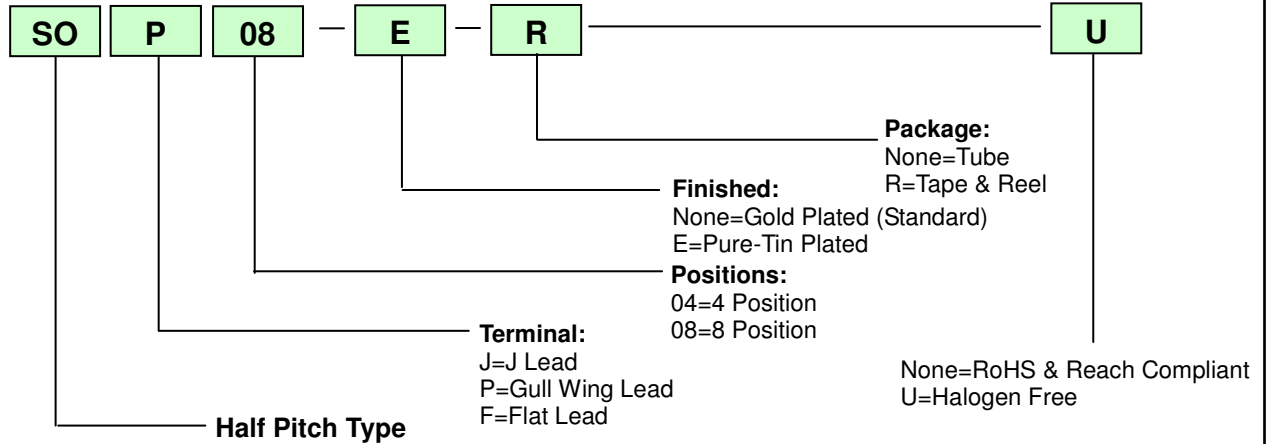


MODEL	SPECIFICATION DIP SWITCH RoHS&REACH Compliant / Halogen Free	SP-001	Page
SO series Half Pitch Type			1/8

Order Information



Specifications

◆ Contact Rating	Switching.....25mA, 24VDC
	Non-Switching.....100mA, 50VDC
◆ Contact Resistance	Initial.....50mΩ Max.
	After Reliability Test.....100mΩ Max.
◆ Insulation Resistance	.....100MΩ Min. at 500VDC
◆ Dielectric Strength	.....300VAC / 1 minute
◆ Operating Force	.....500g Max
◆ Travel	.....0.7mm
◆ Mechanical Life	.....2,000 cycles (Min.)
◆ Electrical Life	.....1,000 cycles / 25mA, 24VDC
◆ Operating Temperature	.....-40°C ~ +105°C
◆ Storage Temperature	.....-40°C ~ +85°C

Soldering Information

- ◆ **Hand Soldering**
Soldering iron of 30W (or under) at 300°C max. for 4 secs. +/- 1 sec.
- ◆ **Reflow Soldering**
 - (1) Gold-plated types allow 2~3-time reflow process.
 - (2) Tin-plated types allow 1-time process only.
 - (3) For Vapor Phase Heating (VPH) use, the switch must be tape-sealed.
- ◆ Keep all actuators in “OFF” position during soldering and cleaning processes.

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SO series			2/8
Half Pitch Type			

Classification Reflow Profiles

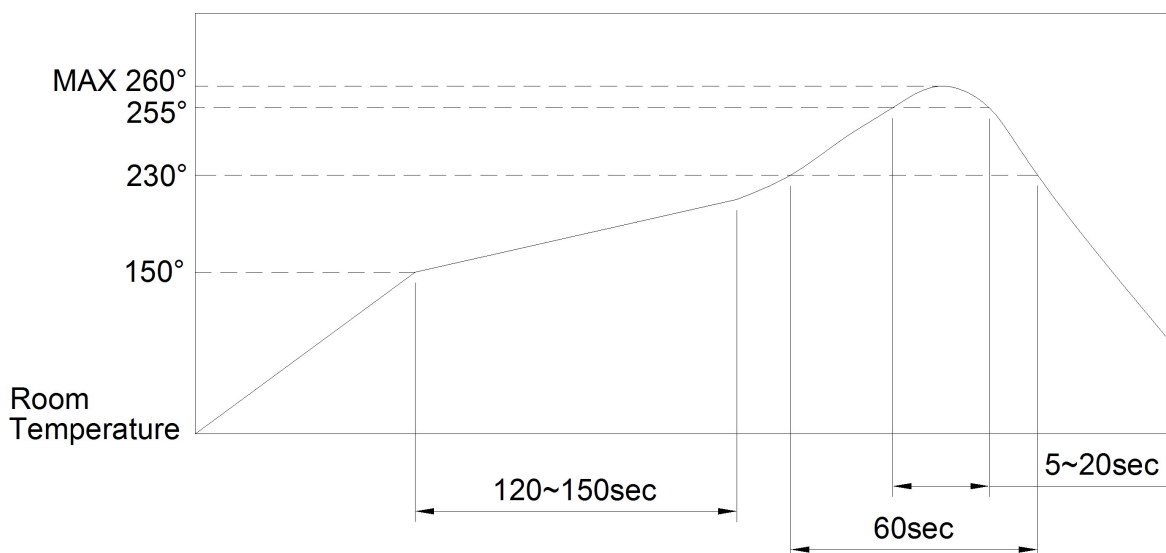
Profile Feature	Pb-Free Assembly
Preheat / Soak	
Temperature Min ($T_{s_{min}}$)	150°C
Temperature Max ($T_{s_{max}}$)	200°C
Time(ts) from ($T_{s_{min}}$ to $T_{s_{max}}$)	60 ~ 120 seconds
Ramp-up Rate (T_L to T_p)	3°C/second max
Liquidous temperature (T_L)	217°C
Time (t_L) maintained above to T_L	60 ~ 150 seconds
Peak package body temperature (T_p)	For users T_p must not exceed the Classification temp:260°C (Package Thickness:1.6~2.5mm) For suppliers T_p must equal or exceed the Classification temp:260°C (Package Thickness:1.6~2.5mm)
Time (t_p) within 5°C of specified classification Temperature (T_c)	30 seconds
Ramp-Down Rate (T_p to T_L)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max
*Tolerance for peak profile temperature(T_p) is defined as a supplier minimum and a user maximum	

Note 1: All temperatures refer to topside of the package, measured on the package body surface.

Note 2: Time within 5 °C of actual peak temperature (t_p) specified for the reflow profiles is a “supplier” minimum and “user” maximum.

Source: IPC/JEDEC J-STD-020D.1

Recommended Reflow Soldering Conditions



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SO series Half Pitch Type			3/8

Switch Operation and Taping

- (1) Use tweezers or ball-point pen for operation.
- (2) Flux cleaning should be done without removing the Tape.
- (3) If the tape is removed, it adheres less than before when it is placed back on, possibly causing flux inflow
- (4) Do Not Remove Tape sealed before Reflow processing
- (5) Ultrasonic cleaning not recommended without Tape sealed.

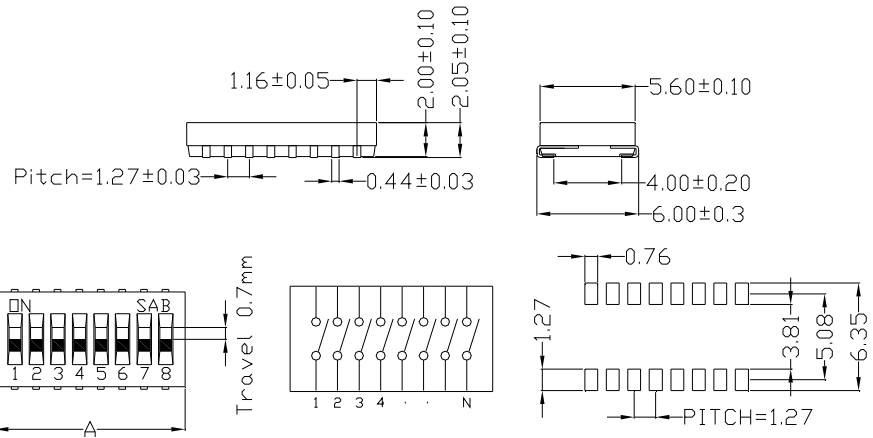
- ※ All switches must set in OFF position when through Soldering process.
- ※ Any flux enters the switch may influence contact function.

Materials

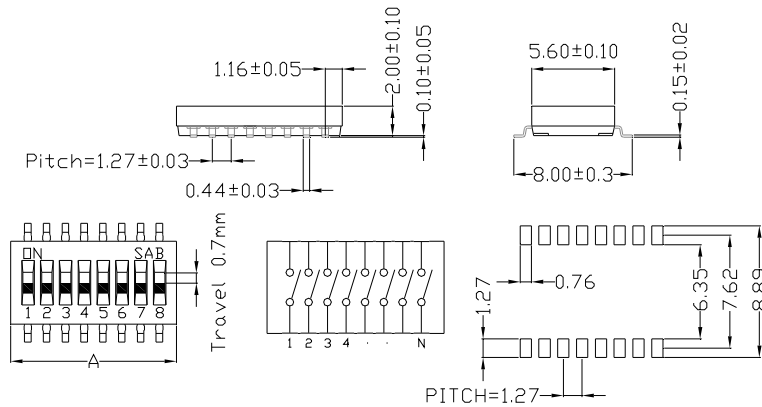
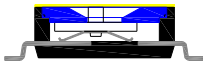
◆ Cover	RoHS&REACH Compliant.....Thermoplastic UL 94V-0, Black Halogen Free.....Thermoplastic UL 94-HB, Coffee
◆ Base	RoHS&REACH Compliant.....Thermoplastic UL 94V-0, Black Halogen Free.....Thermoplastic UL 94-HB, Coffee
◆ Actuator	.....Thermoplastic UL 94-HB, White
◆ Movable Contact	.....20u" +/-10u" Nickel Cover (Pure) Tin-Plated.....20u" +/-10u" Nickel Cover Gold-Plated
◆ Terminal Contact	.....20u" +/-10u" Nickel Cover (Pure) Tin-Plated.....20u" +/-10u" Nickel Cover Gold-Plated
◆ Terminal	.....20u" +/-10u" Nickel Cover (Pure) Tin-Plated.....20u" +/-10u" Nickel Cover Gold-Plated
◆ Tape	.....Polyimide Film

MODEL	SPECIFICATION DIP SWITCH RoHS&REACH Compliant / Halogen Free	SP-004	Page
SO series Half Pitch Type			4/8

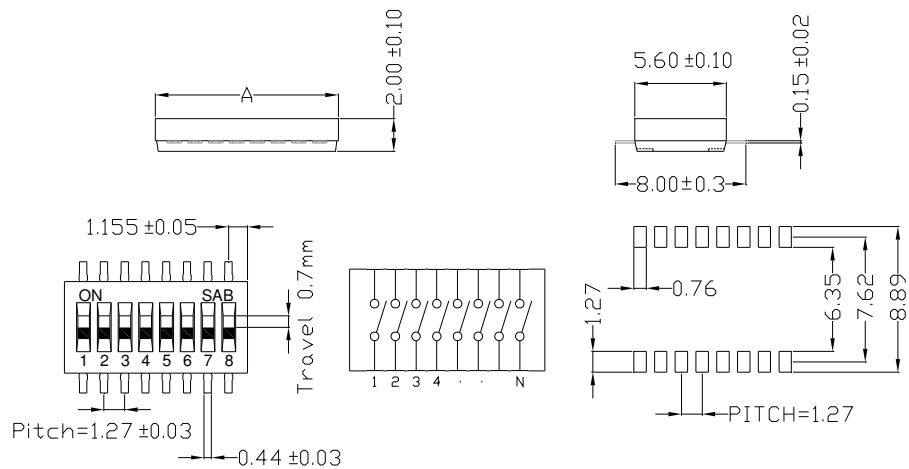
SOJ



SOP



SOF



MODEL	SPECIFICATION DIP SWITCH RoHS&REACH Compliant / Halogen Free	SP-005	Page
SO series			5/8
Half Pitch Type			

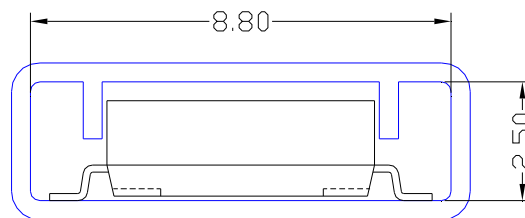
Part Number Table

No. Pos.	Dim. "A"	SMD Gold Plated Tape Sealed Tube Package	J Lead Tin Plated Tape Sealed Tape Reel	Flat Lead Gold Lead Tape Sealed Tape Reel
1	2.31	SOP01	SOJ01E-R	SOF01-R
2	3.58	SOP02	SOJ02E-R	SOF02-R
3	4.85	SOP03	SOJ03E-R	SOF03-R
4	6.12	SOP04	SOJ04E-R	SOF04-R
5	7.39	SOP05	SOJ05E-R	SOF05-R
6	8.66	SOP06	SOJ06E-R	SOF06-R
8	11.20	SOP08	SOJ08E-R	SOF08-R
10	13.74	SOP10	SOJ10E-R	SOF10-R
12	16.28	SOP12	SOJ12E-R	SOF12-R

Tube Package

POLE	1	2	3	4	5	6	8	10	12
TUBE	93(half)	120	90	70	60	50	40	30	25
BOX	18600	24000	18000	14000	12000	10000	8000	6000	5000
CTN 1	37200	48000	36000	28000	24000	20000	16000	12000	10000

SOP



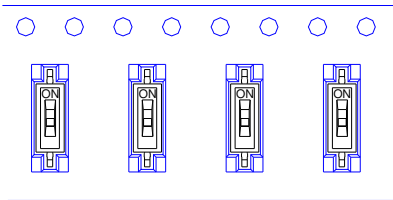
MODEL	SPECIFICATION DIP SWITCH RoHS&REACH Compliant / Halogen Free	SP-006	Page
SO series Half Pitch Type			6/8

Tape & Reel package

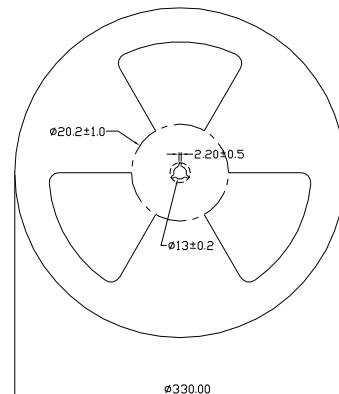
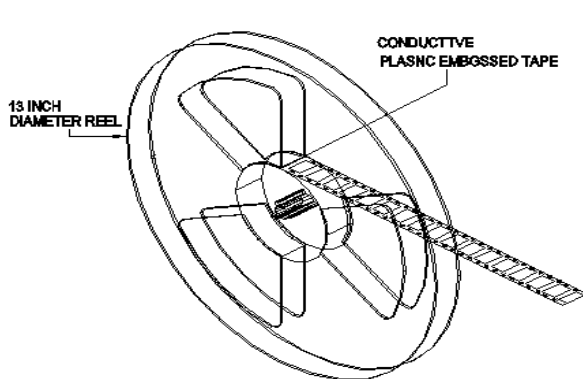
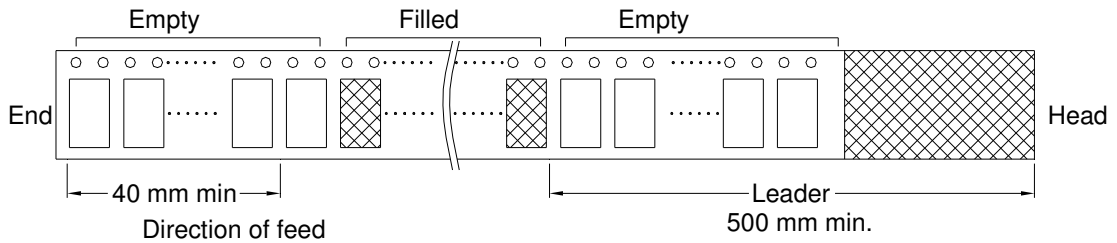
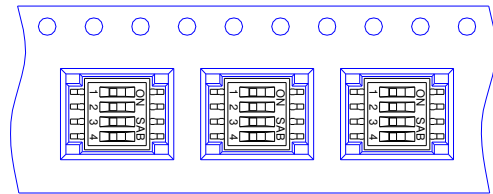
◆ SOP/SOJ/SOF

POLE	01	02	03	04	05	06	08	10	12
Pitch (mm)	8	8	8	12	12	12	12	12	12
Width (mm)	16	16	16	16	16	16	24	24	24
per Reel	3000	3000	3000	2000	2000	2000	2000	2000	2000

SOP/SOJ01~03



SOP04~SOP12

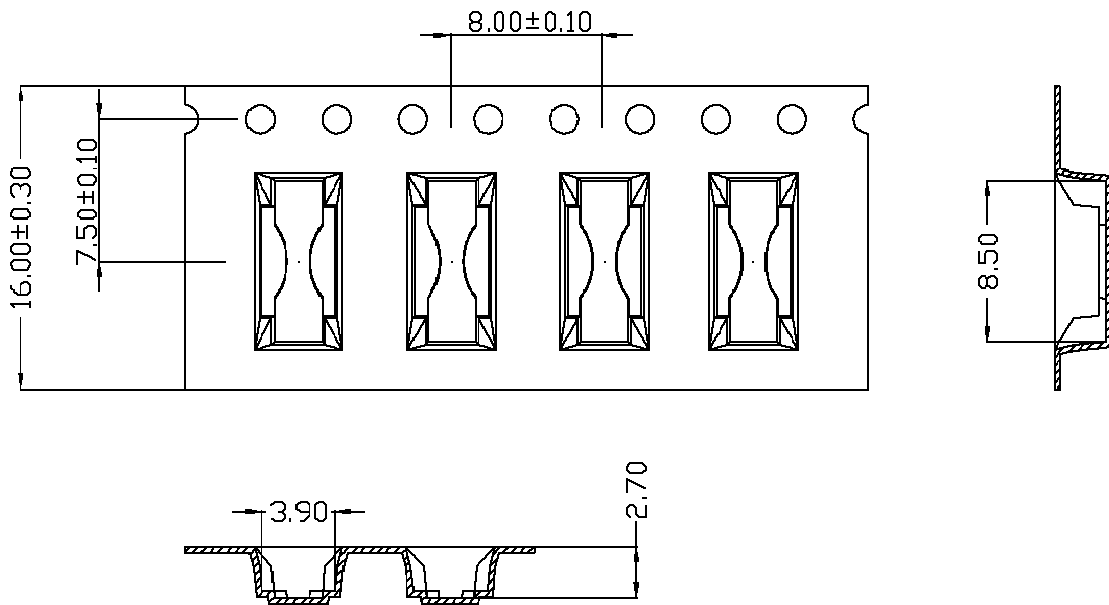


MODEL	SPECIFICATION DIP SWITCH RoHS&REACH Compliant / Halogen Free	SP-007	Page
SO series			7/8
Half Pitch Type			

Carry Tape Table

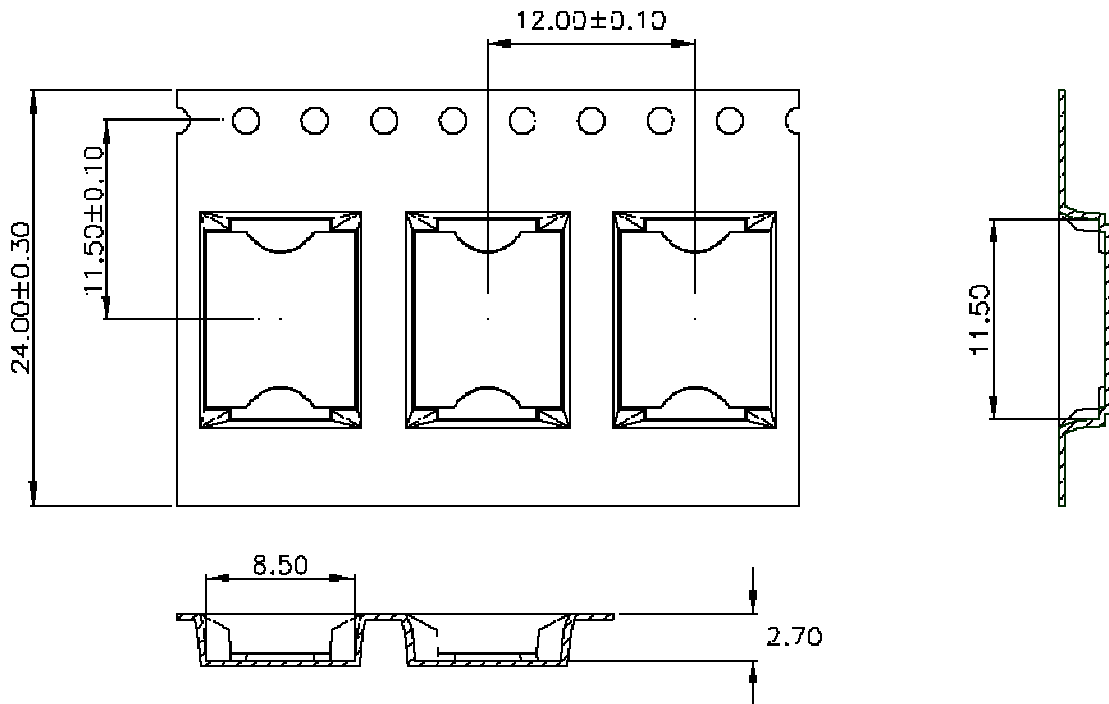
P/N	Pitch(mm)	Thickness(mm)	Width(mm)	Sellotape(mm)	@REEL/BOX	Q'ty/Reel
SOP/J01	8	0.3	16	13.3	6	3000
SOP/J02	8	0.3	16	13.3		3000
SOP/J03	8	0.3	16	13.3		3000
SOP/J04	12	0.3	16	13.3		2000
SOP/J05	12	0.3	16	13.3		2000
SOP/J06	12	0.3	16	13.3		2000
SOP/J08	12	0.3	24	21.3	4	2000
SOP/J10	12	0.3	24	21.3		2000
SOP/J12	12	0.3	24	21.3		2000

16mm



MODEL	SPECIFICATION DIP SWITCH RoHS&REACH Compliant / Halogen Free	SP-008	Page
SO series Half Pitch Type			8/8

24mm



Box Dimension

- ◆ Tube 57.0cm x 13.0cm x 12.5cm
- ◆ Tape & Reel 34.5cm x 34.5cm x 15.0cm

Carton Dimension:

- ◆ Tube
 - 2 Boxes..... 58.5cm x 29.0cm x 15.0cm
 - 4 Boxes..... 58.5cm x 28.0cm x 27.0cm
- ◆ Tape & Reel
 - 1 Box..... 34.5cm x 34.5cm x 15.0cm
 - 2 Boxes..... 36.0cm x 27.5cm x 37.0cm