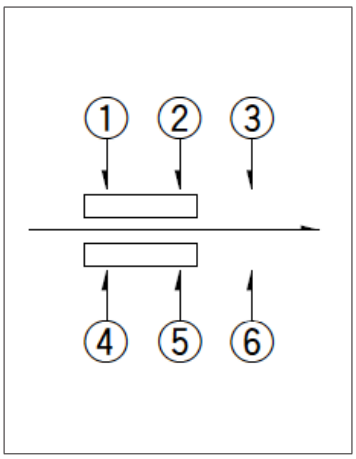
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram

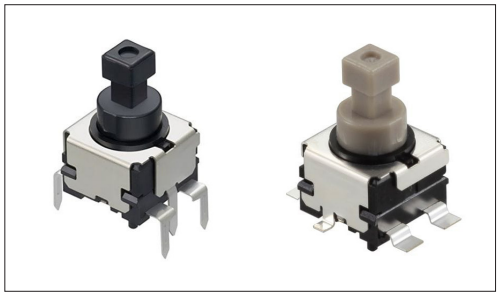


Viewed from direction A in the dimensions.

Switches | Push Switches

1.5mm-travel Vertical Type
SPEF Series

Supports surface mounting with lead-free solder.



Automotive

- Rating (max.)/(min.) (Resistive load):1A 14.5V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):100mΩ max./1Ω max.
- Operating life with load (at max. rated load):30,000 cycles 100mΩ max.

Applications:Automotive:Map Lamp,Hazard Lights

■ Product List

Products No.	Travel (mm)	Total travel (mm)	Poles	Positions	Operating force	Changeover timing	Mounting method	Operation	Terminal type	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SPEF210101	1.5	2.7	1	2	3N	Non shorting	PC board	Latching	Reflow	9.4×9.0×6.9	●	1
SPEF110100	1.5	2.7	1	2	3N	Non shorting	PC board	Latching	Dip	9.4×9.0×6.9	●	2
SPEF210200	1.5	2.7	1	2	5N	Non shorting	PC board	Latching	Reflow	9.4×9.0×6.9	●	1
SPEF110200	1.5	2.7	1	2	5N	Non shorting	PC board	Latching	Dip	9.4×9.0×6.9	●	2
SPEF220100	—	2.7	1	2	3N	Non shorting	PC board	Alternate	Reflow	9.4×9.0×6.9	●	3
SPEF120100	—	2.7	1	2	3N	Non shorting	PC board	Alternate	Dip	9.4×9.0×6.9	●	4
SPEF220200	—	2.7	1	2	5N	Non shorting	PC board	Alternate	Reflow	9.4×9.0×6.9	●	3
SPEF120200	—	2.7	1	2	5N	Non shorting	PC board	Alternate	Dip	9.4×9.0×6.9	●	4

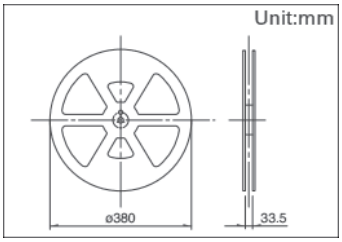
⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

■ Packing Specifications

Taping

Products No.	Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case / Japan	1 case / export packing		
SPEF210101 SPEF210200 SPEF220100 SPEF220200	165	660	1,320	32	403×403×360



Tray

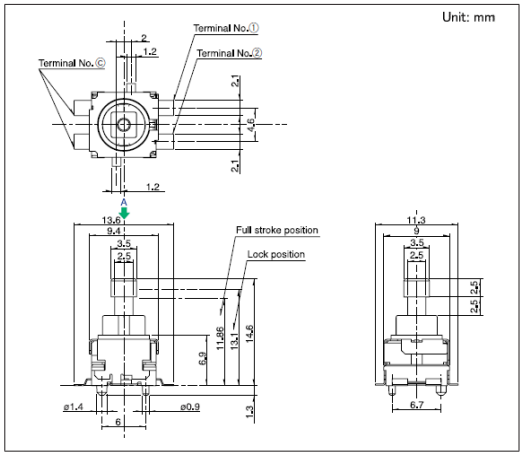
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SPEF110100 SPEF110200 SPEF120100 SPEF120200	1,050	4,200	540 x 360 x 230

1.5mm-travel Vertical Type

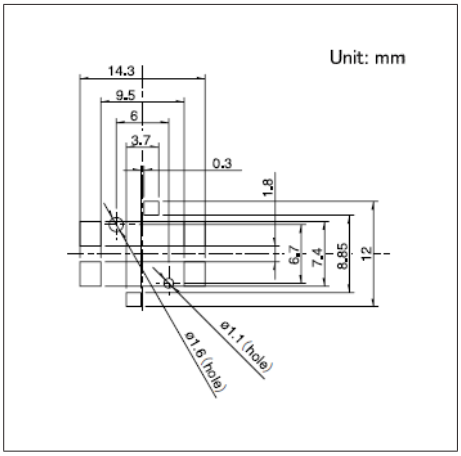
SPEF Series

Drawing No.1

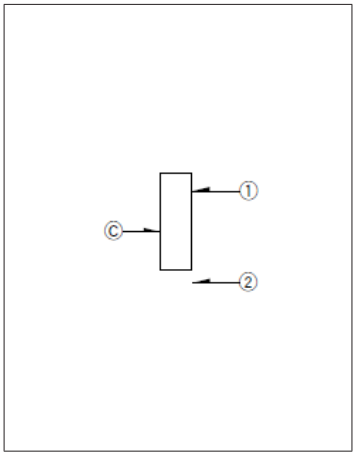
■ Dimensions



■ Land Dimensions



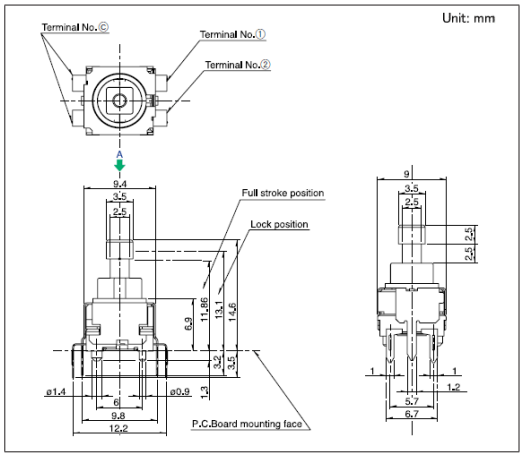
■ Circuit Diagram



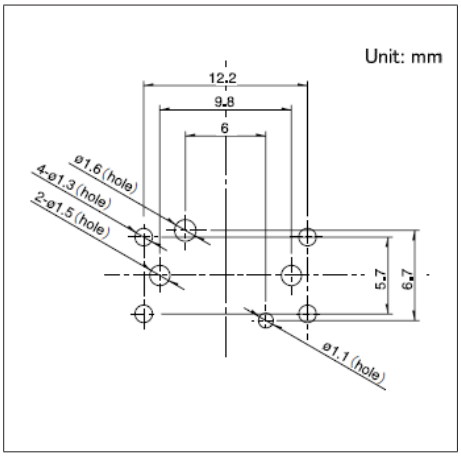
Viewed from direction A in the dimensions.

Drawing No.2

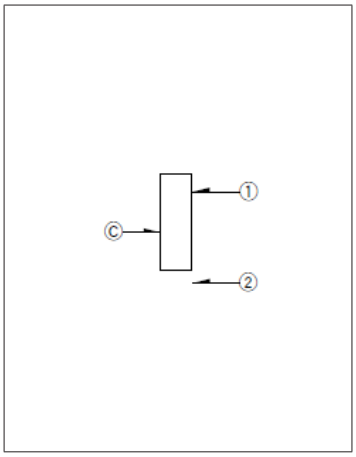
■ Dimensions



■ Mounting Hole Dimensions



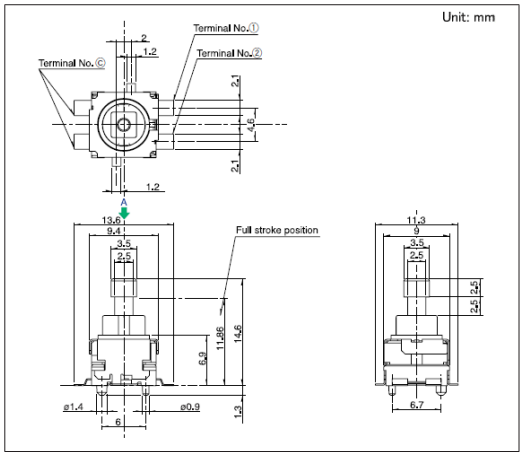
■ Circuit Diagram



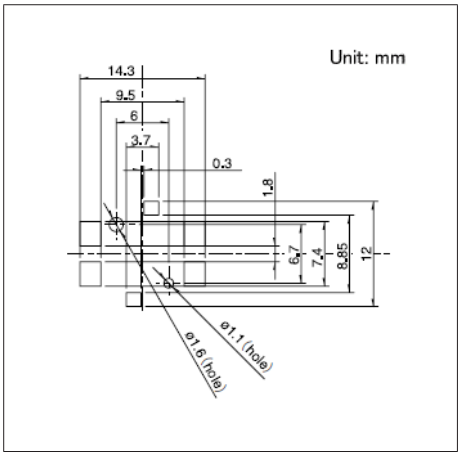
Viewed from direction A in the dimensions.

Drawing No.3

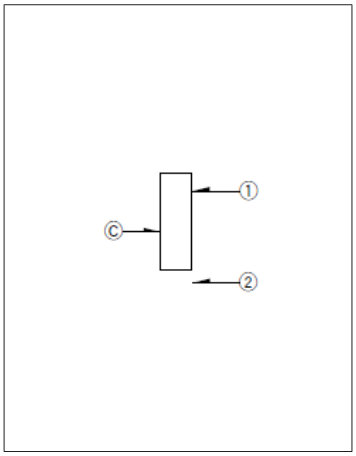
■ Dimensions



■ Land Dimensions



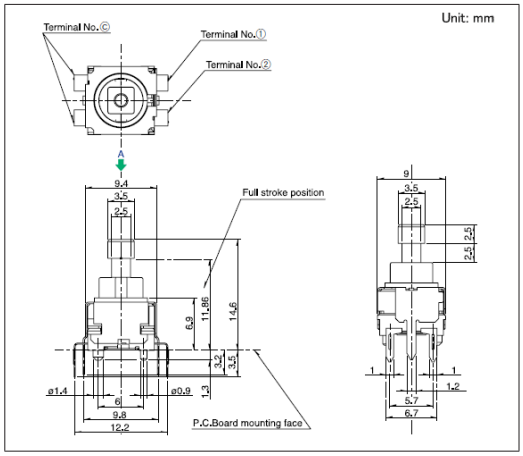
■ Circuit Diagram



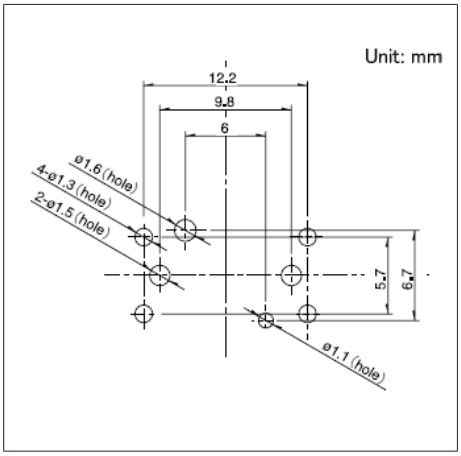
Viewed from direction A in the dimensions.

Drawing No.4

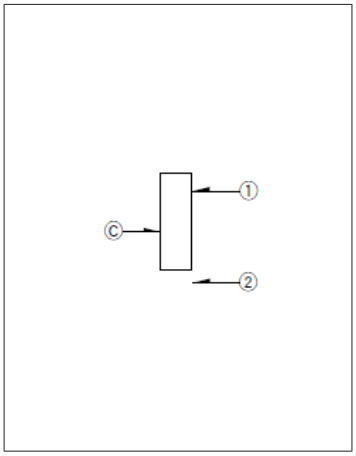
■ Dimensions



■ Land Dimensions



■ Circuit Diagram

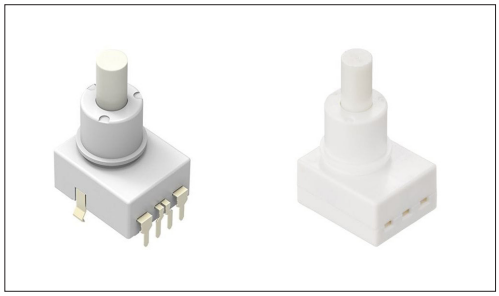


Viewed from direction A in the dimensions.

Switches | Push Switches

4.5mm-travel Push-push Type
SPED2 Series

Provides smooth and linear operation feel.



Automotive

- Rating (max.)/(min.) (Resistive load):1A 14.5V DC/ -
- Contact resistance (Initial performance/After lifetime):
  100mΩ max./100mΩ max.
- Operating life with load (at max. rated load):30,000 cycles 100mΩ max.

Applications:Automotive:Map Lamp

■ Product List

Products No.	Total travel (mm)	Poles	Positions	Operating force	Changeover timing	Mounting method	Operation	Terminal type	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SPED220200	4.5	2	1	4.17±0.74N	Non shorting	PC board	Alternate	For PC board	16.8×14.0×9.5	●	1
SPED210203	4.5	1	2	4.17±0.74N	Non shorting	Connector	Alternate	—	16.8×14.0×9.5	●	2

Note

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2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

■ Packing Specifications

Tray

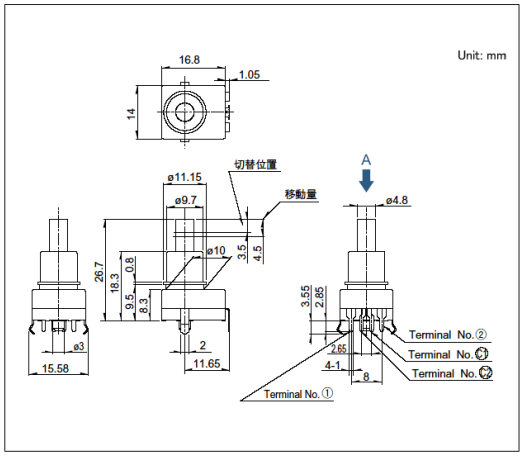
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SPED220200	280	1,120	555 x 375 x 223

Bulk

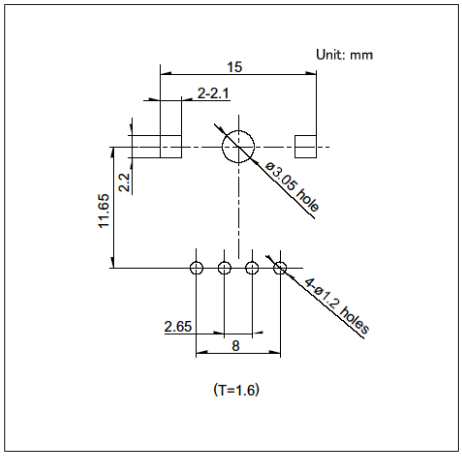
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SPED210203	400	2,000	400 x 270 x 290

Drawing No.1

■ Dimensions

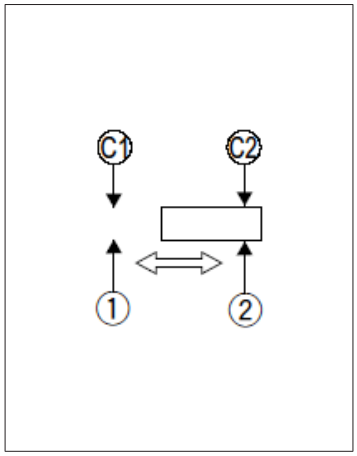


■ Mounting Hole Dimensions



Viewed from direction A in the dimensions.

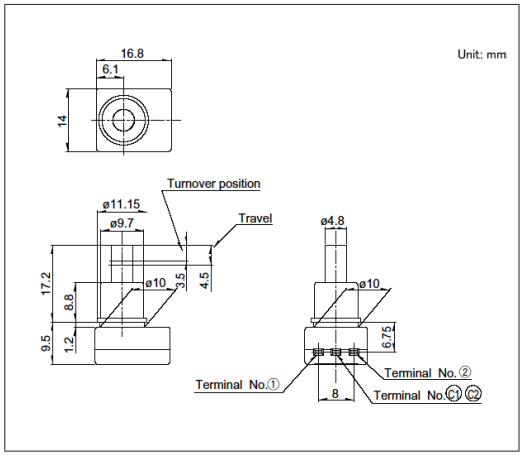
■ Circuit Diagram



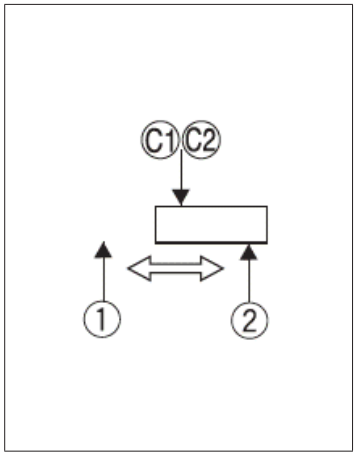
Factory setting for contact points can be either 1 or 2.

Drawing No.2

■ Dimensions



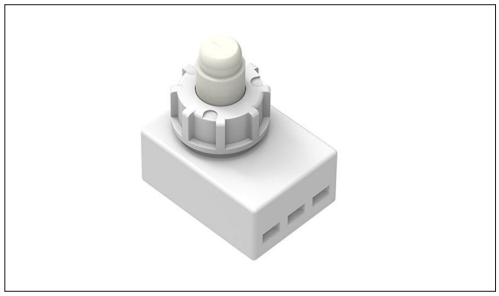
■ Circuit Diagram



Factory setting for contact points can be either 1 or 2.

3.8mm-travel Push-push Type
SPED3 Series

Provides smooth and linear operation feel.



Automotive

- Rating (max.)/(min.) (Resistive load):2A 14.5V DC/ -
- Contact resistance (Initial performance/After lifetime):
  100mΩ max./100mΩ max.
- Operating life with load (at max. rated load):30,000 cycles 100mΩ max.

Applications:Automotive:Map Lamp

■ Product List

Products No.	Total travel (mm)	Poles	Positions	Operating force	Changeover timing	Mounting method	Operation	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SPED310200	3.8	1	2	4.17±0.74N	Non shorting	Connector	Alternate	18.0×14.0×7.4	●	1

Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

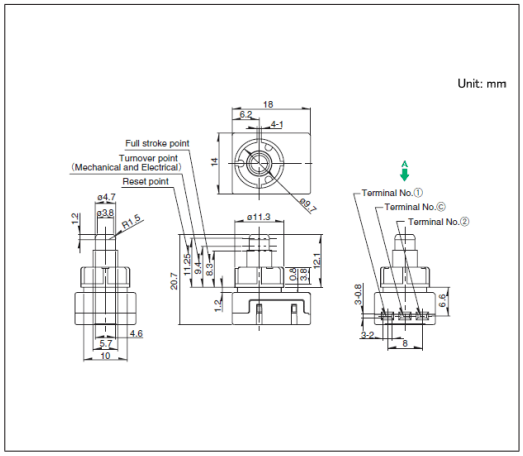
■ Packing Specifications

Bulk

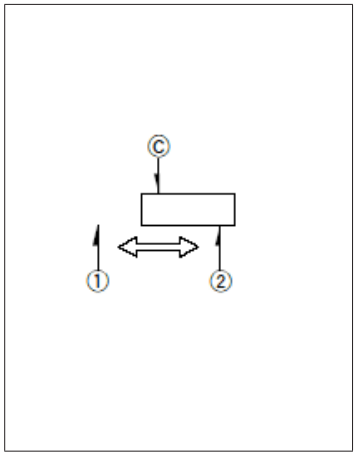
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
500	2,500	400 x 270 x 290

Drawing No.1

■ Dimensions



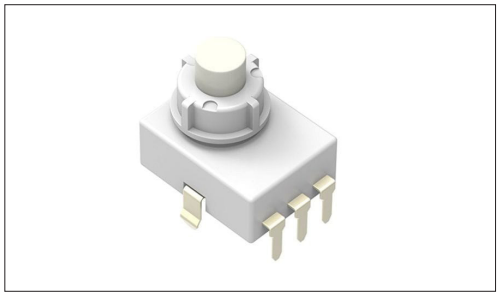
■ Circuit Diagram



Factory setting for contact points can be either 1 or 2.

3.8mm-travel Push-push Type
SPED4 Series

Provides smooth and linear operation feel.



Automotive

- Rating (max.)/(min.) (Resistive load):2A 14.5V DC/ -
- Contact resistance (Initial performance/After lifetime):
  100mΩ max./100mΩ max.
- Operating life with load (at max. rated load):30,000 cycles 100mΩ max.

Applications:Automotive:Map Lamp

■ Product List

Products No.	Total travel (mm)	Poles	Positions	Operating force	Changeover timing	Mounting method	Operation	Terminal type	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SPED420200	3.8	1	2	4.17±0.74N	Non shorting	PC board	Alternate	For PC board	18.0×14.0×7.27	●	1

Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. This products can be used in vehicles.
   Although these products are designed to perform over a wide operating temperature range, please ensure that you receive and read the formal delivery specifications before use.

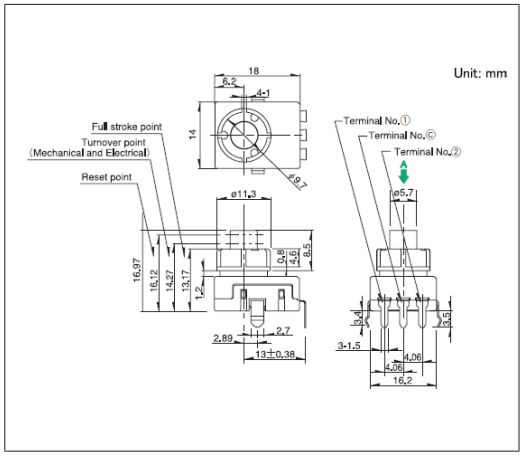
■ Packing Specifications

Tray

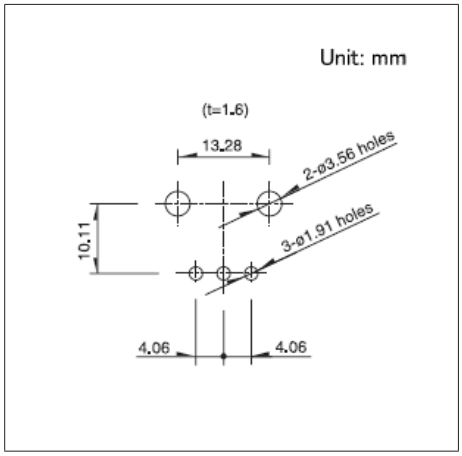
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
280	1,120	555 x 375 x 223

Drawing No.1

■ Dimensions

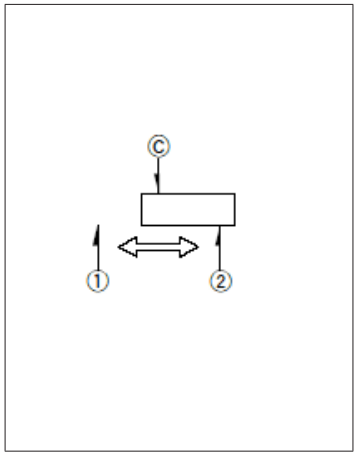


■ Mounting Hole Dimensions



Viewed from direction A in the dimensions.

■ Circuit Diagram

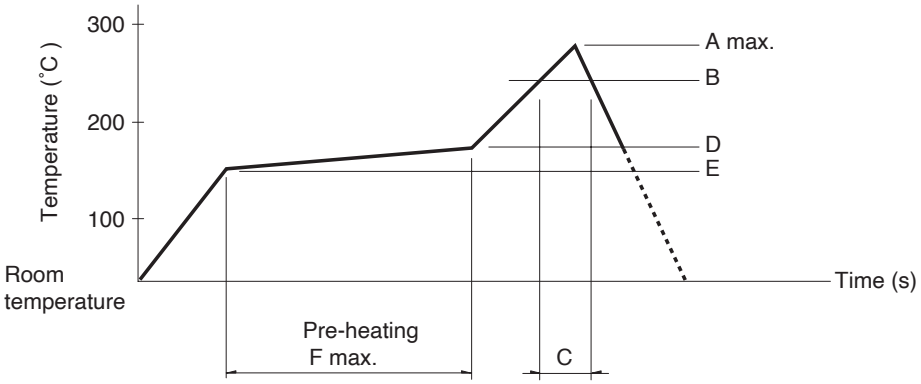


Factory setting for contact points can be either 1 or 2.

Push Switches / Soldering Conditions

■ Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple ϕ 0.1 to 0.2 CA (K) or CC (T) at soldering portion (copper foil surface).
   A heat resisting tape should be used for fixed measurement.
3. Temperature profile



Series (Reflow type)	A (℃) 3s max.	B (℃)	C (s)	D (℃)	E (℃)	F (s)
SPEJ	260	230	40	180	150	120
SPEF						

⚠Note

1. The condition mentioned above is the temperature on the mounting surface of a PC board. There are cases where the PC board's temperature greatly differs from that of the switch, depending on the PC board's material, size, thickness, etc.
   The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines. Prior verification of soldering condition is highly recommended.

■ Reference for Hand Soldering

Series	Soldering temperature	Soldering time
SPPJ3, SPPJ2, SPUN, SPUJ, SPPH4, SPPH1	350±10℃	3+1/0s
SPED2, SPED4	350±10℃	3±0.5s
SPEJ	350±10℃	4s max.
SPEF	350±5℃	3s max.

■ Reference for Dip Soldering

(For PC board terminal types)

Series	Items		Dip soldering	
	Preheating temperature	Preheating time	Soldering temperature	Duration of immersion
SPPJ3	100℃ max.	60s max.	260±5℃	5±1s
SPUN	100℃ max.	60s max.	260±5℃	10±1s
SPUJ, SPPH4	—		260±5℃	5±1s
SPPJ2, SPPH1, SPED2, SPED4, SPEF	—		260±5℃	10±1s

Push Switches / Cautions

1. Appling load to terminals during soldering under certain conditions may cause deformation and electrical property degradation.
2. Avoid use of water-soluble soldering flux, since it may corrode the switches.
3. Check and conform to soldering requirements under actual mass production conditions.
4. When soldering twice, wait until the first soldered portion cools to normal temperature. Continuous heating will deform the external portions, loosen or dislodge terminals, or may deteriorate their electrical characteristics.
5. Flux from around and above the PC board should not adhere to the switches.
6. After mounting the switches, if you intend to put the board into an oven in order to harden adhesive for other parts, please consult with us.
7. Before soldering switches with locking mechanism, release the locks. If they are soldered without releasing the locks, the soldering heat may deform the locking mechanism.
8. If you use a through-hole PC board or a PC board thinner or thicker than the recommendation, here may be greater heat stress. Verify the soldering conditions thoroughly before use.
9. Solder the switches with detent at the detent position. Soldering switches fixed at the center of the detent may deform the detent mechanisms.
10. No cleaning.
11. Protect small and thin switches from external forces in the set mounting process.
12. Tighten the mounting screws by applying the specified torque. Tightening with larger torque than the specified one will result in malfunction or breakage of screws.
13. The products are designed and manufactured for direct current resistance. Contact us for use of other resistances such as inductive (L) or capacitive (C).
14. The switch will be break if you apply a greater stress than that specified. Take great care not to let the switch be subject to greater stress than specified.
15. Be sure to release the locks before removing the knobs. Otherwise, the locking mechanism may be deformed.
16. Be sure to use the forced travel close to the position of the whole travel as mush as possible.
17. Insert these switches to the specified mounting surface and mount them horizontally. If not mounted horizontally, these switches will malfunction.
18. Use of the switches in a dusty environment may lead the dusts entering through the openings and cause imperfect contact or malfunction. Take this into account for set design.
19. Corrosive gas if generated by peripheral parts of a set, malfunction such as imperfect contact may occur. Thorough investigation shall be required beforehand.
20. Storage
    Store the products as delivered at normal temperature and humidity, out of direct sunlight and away from corrosive gases. Use them as soon as possible and no later than six months after delivery.
    Once the seal is broken, use them as soon as possible.

Switches

Rotary Switches

List of Varieties

Series			SRBD	SRBQ	SRBM	SRBV
Photo						
Dimensions (mm)			10.0×10.0×1.7	11.4×12.4×3.1 11.4×12.4×3.5	10.0×12.5×11.5 10.0×12.9×11.5	16.2×18.5×7.5
Changeover angle			36°	40±3°	18±3° 30±3°	30±3°
Poles			1		1 2	1
Rotational torque			13±5mN·m	6±3mN·m 13±5mN·m	15±7mN·m 40±20mN·m	30±15mN·m
Operating temperature range			-25℃ to +85℃	-10℃ to +60℃	-30℃ to +85℃	-10℃ to +85℃
Rating (max.)/(min.) (Resistive load)			1mA 5V DC/50μA 3V DC	0.1A 16V DC/50μA 3V DC		0.3A 16V DC/50μA 3V DC
Electrical performance	Contact resistance (Initial performance/ After lifetime)		200mΩ max./250mΩ max.	50mΩ max./100mΩ max.	50mΩ max./150mΩ max.	
	Insulation resistance		100MΩ min. 100V DC			
	Voltage proof		100V AC for 1 minute			
Mechanical performance	Terminal strength		3N for 1 minute	5N for 1 minute		
	Actuator strength	Rotational direction	—		- 0.5N·m	0.6N·m
		Push direction	50N	20N	100N	
Durability	Operating life without load		10,000 cycles 250mΩ max.	10,000 cycles 100mΩ max.	10,000 cycles 100mΩ max. 30,000 cycles 100mΩ max.	10,000 cycles 100mΩ max.
	Operating life with load (at max. rated load)		10,000 cycles 250mΩ max.	10,000 cycles 100mΩ max.	10,000 cycles 150mΩ max.	
Environmental performance	Cold		-40℃ 500h	-20℃ 96h	-40℃ 96h	-20℃ 96h
	Dry heat		85℃ 500h	85℃ 96h		
	Damp heat		60℃, 90 to 95%RH 500h	40℃, 90 to 95%RH 96h		
Automotive			—	—	—	—

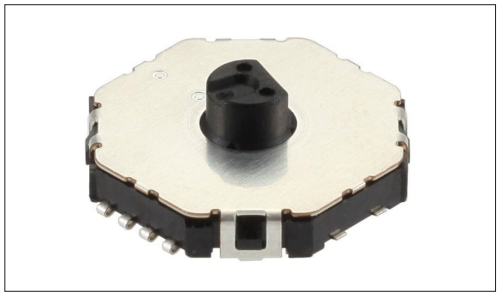
⚠Note

● Indicates applicability to all products in the series, while ○ indicates applicability to some products in the series.

Heavy-torque Feel, Low-profile Type

SRBD Series

Mode selector switch capable of up to 10 positions.



- Rating (max.)/(min.) (Resistive load): 1mA 5V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime): 200mΩ max./250mΩ max.
- Operating life without load: 10,000 cycles 250mΩ max.
- Operating life with load (at max. rated load): 10,000 cycles 250mΩ max.

Applications: Healthcare: Healthcare equipment
Audio_TV: Cameras

■ Product List

Products No.	Poles	Positions	Changeover angle	Detent	Location lug	Changeover timing	Rotational torque	Soldering	Actuator length	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SRBD150201	1	10	36°	5	with	Non shorting	13±5mN·m	For PC borrd (Reflow)	1.7mm	10.0×10.0×1.7	—	1
SRBD170401	1	10	36°	7	without	Non shorting	13±5mN·m	For PC borrd (Reflow)	1.7mm	10.0×10.0×1.7	—	2
SRBD180201	1	10	36°	8	with	Non shorting	13±5mN·m	For PC borrd (Reflow)	1.7mm	10.0×10.0×1.7	—	3
SRBD110401	1	10	36°	10	with	Non shorting	13±5mN·m	For PC borrd (Reflow)	1.7mm	10.0×10.0×1.7	—	4

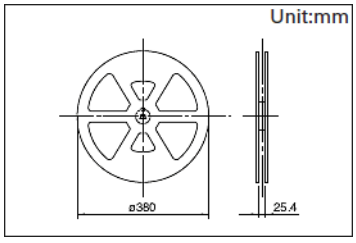
⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders for taping products per minimum order unit (1 reel or a case).

■ Packing Specifications

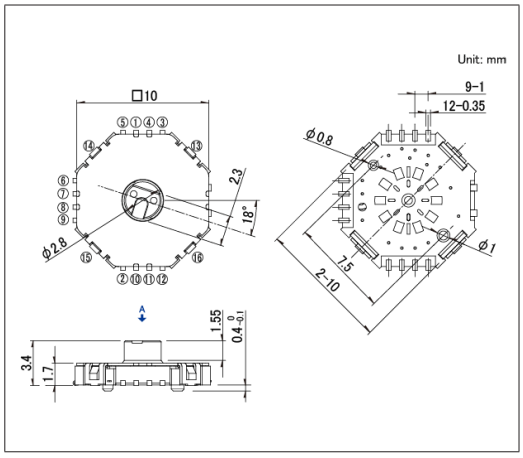
Taping

Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case / Japan	1 case / export packing		
1,200	2,400	4,800	24	428 x 413 x 172

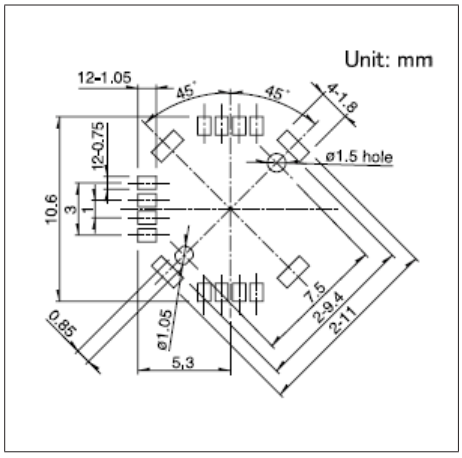


Drawing No.1

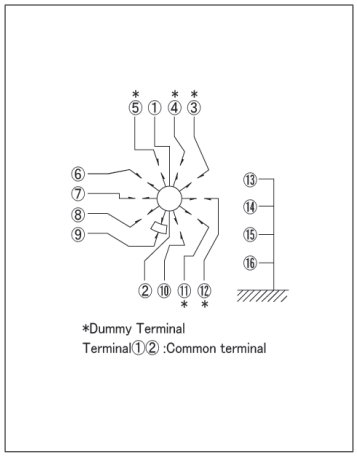
■ Dimensions



■ Land Dimensions



■ Circuit Diagram



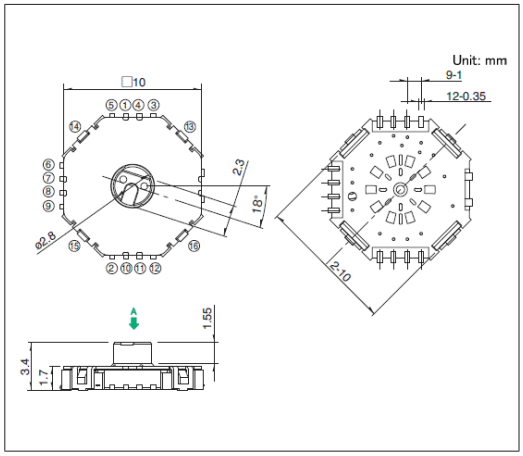
Viewed from direction A in the dimensions.

Heavy-torque Feel, Low-profile Type

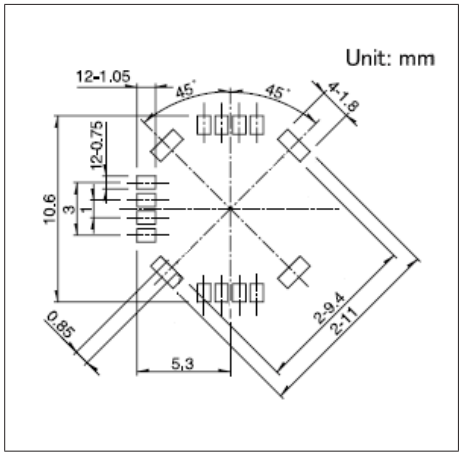
SRBD Series

Drawing No.2

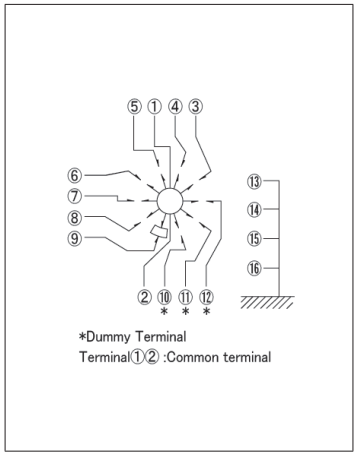
■ Dimensions



■ Land Dimensions



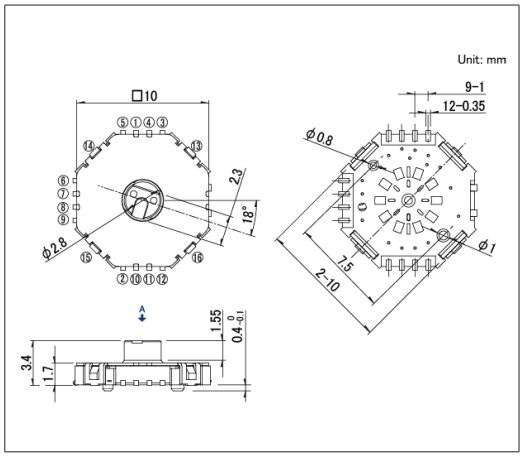
■ Circuit Diagram



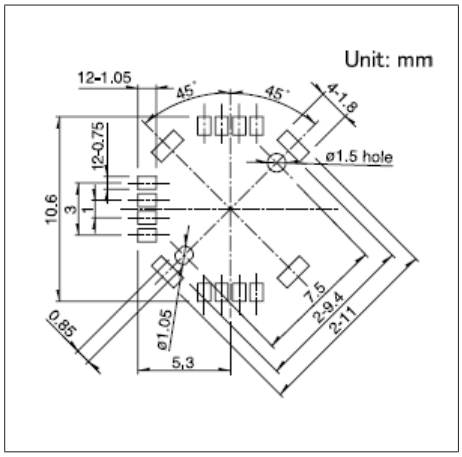
Viewed from direction A in the dimensions.

Drawing No.3

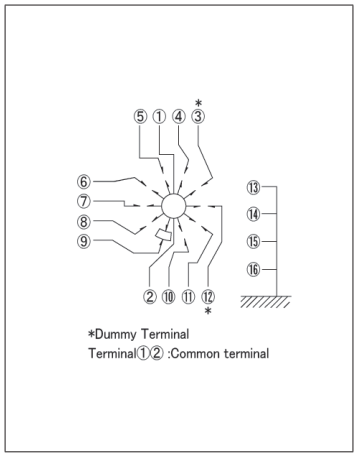
■ Dimensions



■ Land Dimensions



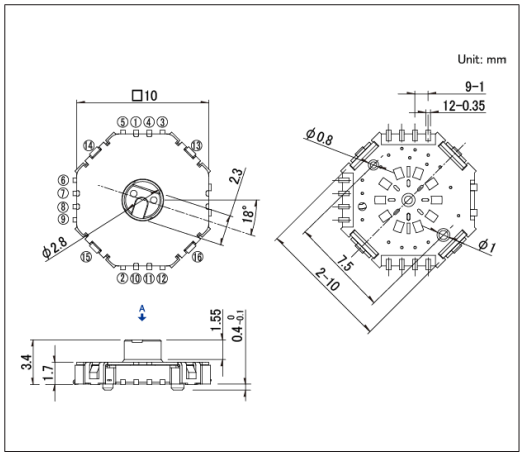
■ Circuit Diagram



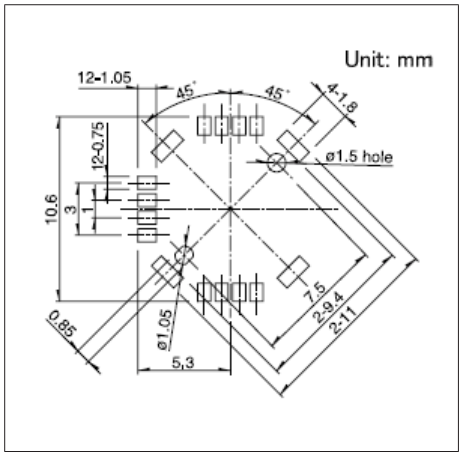
Viewed from direction A in the dimensions.

Drawing No.4

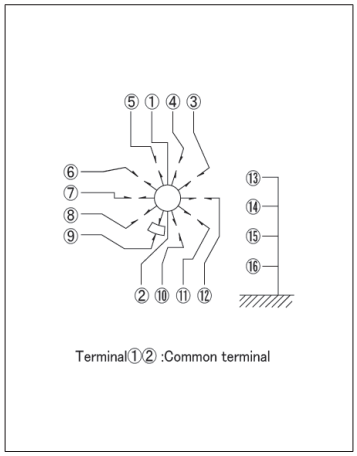
■ Dimensions



■ Land Dimensions



■ Circuit Diagram

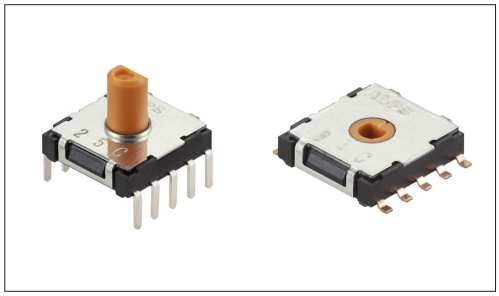


Viewed from direction A in the dimensions.

9-positions Low-profile Vertical Type

SRBQ Series

Unique detent mechanism delivering a light operation feel with a thin profile.



- Rating (max.)/(min.) (Resistive load):0.1A 16V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  50mΩ max./100mΩ max.
- Operating life without load:10,000 cycles 100mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 100mΩ max.

Applications:Home:Major home appliances

■ Product List

Products No.	Poles	Positions	Changeover angle	Changeover timing	Rotational torque	Soldering	Actuator configuration	Actuator length	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SRBQ090200	1	9	40±3°	Non shorting	6±3mN·m	Insertion	Flat	5.8mm	11.4×12.4×3.5	—	1
SRBQ490100	1	9	40±3°	Non shorting	13±5mN·m	Insertion	Flat	5.8mm	11.4×12.4×3.5	—	2
SRBQ290301	1	9	40±3°	Non shorting	6±3mN·m	Reflow	Non shaft	—	11.4×12.4×3.1	—	3

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).
3. Please place purchase orders for taping products per minimum order unit (1 reel or a case).

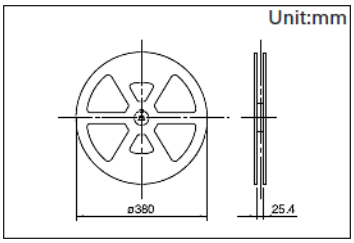
■ Packing Specifications

Bulk

Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SRBQ090200 SRBQ490100	1,215	4,860	540 x 360 x 290

Taping

Products No.	Number of packages(pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case / Japan	1 case / export packing		
SRBQ290301	1,200	2,400	4,800	24	406 x 406 x 190

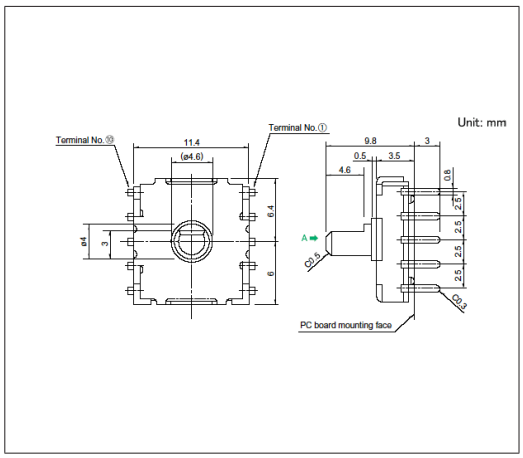


9-positions Low-profile Vertical Type

SRBQ Series

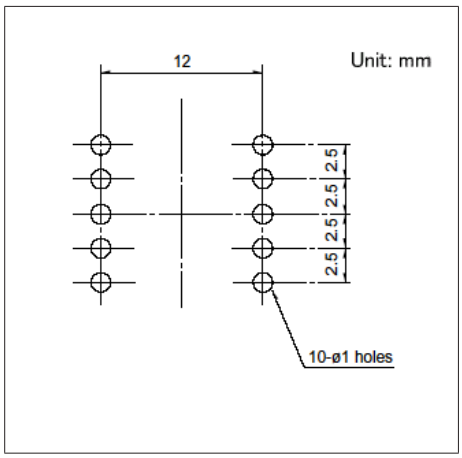
Drawing No.1

■ Dimensions



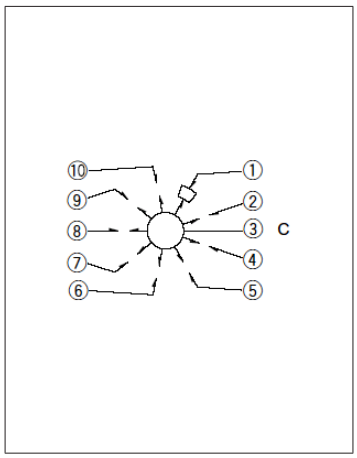
Standard torque

■ Mounting Hole Dimensions



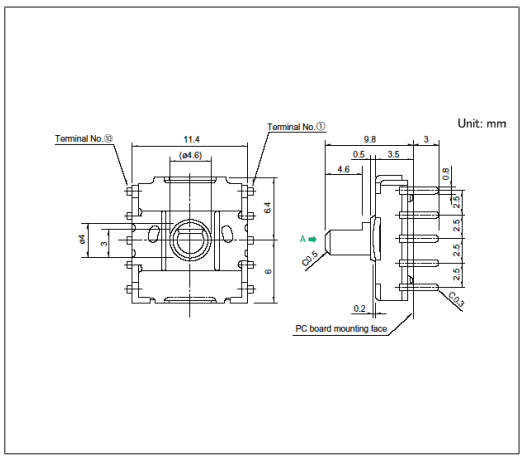
Viewed from direction A in the dimensions.

■ Circuit Diagram



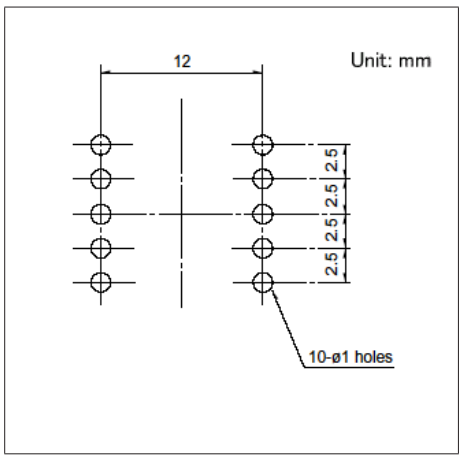
Drawing No.2

■ Dimensions



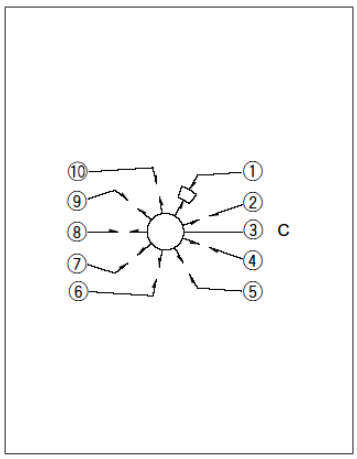
Heavy torque

■ Mounting Hole Dimensions



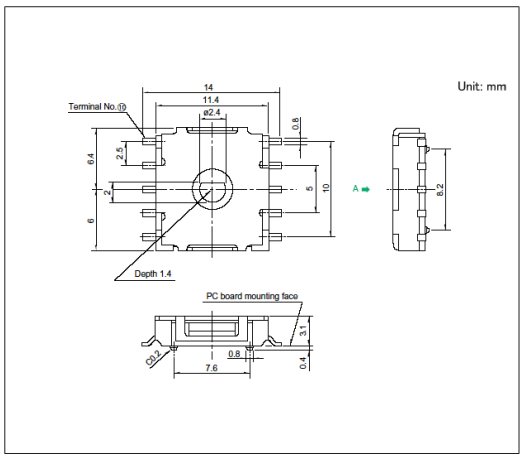
Viewed from direction A in the dimensions.

■ Circuit Diagram

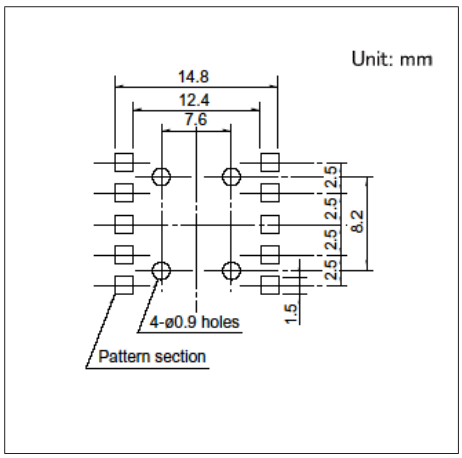


Drawing No.3

■ Dimensions

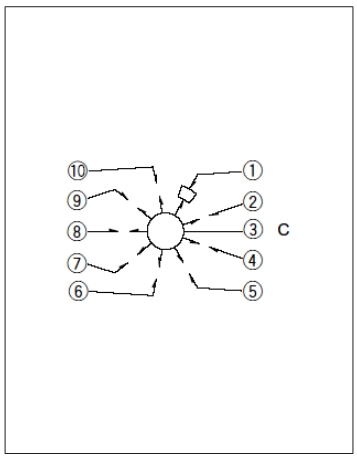


■ Land Dimensions



Viewed from direction A in the dimensions.

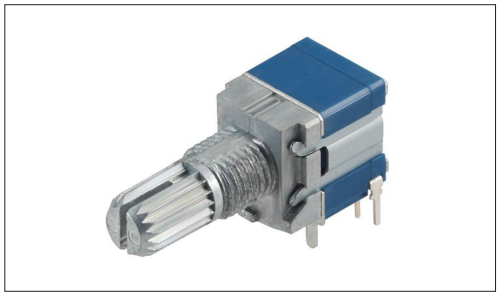
■ Circuit Diagram



6-positions Horizontal Type

SRBM Series

Same shape available as a pulse switch (20 pulses).



- Rating (max.)/(min.) (Resistive load):0.1A 16V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  50mΩ max./150mΩ max.
- Operating life without load:10,000 cycles 100mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 150mΩ max.

Applications:Energy_Industrial:Industrial equipment

■ Product List

Products No.	Poles	Positions	Changeover angle	Changeover timing	Rotational torque	Actuator configuration	Actuator length	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SRBM120700	2	2	30±3°	Non shorting	40±20mN·m	18-tooth serration	L: 15mm	10.0×12.5×11.5	—	1
SRBM121300	2	2	30±3°	Non shorting	40±20mN·m	Flat	L: 15mm	10.0×12.5×11.5	—	2
SRBM131300	2	3	30±3°	Non shorting	40±20mN·m	18-tooth serration	L: 15mm	10.0×12.5×11.5	—	3
SRBM131400	2	3	30±3°	Non shorting	40±20mN·m	18-tooth serration	L: 20mm	10.0×12.5×11.5	—	
SRBM140700	2	4	30±3°	Non shorting	40±20mN·m	18-tooth serration	L: 15mm	10.0×12.5×11.5	—	4
SRBM140800	2	4	30±3°	Non shorting	40±20mN·m	18-tooth serration	L: 20mm	10.0×12.5×11.5	—	
SRBM149501	2	4	30±3°	Non shorting	40±20mN·m	Flat	L: 20mm	10.0×12.5×11.5	—	5
SRBM150500	1	5	30±3°	Non shorting	40±20mN·m	18-tooth serration	L: 15mm	10.0×12.5×11.5	—	6
SRBM154002	1	5	30±3°	Non shorting	40±20mN·m	Flat	L: 15mm	10.0×12.5×11.5	—	7
SRBM160700	1	6	30±3°	Non shorting	40±20mN·m	18-tooth serration	L: 15mm	10.0×12.5×11.5	—	8
SRBM1L0800	1	20-pulses	18±3°	—	15±7mN·m	18-tooth serration	L: 15mm	10.0×12.9×11.5	—	9
SRBM1L1400	1	20-pulses	18±3°	—	15±7mN·m	Flat	L: 15mm	10.0×12.9×11.5	—	10

Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. All the axis are die casting shafts.
3. Please place purchase orders per minimum order unit (integer).

■ Packing Specifications

Tray

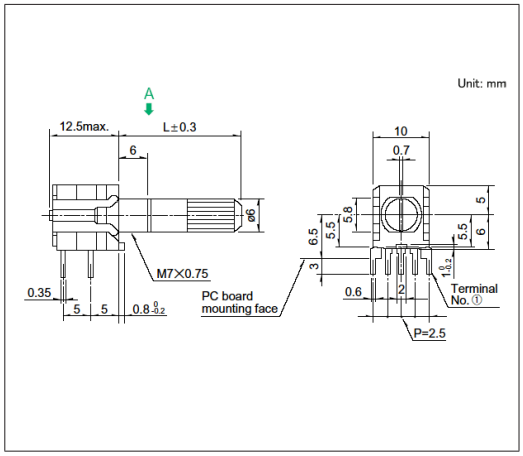
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
SRBM120700 SRBM121300 SRBM131300 SRBM140700 SRBM150500 SRBM154002 SRBM160700 SRBM1L0800 SRBM1L1400	360	1,800	400 x 270 x 290
SRBM131400 SRBM140800 SRBM149501	210	1,050	400 x 270 x 290

6-positions Horizontal Type

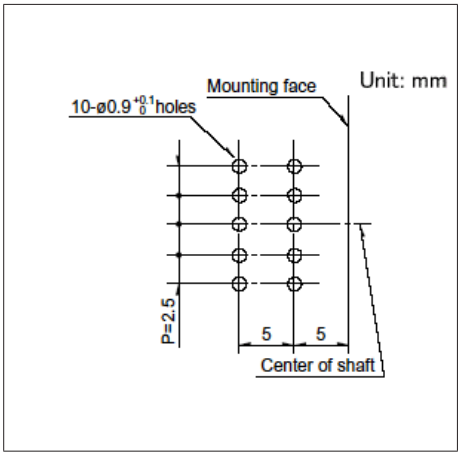
SRBM Series

Drawing No.1

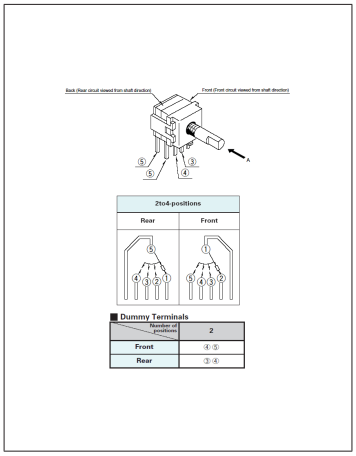
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals

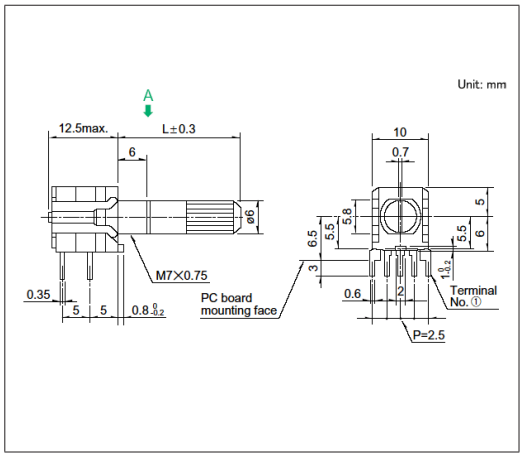


Viewed from direction A in the dimensions.

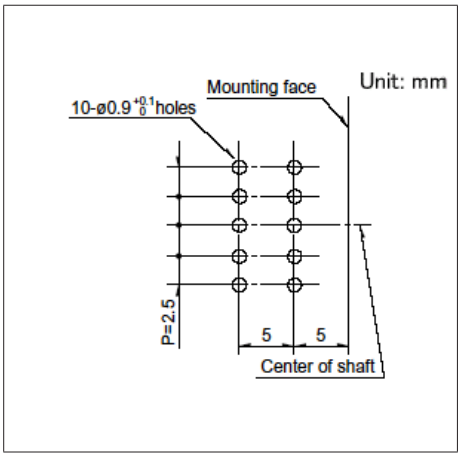
1. Viewed from direction A.
2. For positions 2, 1 section consists of 2-poles.

Drawing No.2

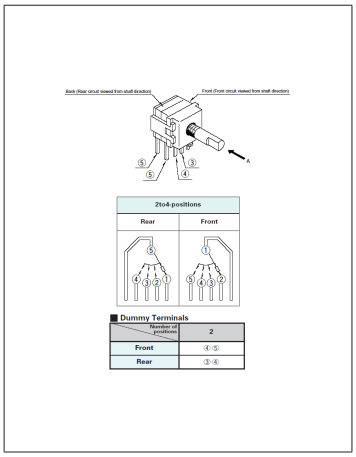
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals

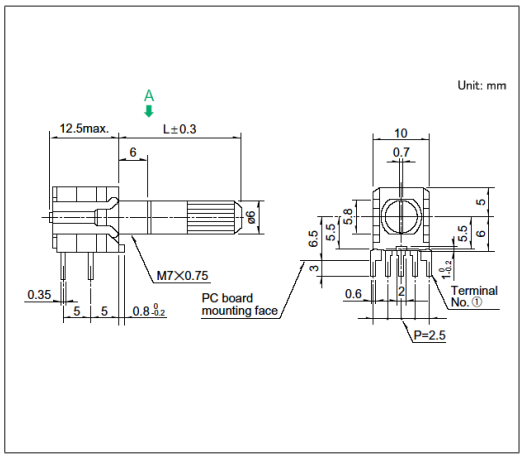


Viewed from direction A in the dimensions.

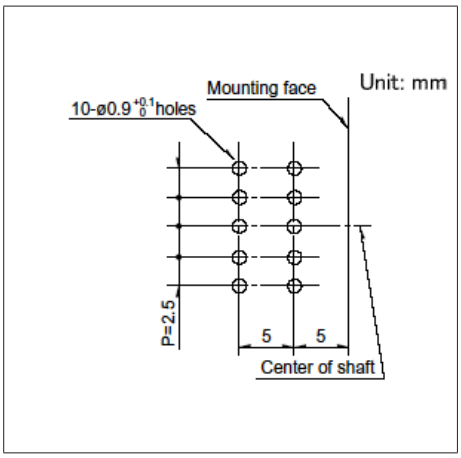
1. Viewed from direction A.
2. For positions 2, 1 section consists of 2-poles.

Drawing No.3

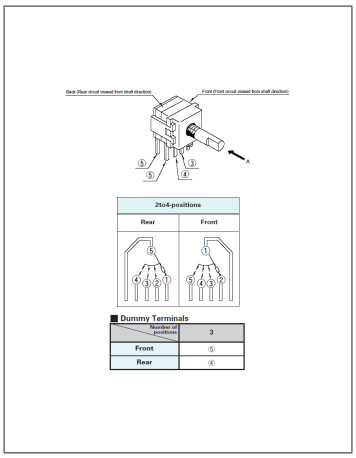
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals



Viewed from direction A in the dimensions.

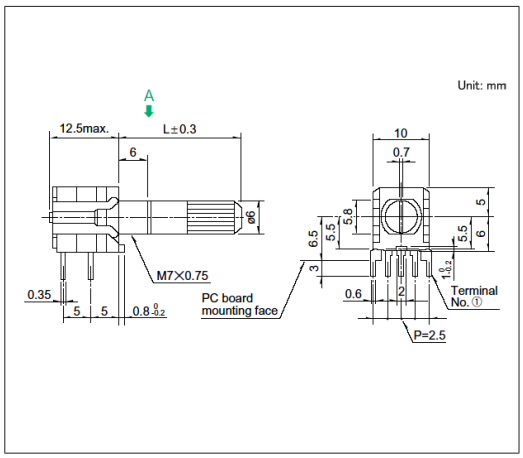
1. Viewed from direction A.
2. For positions 3, 1 section consists of 2-poles.

6-positions Horizontal Type

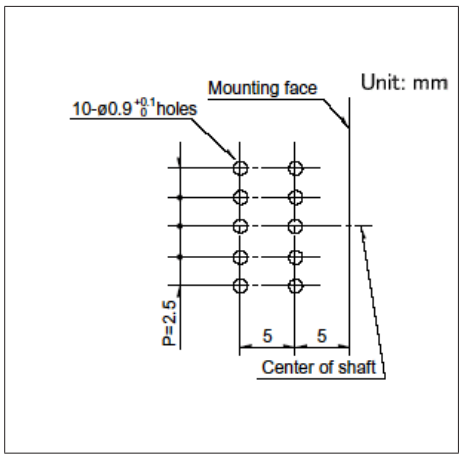
SRBM Series

Drawing No.4

■ Dimensions

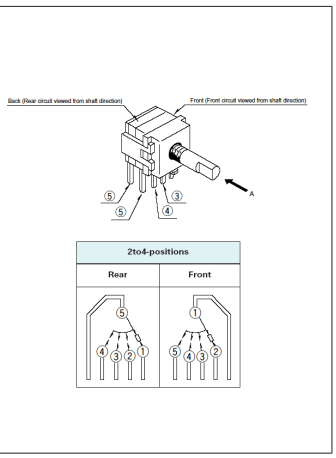


■ Mounting Hole Dimensions



Viewed from direction A in the dimensions.

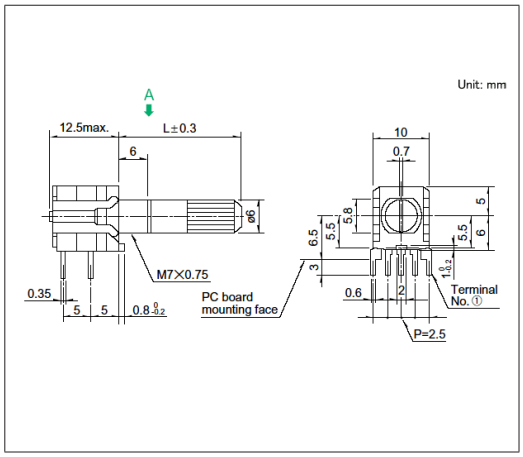
■ Circuit Diagram



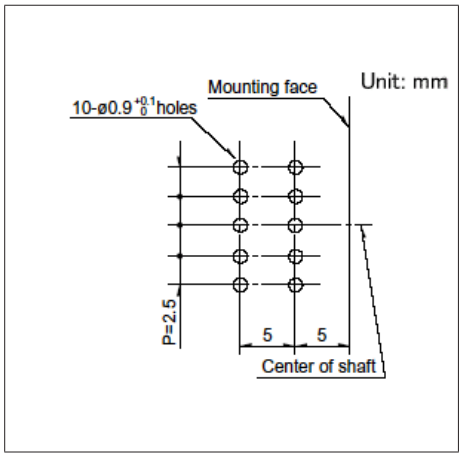
1. Viewed from direction A.
2. For positions 4, 1 section consists of 2-poles.

Drawing No.5

■ Dimensions

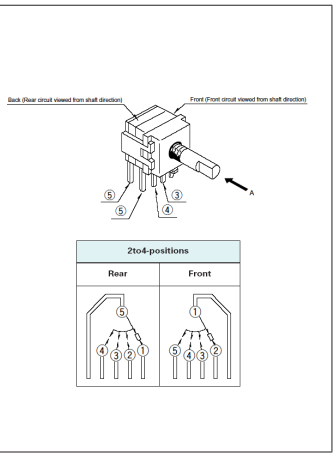


■ Mounting Hole Dimensions



Viewed from direction A in the dimensions.

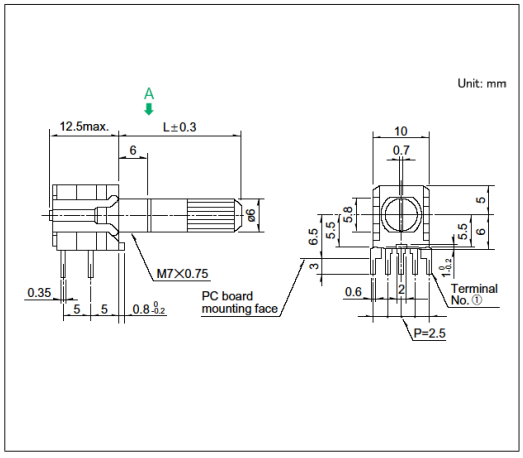
■ Circuit Diagram



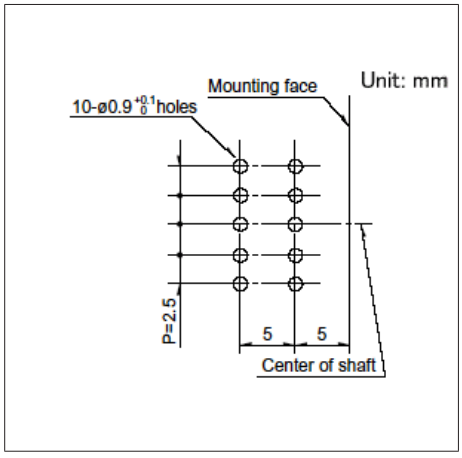
1. Viewed from direction A.
2. For positions 4, 1 section consists of 2-poles.

Drawing No.6

■ Dimensions

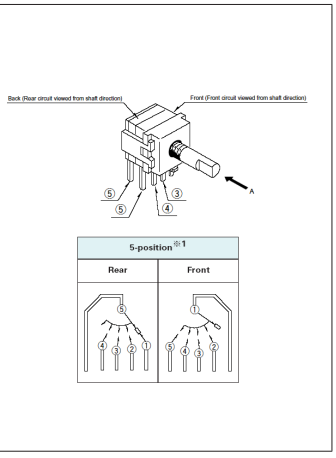


■ Mounting Hole Dimensions



Viewed from direction A in the dimensions.

■ Circuit Diagram



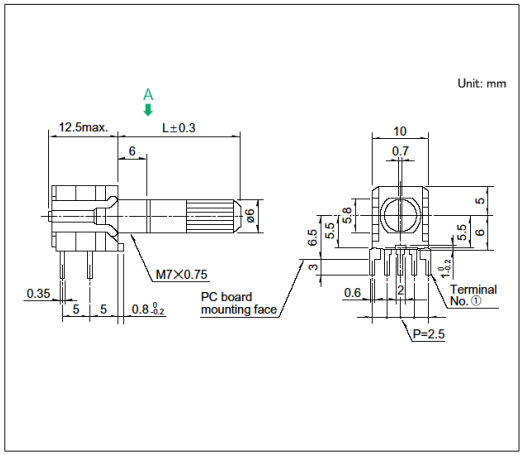
1. Viewed from direction A.
2. Circuit steps are 2 to 5 positions at front and 1 to 4 positions at rear.
3. It is necessary external wiring of common terminals.
4. For positions 5, 1 section consists of 1-pole.

6-positions Horizontal Type

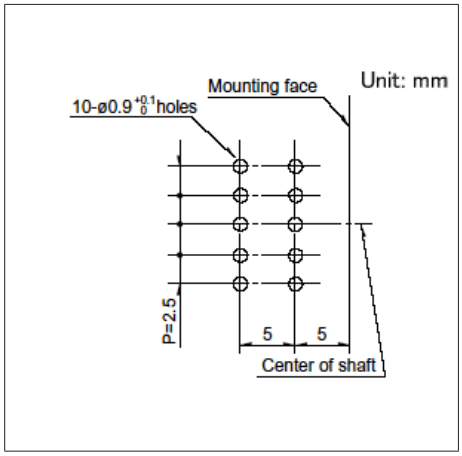
SRBM Series

Drawing No.7

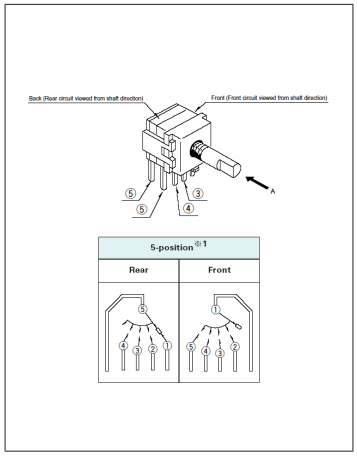
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram

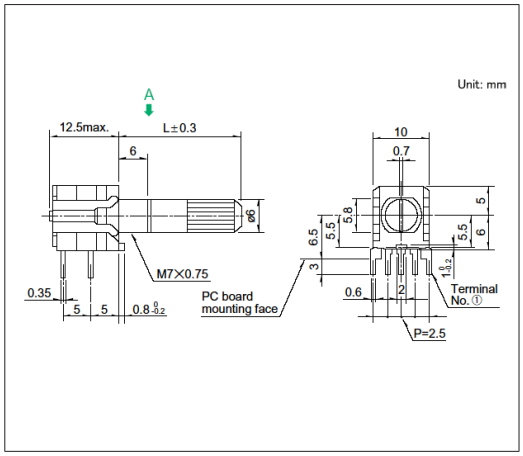


Viewed from direction A in the dimensions.

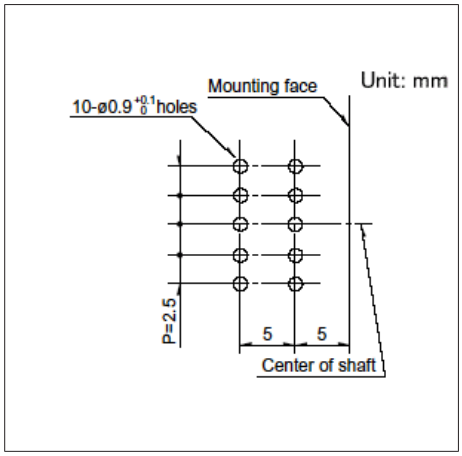
1. Viewed from direction A.
2. Circuit steps are 2 to 5 positions at front and 1 to 4 positions at rear.
3. It is necessary external wiring of common terminals.
4. For positions 5, 1 section consists of 1-pole.

Drawing No.8

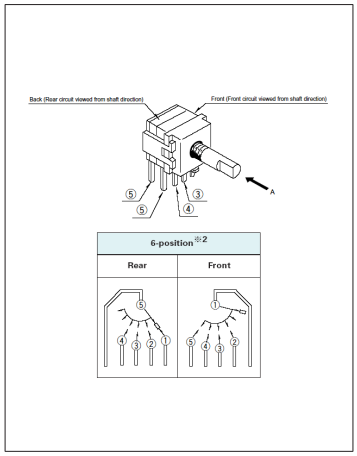
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



Viewed from direction A in the dimensions.

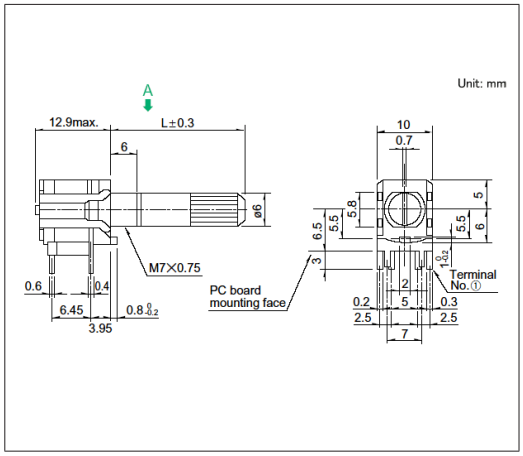
1. Viewed from direction A.
2. Circuit steps are 3 to 6 positions at front and 1 to 4 positions at rear.
3. It is necessary external wiring of common terminals.
4. For positions 6, 1 section consists of 1-pole.

6-positions Horizontal Type

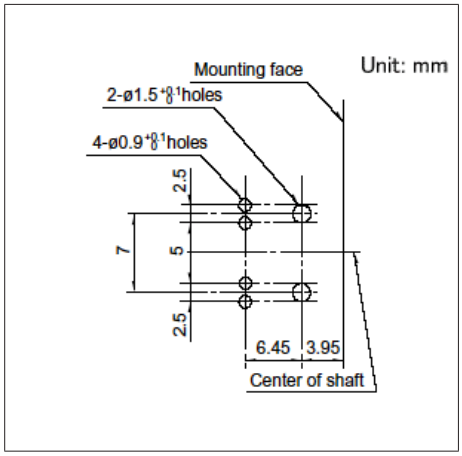
SRBM Series

Drawing No.9

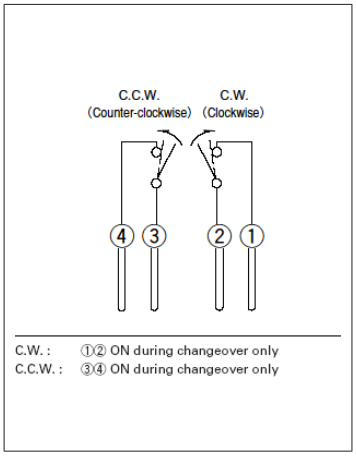
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram

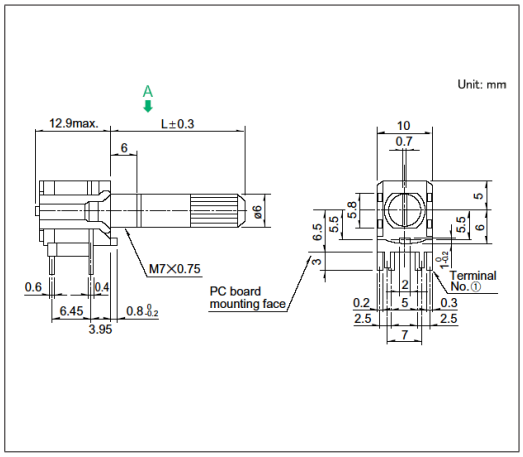


Viewed from direction A in the dimensions.

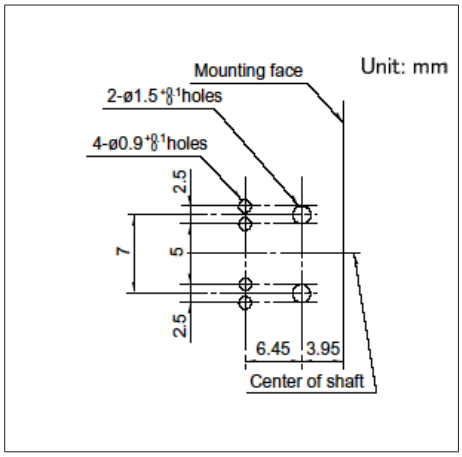
Pulse Switch

Drawing No.10

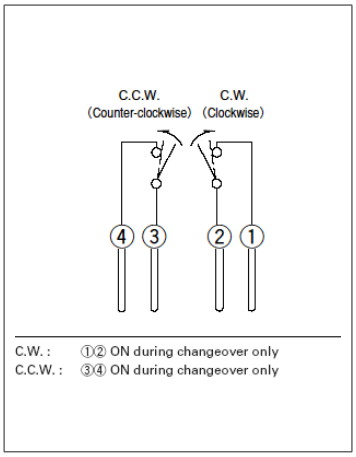
■ Dimensions



■ Mounting Hole Dimensions



■ Circuit Diagram



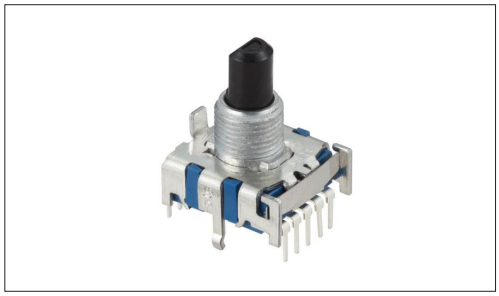
Viewed from direction A in the dimensions.

Pulse Switch

8-positions Low-profile Vertical Type

SRBV Series

Contributes to set design flexibility with a body height of 7.5mm and thin-profile design.



- Rating (max.)/(min.) (Resistive load):0.3A 16V DC/50μA 3V DC
- Contact resistance (Initial performance/After lifetime):
  50mΩ max./150mΩ max.
- Operating life without load:10,000 cycles 100mΩ max.
- Operating life with load (at max. rated load):10,000 cycles 150mΩ max.

Applications:Home:Major home appliances

■ Product List

Products No.	Poles	Positions	Changeover angle	Changeover timing	Rotational torque	Actuator configuration	Actuator length	Dimensions (W×D×H) (mm)	Automotive	Drawing No.
SRBV131803	1	3	30±3°	Non shorting	30±15mN·m	Flat	L: 15mm	16.2×18.5×7.5	—	1
SRBV131502	1	3	30±3°	Non shorting	30±15mN·m	Flat	L: 20mm	16.2×18.5×7.5	—	2
SRBV141404	1	4	30±3°	Non shorting	30±15mN·m	Flat	L: 15mm	16.2×18.5×7.5	—	3
SRBV141201	1	4	30±3°	Non shorting	30±15mN·m	Flat	L: 20mm	16.2×18.5×7.5	—	4
SRBV151102	1	5	30±3°	Non shorting	30±15mN·m	Flat	L: 15mm	16.2×18.5×7.5	—	5
SRBV150901	1	5	30±3°	Non shorting	30±15mN·m	Flat	L: 20mm	16.2×18.5×7.5	—	6
SRBV160803	1	6	30±3°	Non shorting	30±15mN·m	Flat	L: 15mm	16.2×18.5×7.5	—	7
SRBV170701	1	7	30±3°	Non shorting	30±15mN·m	Flat	L: 15mm	16.2×18.5×7.5	—	8
SRBV170501	1	7	30±3°	Non shorting	30±15mN·m	Flat	L: 20mm	16.2×18.5×7.5	—	9
SRBV181004	1	8	30±3°	Non shorting	30±15mN·m	Flat	L: 15mm	16.2×18.5×7.5	—	10

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Please place purchase orders per minimum order unit (integer).

■ Packing Specifications

Tray

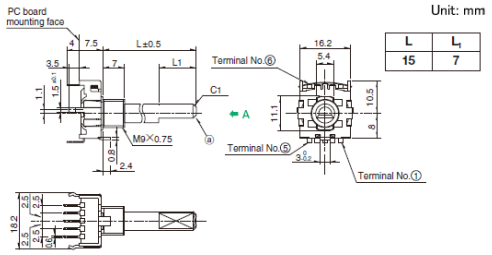
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
165	330	400 x 270 x 185

8-positions Low-profile Vertical Type

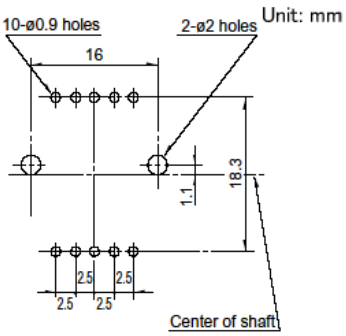
SRBV Series

Drawing No.1

■ Dimensions

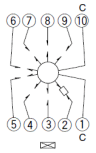


■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals

■ Standard Circuit Diagram (Viewed from the Direction A)

Number of poles	1
Circuit diagram	

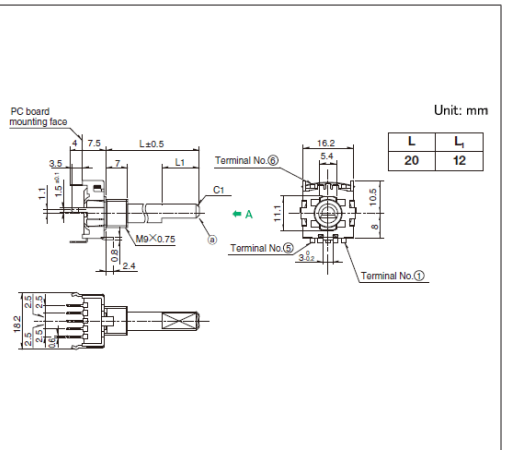
■ Dummy Terminals

3-positions	⑤⑥⑦⑧⑨

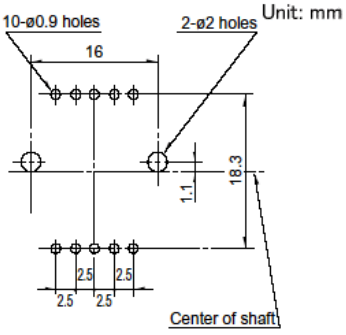
Viewed from direction A in the dimensions.

Drawing No.2

■ Dimensions

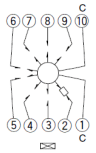


■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals

■ Standard Circuit Diagram (Viewed from the Direction A)

Number of poles	1
Circuit diagram	

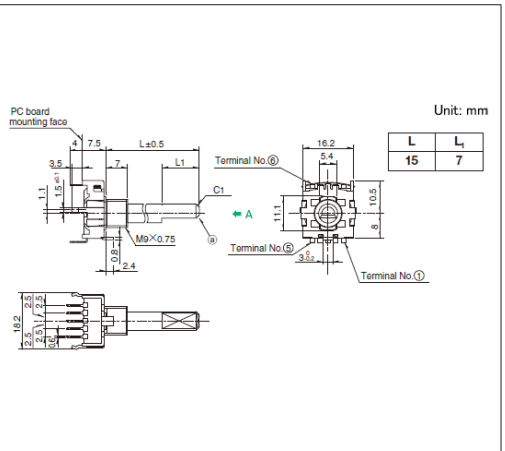
■ Dummy Terminals

3-positions	⑤⑥⑦⑧⑨

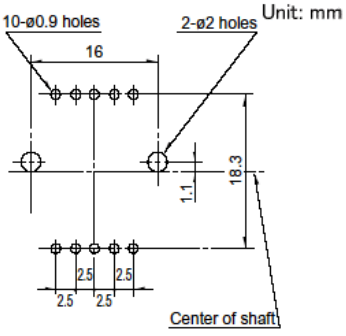
Viewed from direction A in the dimensions.

Drawing No.3

■ Dimensions

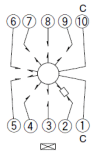


■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals

■ Standard Circuit Diagram (Viewed from the Direction A)

Number of poles	1
Circuit diagram	

■ Dummy Terminals

4-positions	⑥⑦⑧⑨

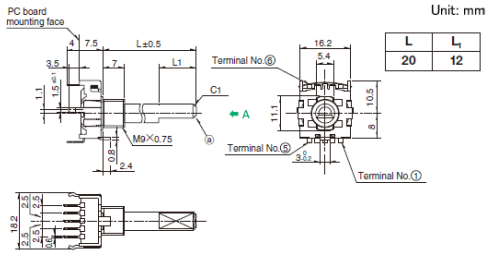
Viewed from direction A in the dimensions.

8-positions Low-profile Vertical Type

SRBV Series

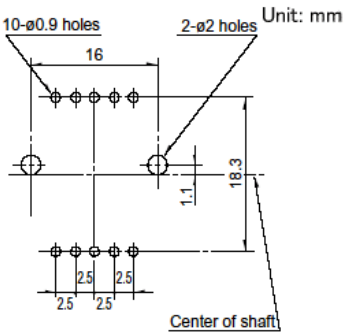
Drawing No.4

■ Dimensions



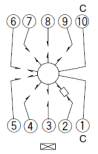
L	L_1
20	12

■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals

■ Standard Circuit Diagram (Viewed from the Direction A)

Number of poles	1
Circuit diagram	

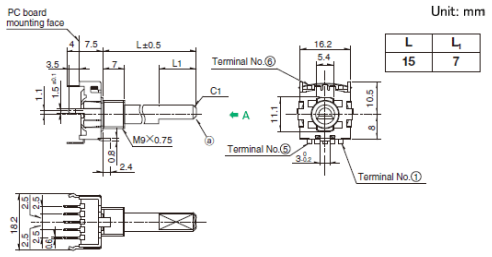
■ Dummy Terminals

4-positions	⑥⑦⑧⑨

Viewed from direction A in the dimensions.

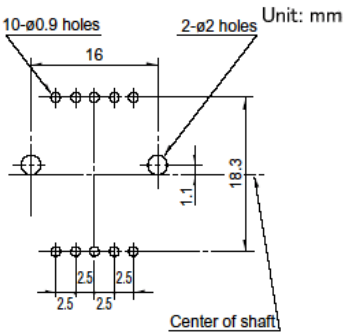
Drawing No.5

■ Dimensions



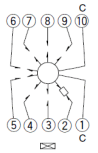
L	L_1
15	7

■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals

■ Standard Circuit Diagram (Viewed from the Direction A)

Number of poles	1
Circuit diagram	

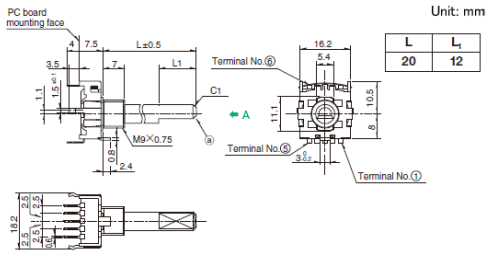
■ Dummy Terminals

5-positions	⑦⑧⑨

Viewed from direction A in the dimensions.

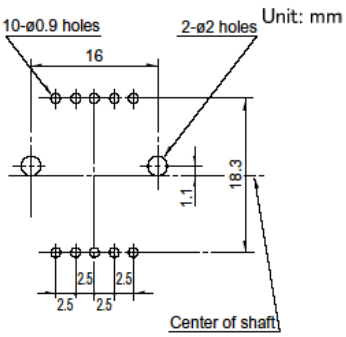
Drawing No.6

■ Dimensions



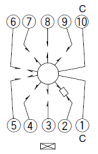
L	L_1
20	12

■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals

■ Standard Circuit Diagram (Viewed from the Direction A)

Number of poles	1
Circuit diagram	

■ Dummy Terminals

5-positions	⑦⑧⑨

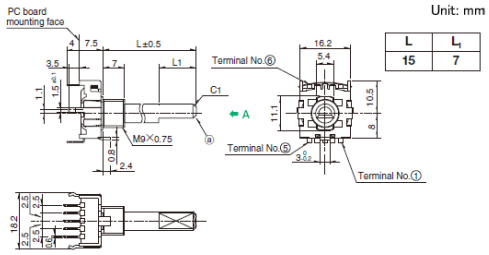
Viewed from direction A in the dimensions.

8-positions Low-profile Vertical Type

SRBV Series

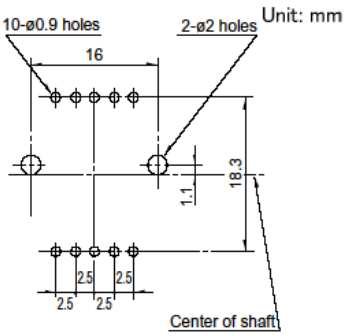
Drawing No.7

■ Dimensions



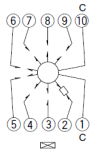
L	L_1
15	7

■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals

■ Standard Circuit Diagram (Viewed from the Direction A)

Number of poles	1
Circuit diagram	

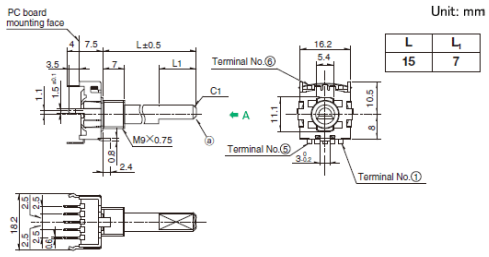
■ Dummy Terminals

6-positions	⑧ ⑨

Viewed from direction A in the dimensions.

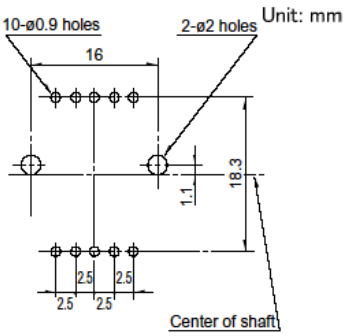
Drawing No.8

■ Dimensions



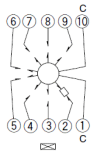
L	L_1
15	7

■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals

■ Standard Circuit Diagram (Viewed from the Direction A)

Number of poles	1
Circuit diagram	

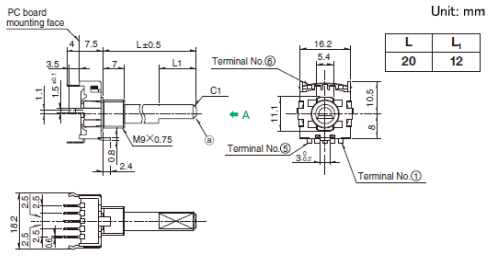
■ Dummy Terminals

7-positions	⑨

Viewed from direction A in the dimensions.

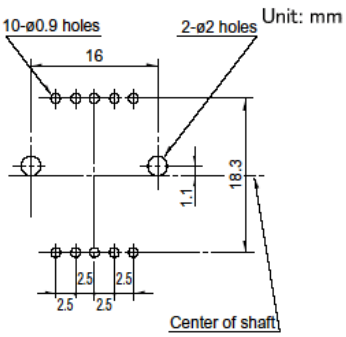
Drawing No.9

■ Dimensions



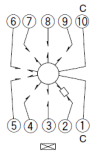
L	L_1
20	12

■ Mounting Hole Dimensions



■ Circuit Diagram and Dummy Terminals

■ Standard Circuit Diagram (Viewed from the Direction A)

Number of poles	1
Circuit diagram	

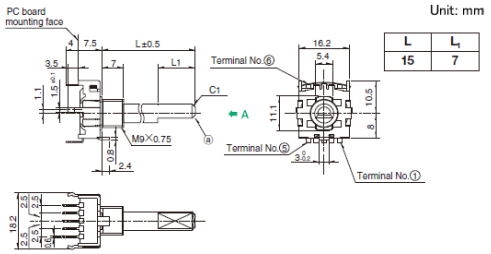
■ Dummy Terminals

7-positions	⑨

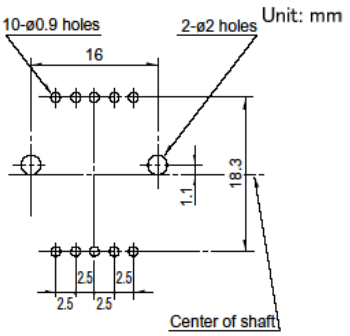
Viewed from direction A in the dimensions.

Drawing No.10

■ Dimensions

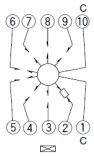


■ Mounting Hole Dimensions



■ Circuit Diagram

Standard Circuit Diagram (Viewed from the Direction A)

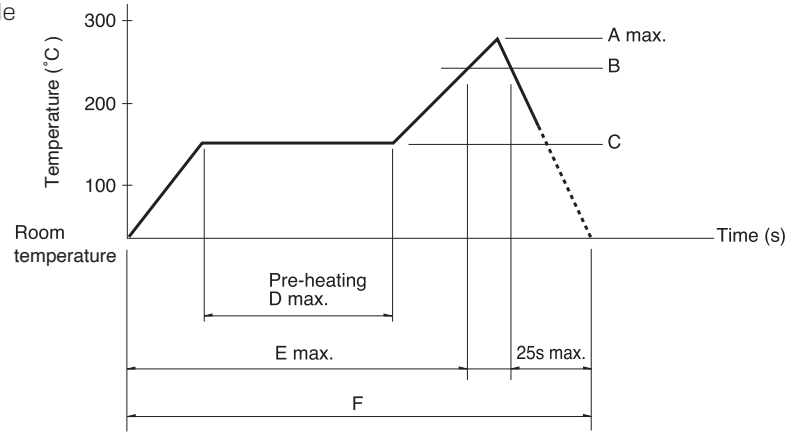
Number of poles	1
Circuit diagram	

Viewed from direction A in the dimensions.

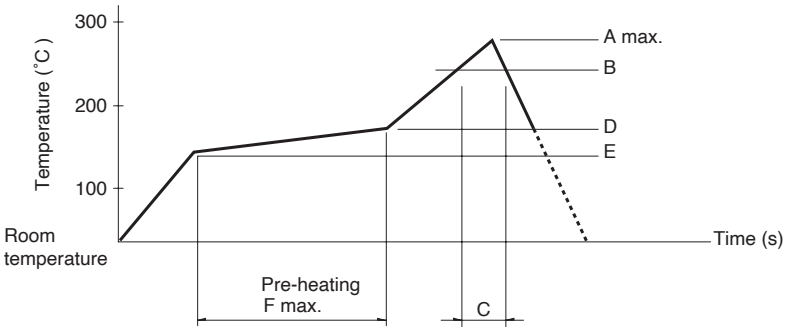
Rotary Switches / Soldering Conditions

■ Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple ϕ0.1 to 0.2 CA (K) or CC (T) at soldering portion (copper foil surface) .
   A heat resisting tape should be used for fixed measurement.
3. Temperature profile



Series (Reflow type)	A (℃) 3s max.	B (℃)	C (℃)	D (s)	E (s)	F (s)
SRBQ	250	200	150±5	80 to 100	—	—



Series (Reflow type)	A (℃) 3s max.	B (℃)	C (s)	D (℃)	E (℃)	F (s)
SRBD	260	230	40	180	150	120

⚠Note
1. The condition mentioned above is the temperature on the mounting surface of a PC board. There are cases where the PC board's temperature greatly differs from that of the switch, depending on the PC board's material, size, thickness, etc. The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines. Prior verification of soldering condition is highly recommended.

■ Reference for Hand Soldering

Series	Soldering temperature	Soldering time
SRBQ, SRBM, SRBV	350±10℃	3+1/0s
SRBQ (Reflow type)	350±5℃	3s max.

■ Reference for Dip Soldering

(For PC board terminal types)

Series	Items		Dip soldering	
	Preheating temperature	Preheating time	Soldering temperature	Duration of immersion
SRBM	100℃ max.	60s max.	260±5℃	5s max.
SRBV	—		260±5℃	10±1s
SRBQ	—		260±5℃	5±1s

Rotary Switches / Cautions

1. Appling load to terminals during soldering under certain conditions may cause deformation and electrical property degradation.
2. Avoid use of water-soluble soldering flux, since it may corrode the switches.
3. Check and conform to soldering requirements under actual mass production conditions.
4. When soldering twice, wait until the first soldered portion cools to normal temperature. Continuous heating will deform the external portions, loosen or dislodge terminals, or may deteriorate their electrical characteristics.
5. Flux from around and above the PC board should not adhere to the switches.
6. After mounting the switches, if you intend to put the board into an oven in order to harden adhesive for other parts, please consult with us.
7. If you use a through-hole PC board or a PC board thinner or thicker than the recommendation, here may be greater heat stress. Verify the soldering conditions thoroughly before use.
8. Solder the switches with detent at the detent position. Soldering switches fixed at the center of the detent may deform the detent mechanisms.
9. No cleaning.
10. Protect small and thin switches from external forces in the set mounting process.
11. Tighten the mounting screws by applying the specified torque. Tightening with larger torque than the specified one will result in malfunction or breakage of screws.
12. Insert these switches to the specified mounting surface and mount them horizontally. If not mounted horizontally, these switches will malfunction.
13. The products are designed and manufactured for direct current resistance. Contact us for use of other resistances such as inductive (L) or capacitive (C).
14. The switch will be break if you apply a greater stress than that specified. Take great care not to let the switch be subject to greater stress than specified.
15. Use of the switches in a dusty environment may lead the dusts entering through the openings and cause imperfect contact or malfunction. Take this into account for set design.
16. Corrosive gas if generated by peripheral parts of a set, malfunction such as imperfect contact may occur. Thorough investigation shall be required beforehand.
17. Storage
    Store the products as delivered at normal temperature and humidity, out of direct sunlight and away from corrosive gases. Use them as soon as possible and no later than six months after delivery.
    Once the seal is broken, use them as soon as possible.