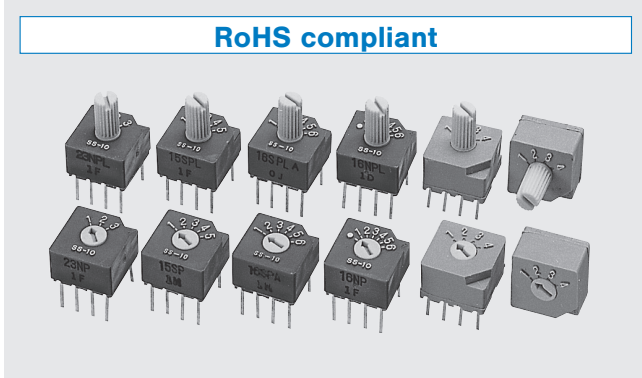




**THE DATASHEET OF
S-2050**





INTERNAL STRUCTURE
SS-10 series

Part name	Material
① Rotor	Polyoxymethylene
② "O" ring	Silicone rubber
③ Base	Polybutyleneterephthalate
④ Terminal pin	Copper alloy, Gold-plated
⑤ Contact	Copper alloy, Gold-plated
⑥ P.C.B.	Gold-plated epoxy board
⑦ Housing	Polybutyleneterephthalate

FEATURES

- RoHS compliant
- Compact-size DIP pin configuration
- Protected against dust and washable after soldering
- Self-cleaning mechanism
- Resin material is UL Recognized 94HB

PART NUMBER DESIGNATION

SS-10 - 1 6 S P - L - A E W

<p>Series name</p> <p>No. of poles 1 : 1 pole 2 : 2 poles</p> <p>No. of contacts 3 : 3 contacts (2 poles only) 5 : 5 contacts (1 pole only) 6 : 6 contacts (1 pole only)</p> <p>Contact timing N : Non-shorting (1pole 6 contacts with OFF, 2 poles 3 contacts) S : Shorting (1 pole 5 contacts, 1 pole 6 contacts without OFF)</p> <p>Setting position P : Top setting</p>	<p>Form of packaging W : Tray packaging Blank : Plastic bag</p> <p>Terminal pin E : Au (Lead-free)</p> <p>Schematic ※ 1 - A : Without OFF position Blank : With OFF position</p> <p>Shape of rotor - L : With knob (extended shaft) Blank : Without knob</p>
--	--

※ 1 : The designation for schematic is only applicable to SS-10-16□□.
The other partnumbers (ex. SS-10-15SPEW) are without OFF position.

S - 2 0 5 0 W

<p>Series name</p> <p>Shape of rotor 0 : Without knob 1 : With knob</p>	<p>Form of packaging W : Tray packaging Blank : Plastic bag</p> <p>Setting position 0 : Top setting 1 : Side setting</p>
---	--

※ Please refer to the LIST OF PART NUMBERS when placing orders.

SS-10/S-2050

ROTARY SELECTOR SWITCHES

LIST OF PART NUMBERS

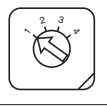
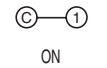
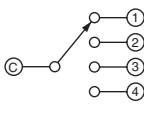
Circuit type	Shape		Form of packaging	Contact timing		Packaging quantity
				Non-shorting	Shorting	
1 pole 4 contacts	Top setting	Without knob	Tray packaging	S-2050W		50 pcs./tray
			Plastic bag	S-2050		25 pcs./pack
		With knob	Tray packaging	S-2150W		50 pcs./tray
			Plastic bag	S-2150		25 pcs./pack
	Side setting	Without knob	Tray packaging	S-2051W		50 pcs./tray
			Plastic bag	S-2051		25 pcs./pack
	With knob	Tray packaging	S-2151W		50 pcs./tray	
		Plastic bag	S-2151		25 pcs./pack	
1 pole 5 contacts	Without knob	Tray packaging		SS-10-15SPEW	50 pcs./tray	
				SS-10-15SPE	25 pcs./pack	
		Plastic bag		SS-10-15SP-LEW	50 pcs./tray	
				SS-10-15SP-LE	25 pcs./pack	
1 pole 6 contacts	With OFF	Without knob	Tray packaging	SS-10-16NPEW	50 pcs./tray	
			Tray packaging	SS-10-16NPE	25 pcs./pack	
		With knob	Tray packaging	SS-10-16NP-LEW	50 pcs./tray	
			Tray packaging	SS-10-16NP-LE	25 pcs./pack	
	Without OFF	Without knob	Tray packaging	SS-10-16SP-AEW	50 pcs./tray	
			Tray packaging	SS-10-16SP-AE	25 pcs./pack	
		With knob	Tray packaging	SS-10-16SP-L-AEW	50 pcs./tray	
			Tray packaging	SS-10-16SP-L-AE	25 pcs./pack	
2 poles 3 contacts	Without knob	Tray packaging		SS-10-23NPEW	50 pcs./tray	
				SS-10-23NPE	25 pcs./pack	
		With knob	Tray packaging	SS-10-23NP-LEW	50 pcs./tray	
			Tray packaging	SS-10-23NP-LE	25 pcs./pack	

☐ : Not manufactured

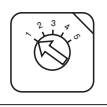
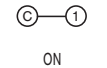
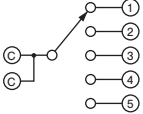
※ Verify the above part numbers when placing orders.
Tray version can be supplied only in tray nuts.

SCHEMATIC DIAGRAMS



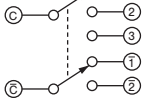
1 pole 4 contacts

Series	Switching specifications	Schematic
S-2050 S-2051 S-2150 S-2151	  ON	

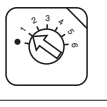
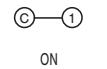
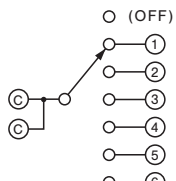
1 pole 5 contacts

Series	Switching specifications	Schematic
SS-10-15SPE SS-10-15SP-LE	  ON	


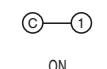
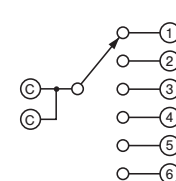
2 poles 3 contacts

Series	Switching specifications	Schematic
SS-10-23NPE SS-10-23NP-LE	  ON	

1 pole 6 contacts (With OFF)

Series	Switching specifications	Schematic
SS-10-16NPE SS-10-16NP-LE	  ON	

1 pole 6 contacts (Without OFF)

Series	Switching specifications	Schematic
SS-10-16SP-AE SS-10-16SP-L-AE	  ON	

SS-10/S-2050

ROTARY SELECTOR SWITCHES

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

(Unit: mm)

	SS-10-15	SS-10-16	SS-10-23	S-2050 S-2150	S-2051 S-2151	
Terminal pin layout (Bottom view)						
P.C.B. dimensions (Bottom view)	Dimension is common to SS-10-15, SS-10-16 and SS-10-23 series.					

STANDARD SPECIFICATIONS

Circuit type	1 pole 4 contacts 1 pole 5 contacts 1 pole 6 contacts 2 poles 3 contacts
Operating temperature range	-25 ~ 70 °C
Storage temperature range	
Sealing	Washable by "O" ring ※ Please refer to page 149, 150
Net weight	Approx. 0.84 g (without knob) Approx. 0.94 g (with knob)

ELECTRICAL CHARACTERISTICS

Contact rating	DC50 V 100 mA DC5 V 100 mA DC20 mV1µA
Non-switching	
Switching	
Minimum	
Contact timing	Shorting Non-shorting
Contact resistance	100 mΩ maximum
Insulation resistance	100 MΩ (DC100 V) minimum
Dielectric strength	AC300 V, 60 s

MECHANICAL CHARACTERISTICS

No. of positions	3, 4, 5, 6
Adjustment torque	40 mN·m {408 gf·cm} maximum
Stopper strength	50 mN·m {510 gf·cm} minimum
Stepping angle	36° (1 pole 4 contacts) 36° (2 poles 3 contacts) 30° (1 pole 5 contacts) 22.5° (1 pole 6 contacts, with OFF) 28° (1 pole 6 contacts, without OFF)
Terminal strength	15 N {1.53 kgf} minimum
Solderability	245 ± 3 °C, 2 ~ 3 s
Soldering heat	Flow soldering 260 ± 3 °C, 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
Humidity (Steady state)	40 °C, Relative humidity 90~95%, 240 h
Load life	500 cycles minimum DC5 V, 100 mA
High temperature exposure	70 °C, 240 h
Low temperature exposure	-25 °C, 96 h
Thermal shock	-25 (0.5 h) ~ 70 °C (0.5 h), 5 cycles

{ } : Reference only

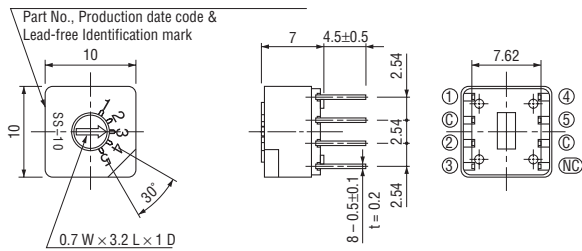
SS-10/S-2050

ROTARY SELECTOR SWITCHES

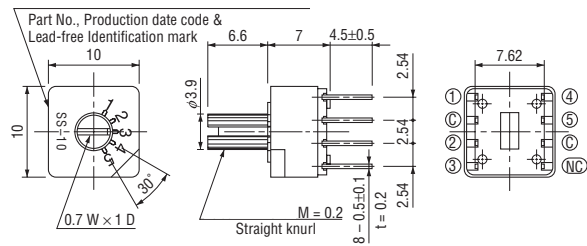
OUTLINE DIMENSIONS

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

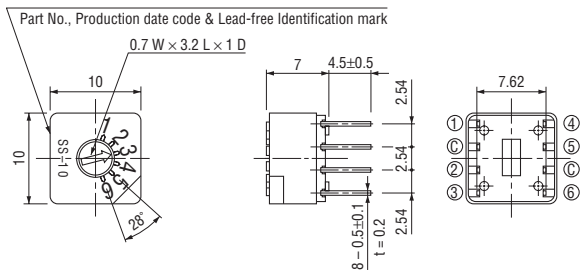
SS-10-15SPE



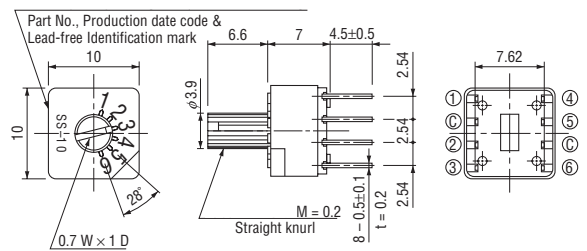
SS-10-15SP-LE



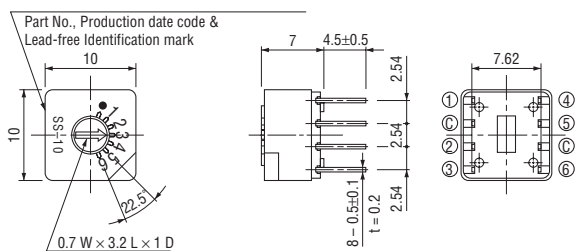
SS-10-16SP-AE



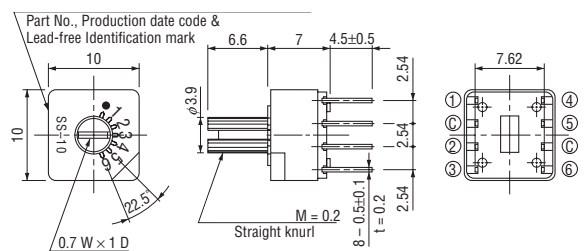
SS-10-16SP-L-AE



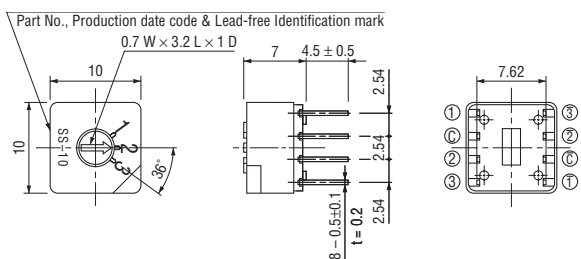
SS-10-16NPE



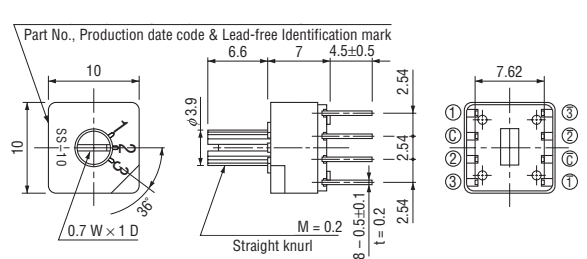
SS-10-16NP-LE



SS-10-23NPE



SS-10-23NP-LE



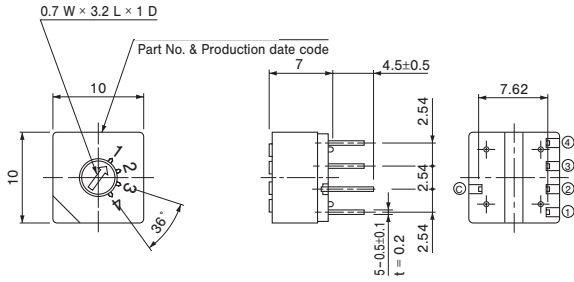
SS-10/S-2050

ROTARY SELECTOR SWITCHES

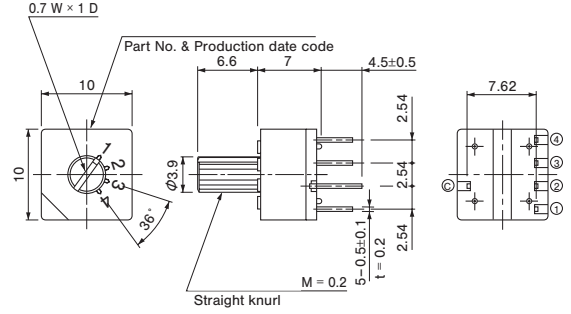
OUTLINE DIMENSIONS

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

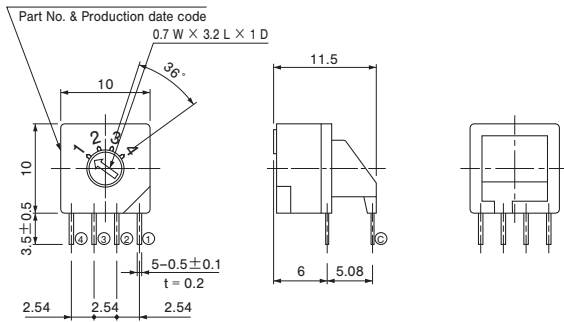
S-2050



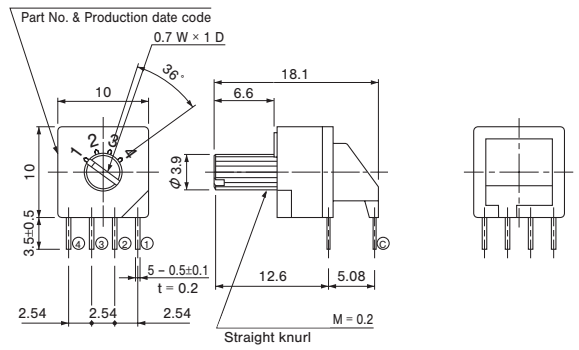
S-2150



S-2051



S-2151

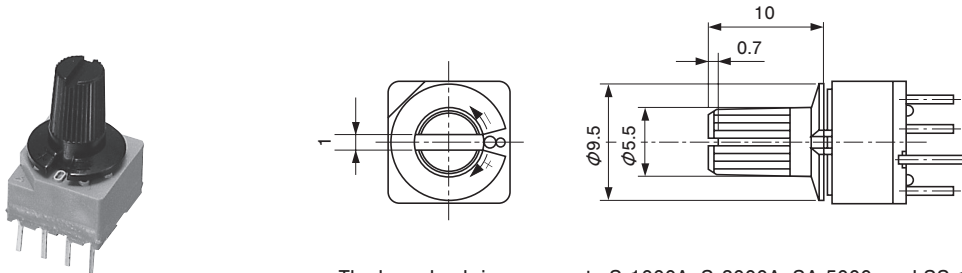


SS-10/S-2050

ROTARY SELECTOR SWITCHES

SWITCHES WITH KNOB AS EXTENDED SHAFT

(Unit: mm)



The large knob is common to S-1000A, S-2000A, SA-5000, and SS-10 series.

※ Knob can't be detached due to being fixed. Simple knob can't be sold.

PACKAGING SPECIFICATIONS

<Tray packaging specifications>

- Tray version is packaged in 50 pcs. per tray. Orders will be accepted for units of 50 pcs., i. e., 50, 100, 150 pcs. etc.
- Tray version is boxed with 10 trays.

<Bulk pack specifications>

- The smallest unit of bulk pack in a plastic bag is 10 pcs. per pack.
Orders will be accepted for unit of minimum 10 pcs., i.e., 10, 20, 30 pcs., etc.
- Boxing of bulk in a plastic bag is performed with 25 pcs. (standard 50 pcs.) per box.

<Note> : The switch with a large knob for manual adjustment is available as a semi-standard item.

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

- ⊖ [View S-2050 on WIN SOURCE](#)
- ⊖ [Nidec Copal Electronics Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

- ✓ Global Sourcing Solution
- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management