Potentiometers

Slide Potentiometer (Master type)

List of Varieties

Series		RS**N	RS6011*P	RSA0V11M
Photo				
Direction of lever	Horizontal	—	—	—
	Vertical	●	●	●
Number of resistor elements		Dual-unit Single-unit		Single-unit
Travel (mm)		60 100	60	100
Lever type		9-T (T-Bar)	6	—
Length of lever (mm)		8.2	15	10.95
Operating temperature range		-10℃ to +60℃		
Operating life (cycles)		30,000		100,000
Electrical performance	Total resistance	10kΩ	10kΩ 20kΩ	10kΩ
	Resistance taper	15A	1B 15A	1B
	Total resistance tolerance	±20%		
	Rated power	0.1W 0.25W	0.1W 0.2W	0.5W
	Maximum operating voltage	150V AC 350V AC	150V AC, 10V DC 200V AC, 10V DC	500V AC, 10V DC
	Insulation resistance	100MΩ min. 250V DC		
	Voltage proof	250V AC for 1 minute		
Mechanical performance	Operating force	0.3(+0.5, -0.25)N 0.4(+0.5, -0.35)N	0.5(+1.0, -0.4)N	—
	Stopper strength	100N		10N
	Lever push-pull strength	50N		20N
	Lever wobble (Both side)	1.312mm	2.4mm	1.752mm
	Lever deviation (One side)	0.5mm max.		
Automotive		—	—	—

⚠Note

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

Potentiometers Slide Potentiometer (Master type)

Low-profile Master Type (N Fader)

RS**N Series

Thin-profile type with excellent operability, contributing to set design flexibility.

- Total resistance tolerance:±20%
- Operating life:30,000 cycles
- Operating temperature range:-10℃ to +60℃

Applications:Audio_TV:Pro audio

■ Product List

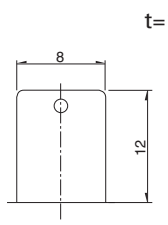
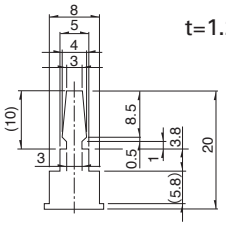
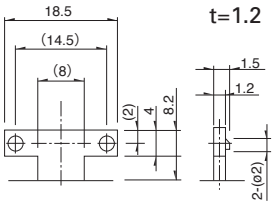
Products No.	Number of resistor elements	Direction of lever	Travel (mm)	Lever type	Length of lever (mm)	Total resistance	Resistance taper	Terminal style	Maximum operating voltage	Automotive	Drawing No.
RS60N111900H	Single-unit	Vertical	60	9-T (T-Bar)	8.2	10kΩ	15A	For PC board	150V AC	—	1
RSA0N111900Q	Single-unit	Vertical	100	9-T (T-Bar)	8.2	10kΩ	15A	For PC board	350V AC	—	2
RS60N1219A04	Dual-unit	Vertical	60	9-T (T-Bar)	8.2	10kΩ	15A	For PC board	150V AC	—	3
RSA0N1219A03	Dual-unit	Vertical	100	9-T (T-Bar)	8.2	10kΩ	15A	For PC board	350V AC	—	4

⚠Note

1. This catalog shows only outline specifications. When using the products, please obtain formal specifications for supply.
2. Place your purchase order in N minimum package units (N: integer).
3. Products other than those listed in above products are also available. Please contact us for details.
4. Please read "Lever Types" for the kinds and code of lever type.

■ Lever Types

Unit:mm

Configuration code	1	4	9-T (T-Bar)
Dimensions			

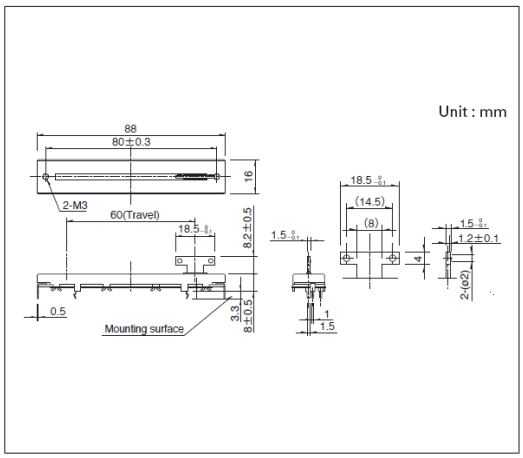
■ Packing Specifications

Tray

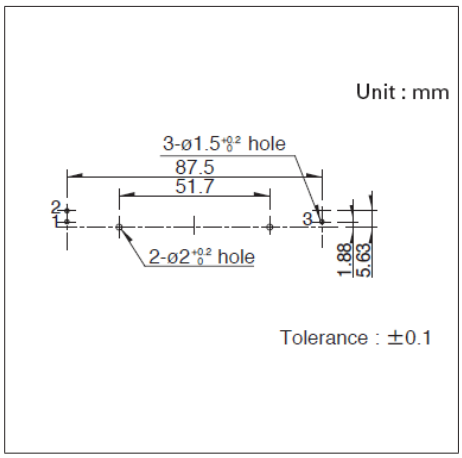
Products No.	Number of packages(pcs.)		Export package measurements (mm)
	1 case / Japan	1 case / export packing	
RS60N111900H RS60N1219A04	300	600	517 x 377 x 371
RSA0N111900Q RSA0N1219A03	200	400	517 x 377 x 371

Drawing No.1

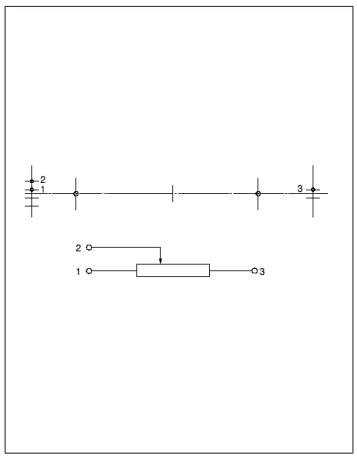
■ Dimensions



■ Mounting Hole Dimensions



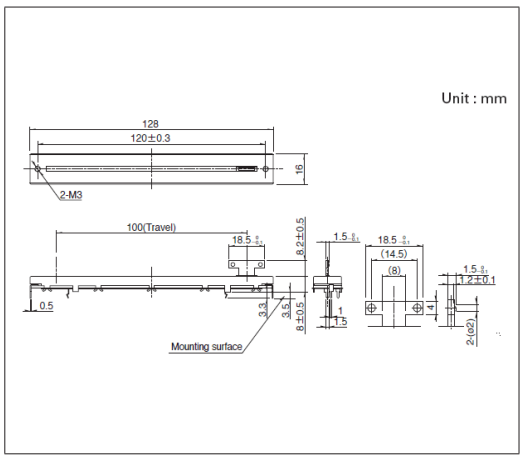
■ Terminal Layout / Circuit Diagram



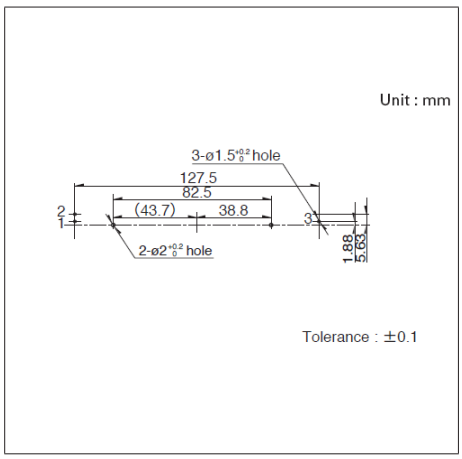
Viewed from mounting side.

Drawing No.2

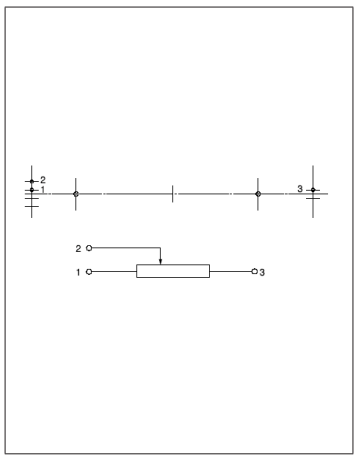
■ Dimensions



■ Mounting Hole Dimensions



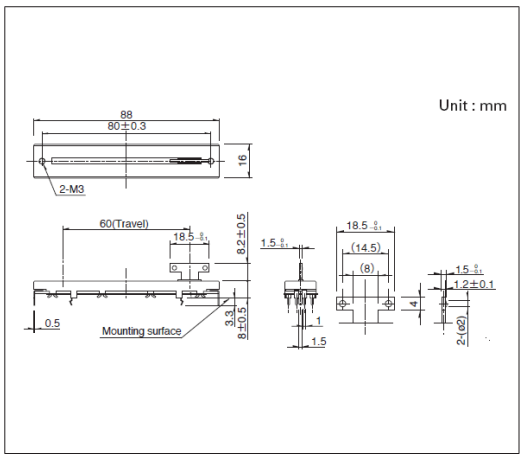
■ Terminal Layout / Circuit Diagram



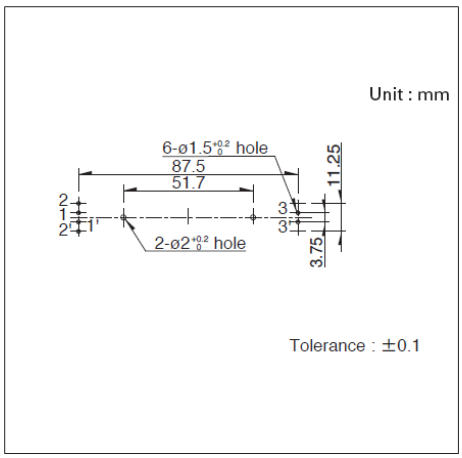
Viewed from mounting side.

Drawing No.3

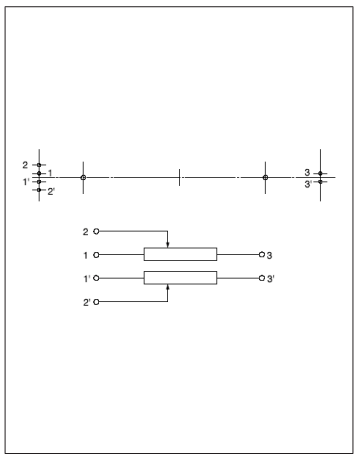
■ Dimensions



■ Mounting Hole Dimensions



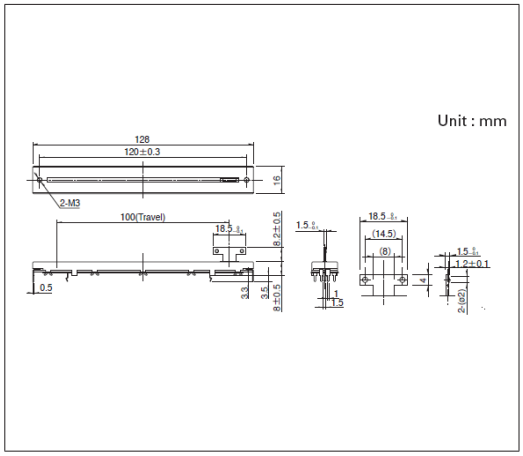
■ Terminal Layout / Circuit Diagram



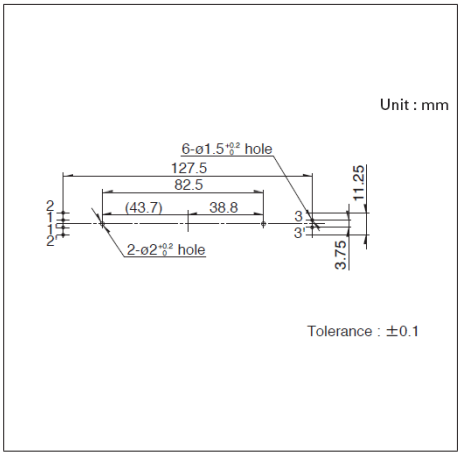
Viewed from mounting side.

Drawing No.4

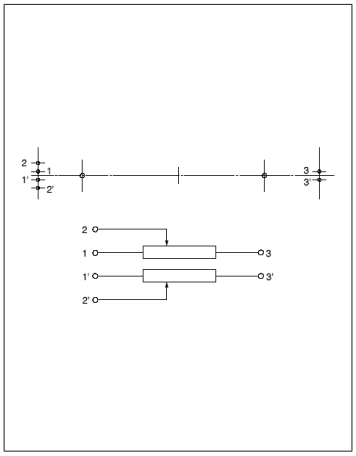
■ Dimensions



■ Mounting Hole Dimensions



■ Terminal Layout / Circuit Diagram



Viewed from mounting side.

Potentiometers Slide Potentiometer (Master type)

Low-profile Master Type (Super P Fader)

RS6011*P Series

Compact design with excellent operation feel, ideal for mixer faders.

- Total resistance tolerance:±20%
- Operating life:30,000 cycles
- Operating temperature range:-10℃ to +60℃

Applications:Audio_TV:Pro audio

■ Product List

Products No.	Number of resistor elements	Direction of lever	Travel (mm)	Lever type	Length of lever (mm)	Total resistance	Resistance taper	Maximum operating voltage	Automotive	Drawing No.
RS6011SP6003	Single-unit	Vertical	60	6	15	10kΩ	1B	200V AC, 10V DC	—	1
RS6011SP6004	Single-unit	Vertical	60	6	15	20kΩ	15A	200V AC, 10V DC	—	
RS6011DP6002	Dual-unit	Vertical	60	6	15	10kΩ	15A	150V AC, 10V DC	—	2
RS6011DP6003	Dual-unit	Vertical	60	6	15	20kΩ	15A	150V AC, 10V DC	—	

⚠Note

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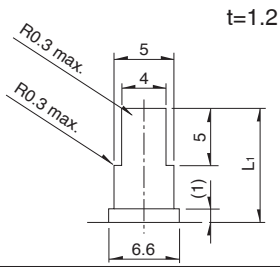
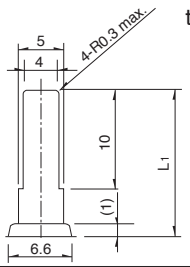
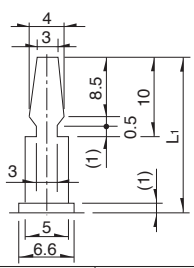
2. Place your purchase order in N minimum package units (N: integer).
3. Products other than those listed in above products are also available. Please contact us for details.
4. Please read "Lever Types" for the kinds and code of lever type.

■ Lever Types

Unit:mm

Configuration code	9-1 (Metal lever)	6 (Metal lever)	4 (Metal lever)	
Dimensions				
Length L1	10	15	15	20

■ Packing Specifications

Tray

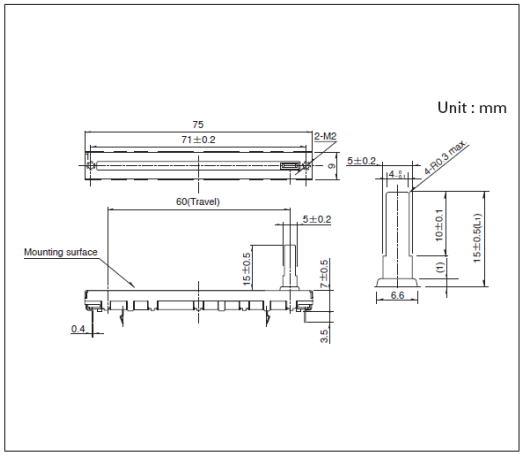
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
900	900	529 x 373 x 273

Low-profile Master Type (Super P Fader)

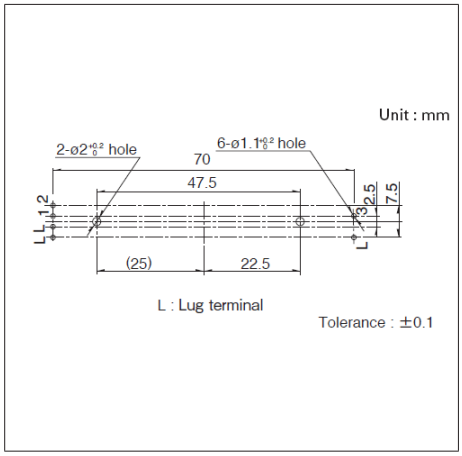
RS6011*P Series

Drawing No.1

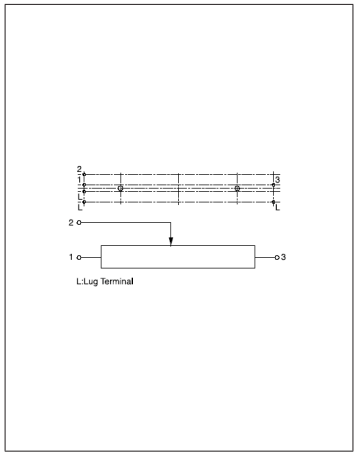
■ Dimensions



■ Mounting Hole Dimensions



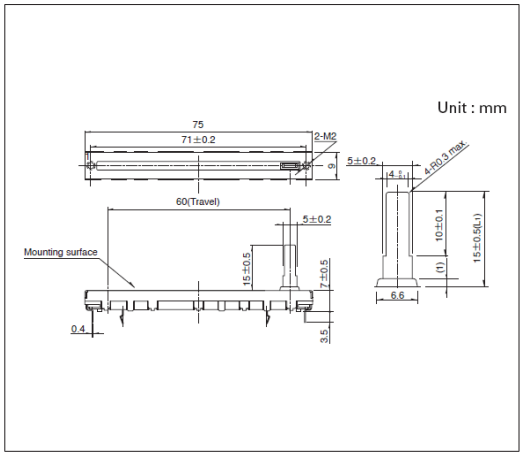
■ Terminal Layout / Circuit Diagram



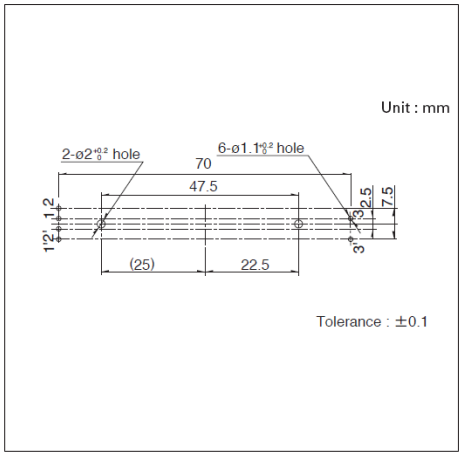
1. Viewed from mounting side.
2. Lug terminals for terminals 1' 2' 3'.

Drawing No.2

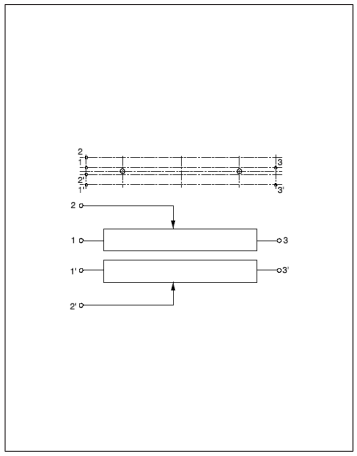
■ Dimensions



■ Mounting Hole Dimensions



■ Terminal Layout / Circuit Diagram



Viewed from mounting side.

Motor-driven Master Type (Motor V Fader)
RSA0V11M Series

Delivers excellent operation feel and high-speed tracking during motor-driven operation.

- Total resistance tolerance:±20%
- Operating life:100,000 cycles
- Operating temperature range:-10℃ to +60℃

Applications:Audio_TV:Pro audio

■ Product List

Products No.	Number of resistor elements	Direction of lever	Travel (mm)	Length of lever (mm)	Total resistance	Resistance taper	Terminal style	Maximum operating voltage	Automotive	Drawing No.
RSA0V11M9002	Single-unit	Vertical	100	10.95	10kΩ	1B	Connector	500V AC, 10V DC	—	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).

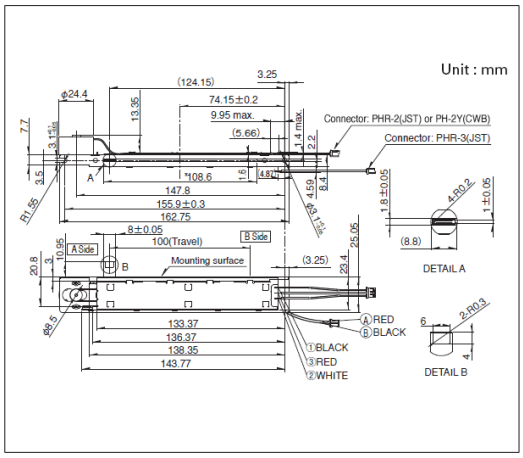
■ Packing Specifications

Tray

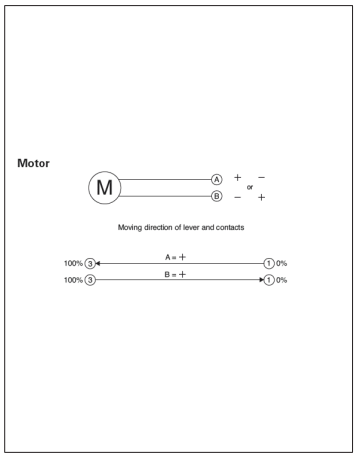
Number of packages(pcs.)		Export package measurements (mm)
1 case / Japan	1 case / export packing	
80	80	540 x 360 x 205

Drawing No.1

■ Dimensions



■ Circuit Diagram



Slide Potentiometers / Soldering Conditions

■ Reference for Manual Soldering

Series	Tip temperature	Duration of Soldering time	No. of solders
RS□□1, RS□□H, RS□□N, RS6011□P	350℃ max.	3s max.	1 time

■ Reference for Dip Soldering

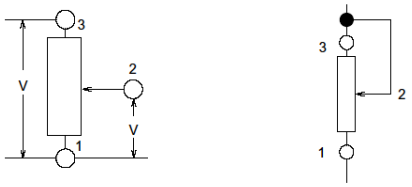
Series	Preheating		Dip soldering		Number of soldering
	Soldering surface temperature	Heating time	Soldering temperature	Soldering time	
RS□□1, RS□□H, RS□□N, RS6011□P	100℃ max.	1 min. max.	260℃	5s max.	1 time

Potentiometers / Cautions

Recommended Circuit Configuration

Please use the potentiometer in the voltage adjustment circuit (Fig. A). Avoid using it in the current adjustment circuit (Fig. B) as it is affected by the contact resistance between the resistive element and the wiper.

A.Voltage divider type B.Current controller type



Direct Voltage

When direct voltage is flown through this part, terminal to terminal insulation may deteriorate depending on the use environment. This is due to a migration phenomenon. Contact us if you are planning to use this part under direct voltage.

Impedance on the Output Side

There is a possibility that might de affected by contact resistance of resistive element and wiper in case of low impedance of output side in voltage regulation circuit. For this reason, we require that you adjust to impedance of output side more than 100 times of total resistance.

Residual Resistance

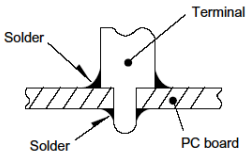
Although electric poles of resistors are generally formed by silver printing, we provide carbon coating over the silver poles to enhance reliability against sulfurization. Contact us if you wish to use the part in a low residual resistance state.

Dew Condensation

Avoid using the potentiometer where dew or water drops might occur on the surface of the resistor, etc. Deterioration of insulation or shorting may occur.

Soldering

To avoid potential contact issues, please do not solder wires to the top surface of the printed circuit board as shown in the diagram.
Solder all metal lugs into a substrate before use.



Stress Being Applied to the Terminals

Always pay special attention not to apply excessive stress when handling the terminals. Also, be sure to design appropriate soldering conditions.

Looseness of the Shaft

When lengthy shaft lengths are being employed, the looseness (deviation) tends to grow in proportion to the shaft length. Conducting a test under actual operating conditions is recommended.

Potentiometers / Cautions

Chassis Mounting

The use of a nut to fasten this part may lead to excessive tightening and can deteriorate the rotary contact performance, or strip the threads. Handle with care when tightening the nut.

Use of Chemicals

Since synthetic resins such as polycarbonate are being used as the material for the insulated type shafts, avoid using this part under gassy environments of such chemicals as ammonia, amines, alkali water solutions, aromatic hydrocarbons, ketones, esters and halogenated hydrocarbons, especially, under their intensive gas environments.

Operation at Low Temperature

When these products are expected to be used under low temperature environments such as applications for car radios and car stereos, we can customize them for easier and more smooth rotary movements. When placing orders, indicate whether the low temperature specification is necessary or not.

Storage

1. Store the products as delivered, at a normal temperature and humidity, without direct sunshine and corrosive gas ambient. Use them at an earliest possible timing, not later than six months upon receipt.

2. After breaking the seal, keep the products in a plastic bag to shut out ambient air, store them in the same environment as above, and use them up as soon as possible.

3. Do not stack too many switches.

The above operation notes are quoted from the
"Precaution and Guideline of Potentiometer for Electrical Devices" , which is a technical report issued by the Japan Electronics and Information Technology Industries Association RCR-2191A (in March 2002).
For details, see the above technical report.