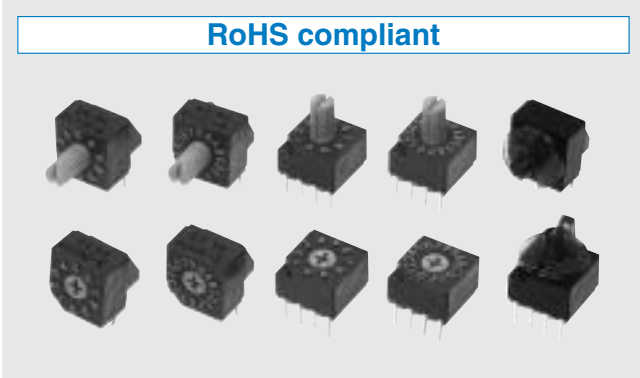


ROTARY CODED SWITCHES

S-1000A/2000A

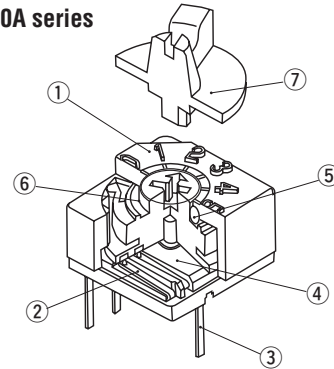
RoHS compliant



FEATURES

- Lead-free soldering
- Protection against dust and whole cleaning after soldering is possible
- Pin compatible with conventional DIP switches
- Translucent knob with flange type (S-1200A/2200A series)
 - Distinguished visibility with translucent flange
 - Settable with fingers or screwdriver

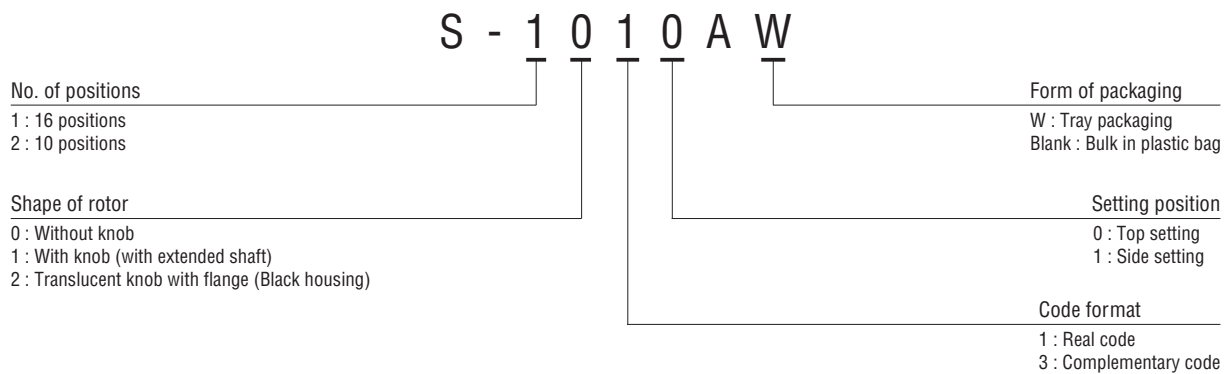
INTERNAL STRUCTURE S-1000A / 2000A series



Part name	Material	Flammability
① Housing	Polybutyleneterephthalate	UL-94HB
② Contact	Copper alloy, Gold-plated	—
③ Terminal pin		
④ Base	Polybutyleneterephthalate	UL-94HB
⑤ "O" ring	Silicone rubber	
⑥ Insert rotor	Rotor : Polyoxymethylene Pattern : Copper alloy, Gold-plated	UL-94V-2
⑦ Translucent knob with flange	Polyarylate * S-12□□A/22□□A only	

CFCs, Halon, Carbon tetrachloride and designated bromic flame retardant PBBOs and PBBs are not used in our products.

PART NUMBER DESIGNATION



S-1000A/2000A ROTARY CODED SWITCHES

LIST OF PART NUMBERS

Shape	Form of packing	Binary coded decimal		Binary coded hexadecimal		Pieces in package	
		Real code	Complementary code	Real code	Complementary code		
Top setting	Without knob	Tray packaging	S-2010AW	S-2030AW	S-1010AW	S-1030AW	50 pcs./tray
		Plastic bag	S-2010A	S-2030A	S-1010A	S-1030A	25 pcs./pack
	With knob	Tray packaging	S-2110AW	S-2130AW	S-1110AW	S-1130AW	50 pcs./tray
		Plastic bag	S-2110A	S-2130A	S-1110A	S-1130A	25 pcs./pack
	Translucent knob with flange	Tray packaging	S-2210AW	S-2230AW	S-1210AW	S-1230AW	50 pcs./tray
		Plastic bag	S-2210A	S-2230A	S-1210A	S-1230A	25 pcs./pack
Side setting	Without knob	Tray packaging	S-2011AW	S-2031AW	S-1011AW	S-1031AW	50 pcs./tray
		Plastic bag	S-2011A	S-2031A	S-1011A	S-1031A	25 pcs./pack
	With knob	Tray packaging	S-2111AW	S-2131AW	S-1111AW	S-1131AW	50 pcs./tray
		Plastic bag	S-2111A	S-2131A	S-1111A	S-1131A	25 pcs./pack
	Translucent knob with flange	Tray packaging	S-2211AW	S-2231AW	S-1211AW	S-1231AW	50 pcs./tray
		Plastic bag	S-2211A	S-2231A	S-1211A	S-1231A	25 pcs./pack

* Verify the above part numbers when placing orders.
Tray version can be supplied only in tray units.

TERMINAL CONNECTION / P.C.B. THROUGH HOLE DIMENSIONS

(Unit: mm)

	Top setting	Side setting
Terminal pin layout (Bottom view)	<p>Real code</p> <p>Complementary code</p>	<p>Operating face of real code</p> <p>Operating face of complementary code</p>
P.C.B. dimensions (Bottom view)		

CODE FORMAT

No. of positions		S-1000A series (16 positions)															
		S-2000A series (10 positions)										A	B	C	D	E	F
Position		0	1	2	3	4	5	6	7	8	9						
Code	Real code	8								●	●	●	●	●	●	●	
		4					●	●	●			●	●	●	●	●	
		2			●	●			●	●			●	●		●	●
	Complementary code	8	●	●	●	●	●	●	●	●							
		4	●	●	●	●					●	●	●	●			
		2	●	●			●	●			●	●		●	●		
	1			●				●				●				●	

● ... Contact closed

S-1000A/2000A
ROTARY CODED SWITCHES

■ STANDARD SPECIFICATIONS

Circuit type	BCD (Real code, complementary code) BCH (Real code, complementary code)
Operating temperature range	-40 ~ 85 °C
Storage temperature range	
Sealing	Washable by "O" ring
Net weight	Approx. 0.87 g (S-1010A, S-1030A, S-2010A, S-2030A) Approx. 1.13 g (S-1011A, S-1031A, S-2011A, S-2031A) Approx. 0.97 g (S-1110A, S-1130A, S-2110A, S-2130A) Approx. 1.23 g (S-1111A, S-1131A, S-2111A, S-2131A) Approx. 1.02 g (S-1210A, S-1230A, S-2210A, S-2230A) Approx. 1.28 g (S-1211A, S-1231A, S-2211A, S-2231A)

■ ELECTRICAL CHARACTERISTICS

Contact rating	DC50 V 100 mA DC5 V 100 mA DC20 mV 1 μA
Non-switching	
Switching Minimum	
Contact resistance	100 mΩ maximum
Insulation resistance	1000 MΩ (DC100 V) minimum
Dielectric strength	AC300 V, 60 s

■ MECHANICAL CHARACTERISTICS

No. of positions	16 (S-1000A), 10 (S-2000A)
Adjustment torque	13 mN·m {133 gf·cm} minimum
Stepping angle	22.5° (S-1000A), 36° (S-2000A)
Terminal strength	15 N {1.53 kgf} minimum
Solderability	245 ± 3 °C, 2 ~ 3 s
Soldering heat	Flow : 260 ± 3 °C as the temperature in a pot of molten solder, immersion from head of terminal to backside of board, 5 ~ 6 s, two times maximum
	Manual soldering : 380 ± 10 °C, 3 ~ 4 s

■ ENVIRONMENTAL CHARACTERISTICS

Vibration	Amplitude 1.5 mm or Acceleration 98 m/s ² , 10-500-10 Hz, 3 directions for 2 h each
Shock	490 m/s ² , 11 ms 6 directions for 3 times each
Load life	10000 steps DC5 V, 100 mA
Humidity (Steady state)	60 °C, Relative humidity 90 ~ 95 %, 1000 h
High temperature exposure	85 °C, 1000 h
Low temperature exposure	-40 °C, 96 h
Thermal shock	-40 (0.5 h) ~ 85 °C (0.5 h), 5 cycles

{ } : Reference only

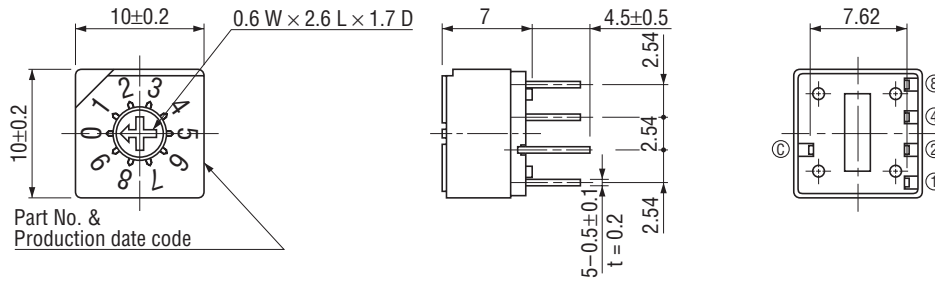
S-1000A/2000A ROTARY CODED SWITCHES

OUTLINE DIMENSIONS

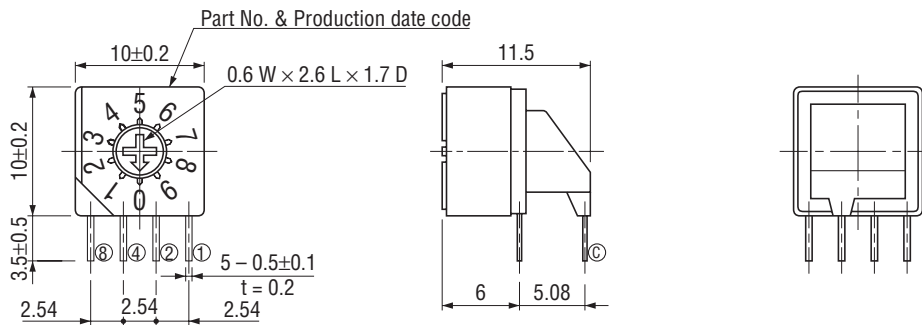
Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)

(S-2000A series)

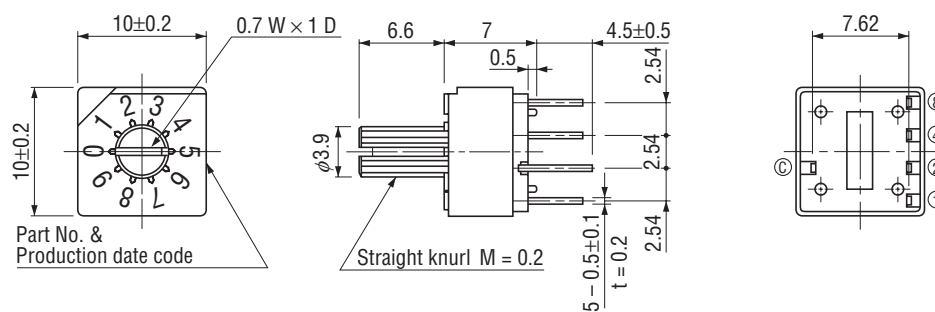
- S-2010A
 - S-2030A
- Top setting



- S-2011A
 - S-2031A
- Side setting



- S-2110A
 - S-2130A
- Top setting



- S-2111A
 - S-2131A
- Side setting

