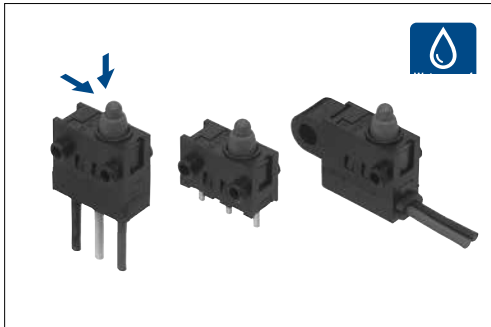


Long travel type applicable to oblique pressing without an actuator



Typical Specifications

Items		Specifications
Rating (max.)/(min.) (Resistive load)		0.1A 12V DC/ 50μA 5V DC
Contact resistance (Initial / After operating life)		500mΩ max. / 1Ω max.
Operating force		Push type 1 ±0.5N Actuator type 3N max.
Operating life	Without load	300,000cycles
	With load	300,000cycles(0.1A 12V DC)
Poles		1
Changeover timing		Non shorting

Product Line

Operating life	Positions	Operating part shape	Terminal type	Product No. (Main body form)					Minimum order unit (pcs)		Packing specification type	Drawing No.
				Normal	Boss - right side	Boss - left side	Boss - both sides	With a screw hole	Japan	Export		
300,000 cycles	2	Push	For PC board	SPVQ380400	SPVQ380300	SPVQ380201	SPVQ380100	—	1,300	5,200	A	1
			For Lead	—	SPVQ380700	SPVQ380600	SPVQ380500	—				2
			Right angle	—	SPVQ380900	—	—	—				3
			Left angle	—	—	SPVQ380800	—	—				4
			With wire (Downwards)	—	—	—	—	SPVQ361000*	400	1,600	B	5
				SPVQ361100*	SPVQ361200*	SPVQ361300*	—	6				
	1	Push	With wire (Right side)	—	—	—	—	SPVQ361400*	400	1,600	B	7
				SPVQ361500*	SPVQ361600*	SPVQ361700*	—	8				
				With wire (Left side)	—	SPVQ361800*	SPVQ361900*	SPVQ362000*				—
	2	Actuator A	For PC board		SPVQ370400	SPVQ370300	SPVQ370200	SPVQ370100	—	1,300	5,200	A
			For Lead	—	SPVQ370700	SPVQ370600	SPVQ370500	—	2			
			Right angle	—	SPVQ370900	—	—	—	3			
			Left angle	—	—	SPVQ370800	—	—	4			
			With wire (Downwards)	—	—	—	—	SPVQ350100*	180	720	D	5
				SPVQ350200*	SPVQ350300*	SPVQ350400*	—	6				
	1	Actuator A	With wire (Right side)	—	SPVQ350600*	SPVQ350700*	SPVQ350800*	—	168	672	C	8
				With wire (Left side)	—	SPVQ350900*	SPVQ351000*	SPVQ351100*				—
	2	Actuator B	For PC board		SPVQ371300	SPVQ371200	SPVQ371100	SPVQ371000	—	1,300	5,200	A
For Lead			—	SPVQ371600	SPVQ371500	SPVQ371400	—	2				
Right angle			—	SPVQ371800	—	—	—	3				
Left angle			—	—	SPVQ371700	—	—	4				
With wire (Downwards)			—	—	—	—	SPVQ351200*	180	720	D	5	
			SPVQ351300*	SPVQ351400*	SPVQ351500*	—	6					
1	Actuator B	With wire (Right side)	—	SPVQ351700*	SPVQ351800*	SPVQ351900*	—	168	672	C	8	
			With wire (Left side)	—	SPVQ352000*	SPVQ352100*	SPVQ352200*				—	9

Detector

Slide

Push

Rotary

Power

Dual-line
Package Type

General-
purpose Type

Waterproof
Type

Fast Switching
Type

Notes

1. ※ Products with a wire will be supplied as follows.
 - Unless specified, the length of the lead wire is 250mm. Color is either red, black or yellow. Please consult us for modification.
 - Unless circuit is specified, wired (downward) types will apply three wires.
 - Please specify circuits (N.O. or N.C.) for wired (side) types. Unless specified, the circuit will apply N.O.
 - Product with wire will be build-to-order.
2. This unit cannot be used in water (IP67 rating, except for terminal).

Packing Specifications

Tray

Product No.	Number of packages (pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
A	1,300	5,200	540×360×290

Bulk

Product No.	Number of packages (pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
B	400	1,600	555×375×223
C	168	672	
D	180	720	540×360×270

Dimensions

Unit:mm

No.	Style
1	<p>Terminal No. 3-1 ON starting point</p> <p>Terminal No. 3-2 OFF starting point</p> <p>Free position</p> <p>Operating force measurement position</p> <p>Total travel position</p> <p>PC board mounting face</p> <p>Terminal No. 3</p> <p>Terminal No. 2</p> <p>Terminal No. 1</p> <p>0.9</p> <p>2.3</p> <p>5</p> <p>5</p> <p>13</p> <p>4.35</p> <p>4</p> <p>3.3</p> <p>2.3</p> <p>6.1</p> <p>6.4</p> <p>8.4</p> <p>8.7</p> <p>9.1</p> <p>2.5</p> <p>5.8</p> <p>0.5</p> <p>※ Refer to page 49 "Actuator Configurations" for operating part shape. ※ Refer to page 49 "Main Body Configurations" for boss positions.</p>
2	<p>Terminal No. 3-1 ON starting point</p> <p>Terminal No. 3-2 OFF starting point</p> <p>Free position</p> <p>Operating force measurement position</p> <p>Total travel position</p> <p>PC board mounting face</p> <p>Terminal No. 3</p> <p>Terminal No. 2</p> <p>Terminal No. 1</p> <p>7.45</p> <p>4.35</p> <p>2.3</p> <p>4.35</p> <p>4.35</p> <p>13</p> <p>4</p> <p>1.5</p> <p>2.2</p> <p>6.1</p> <p>6.4</p> <p>8.4</p> <p>8.7</p> <p>9.1</p> <p>2.5</p> <p>5.8</p> <p>0.5</p> <p>※ Refer to page 49 "Actuator Configurations" for operating part shape. ※ Refer to page 49 "Main Body Configurations" for boss positions.</p>
3	<p>Terminal No. 3-1 ON starting point</p> <p>Terminal No. 3-2 OFF starting point</p> <p>Free position</p> <p>Operating force measurement position</p> <p>Total travel position</p> <p>PC board mounting face</p> <p>Terminal No. 3</p> <p>Terminal No. 2</p> <p>Terminal No. 1</p> <p>0.9</p> <p>2.3</p> <p>5</p> <p>5</p> <p>13</p> <p>4.15</p> <p>4</p> <p>6.1</p> <p>6.4</p> <p>8.4</p> <p>8.7</p> <p>9.1</p> <p>2.5</p> <p>5.8</p> <p>0.5</p> <p>6</p> <p>2.6</p> <p>※ Refer to page 49 "Actuator Configurations" for operating part shape.</p>
4	<p>Terminal No. 3-1 ON starting point</p> <p>Terminal No. 3-2 OFF starting point</p> <p>Free position</p> <p>Operating force measurement position</p> <p>Total travel position</p> <p>PC board mounting face</p> <p>Terminal No. 3</p> <p>Terminal No. 2</p> <p>Terminal No. 1</p> <p>0.9</p> <p>2.3</p> <p>5</p> <p>5</p> <p>13</p> <p>4.15</p> <p>4</p> <p>6.1</p> <p>6.4</p> <p>8.4</p> <p>8.7</p> <p>9.1</p> <p>2.5</p> <p>5.8</p> <p>0.5</p> <p>6</p> <p>2.6</p> <p>※ Refer to page 49 "Actuator Configurations" for operating part shape.</p>

SPVQ3 Water-proof Type

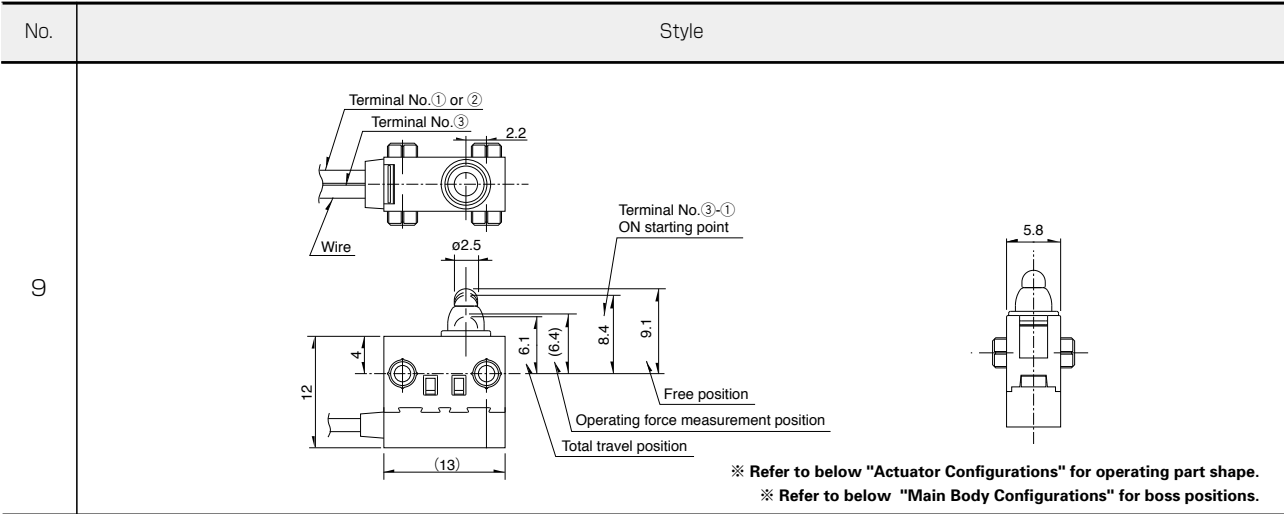
Dimensions

Unit:mm

No.	Style
5	<p>※ Refer to page 49 "Actuator Configurations" for operating part shape.</p>
6	<p>※ Refer to page 49 "Actuator Configurations" for operating part shape. ※ Refer to page 49 "Main Body Configurations" for boss positions.</p>
7	<p>※ Refer to page 49 "Actuator Configurations" for operating part shape.</p>
8	<p>※ Refer to page 49 "Actuator Configurations" for operating part shape. ※ Refer to page 49 "Main Body Configurations" for boss positions.</p>

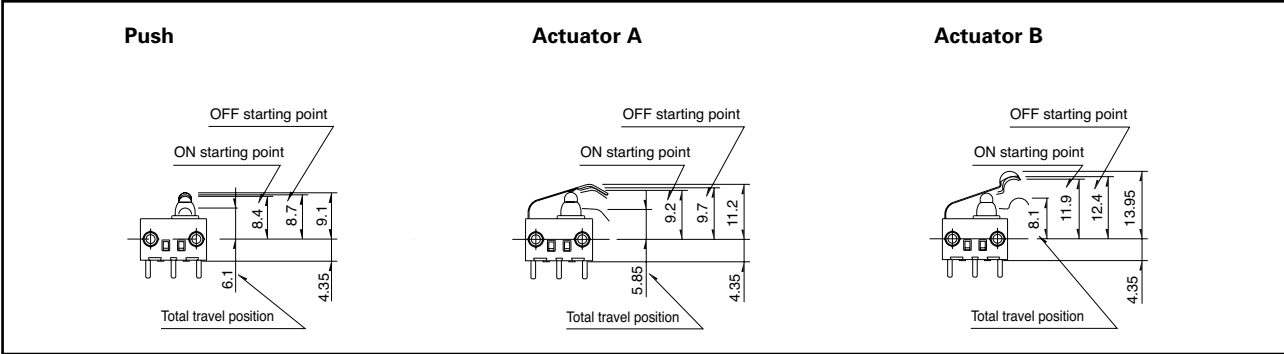
Dimensions

Unit:mm



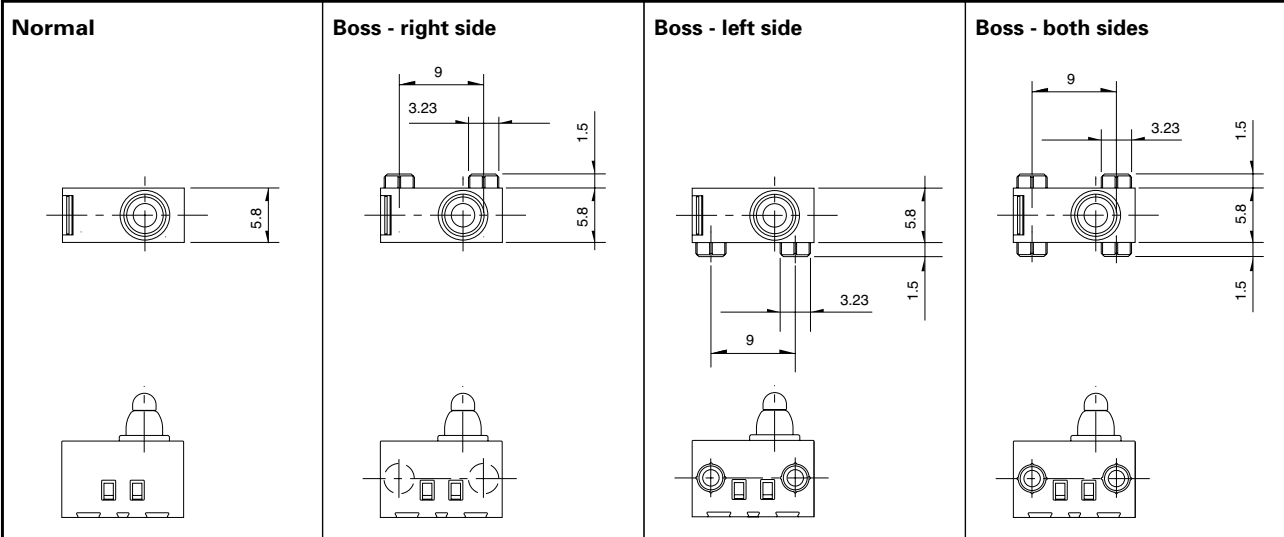
Actuator Configurations

Unit:mm

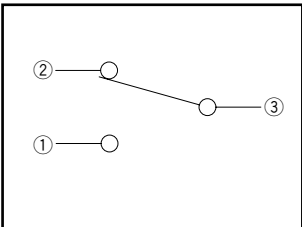


Main Body Configurations

Unit:mm



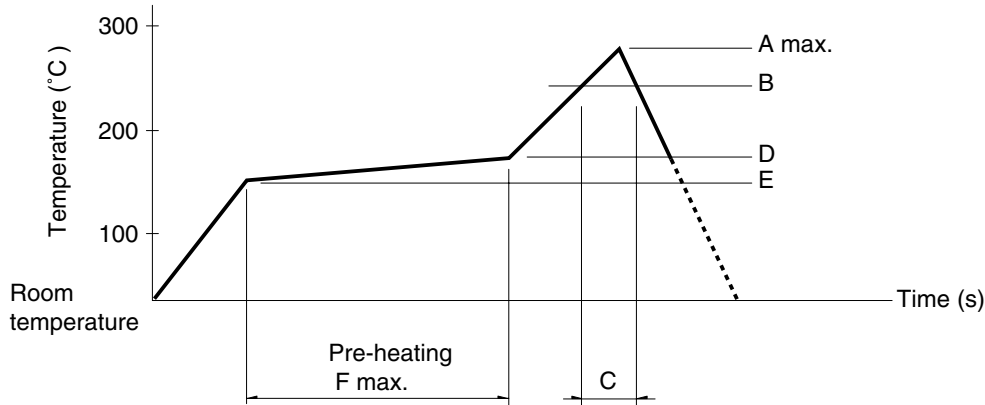
Circuit Diagram



Detector
Slide
Push
Rotary
Power
Dual-in-line Package Type
General-purpose Type
Water-proof Type
Fast Switching Type

Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple $\phi 0.1$ 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 (°C) 3s max.	B (°C)	C (s)	D (°C)	E (°C)	F (s)
SPPB	250	230	40	180	150	120
SPVE	260		40			
SPVL						
SPVM						
SPVN						
SPVR						
SPVS						
SPVT						
SSCM						
SSCQ						
SPVQC	250					

Notes

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	350±5°C	3s max.
SPVQ1, SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SSCN, SPVQA	300±10°C	3 + 1 / 0s
SPPB (Reflow)	300±5°C	5s max.
SSCF, SPPB (For Lead, Dip)	350±10°C	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, SPVQ1, SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SPVQA	100±10°C	60s max.	260±5°C	5±1s
SPPW8, SPPB	100°C max.	60s max.	255±5°C	5±1s
SSCF	—		260±5°C	5±1s