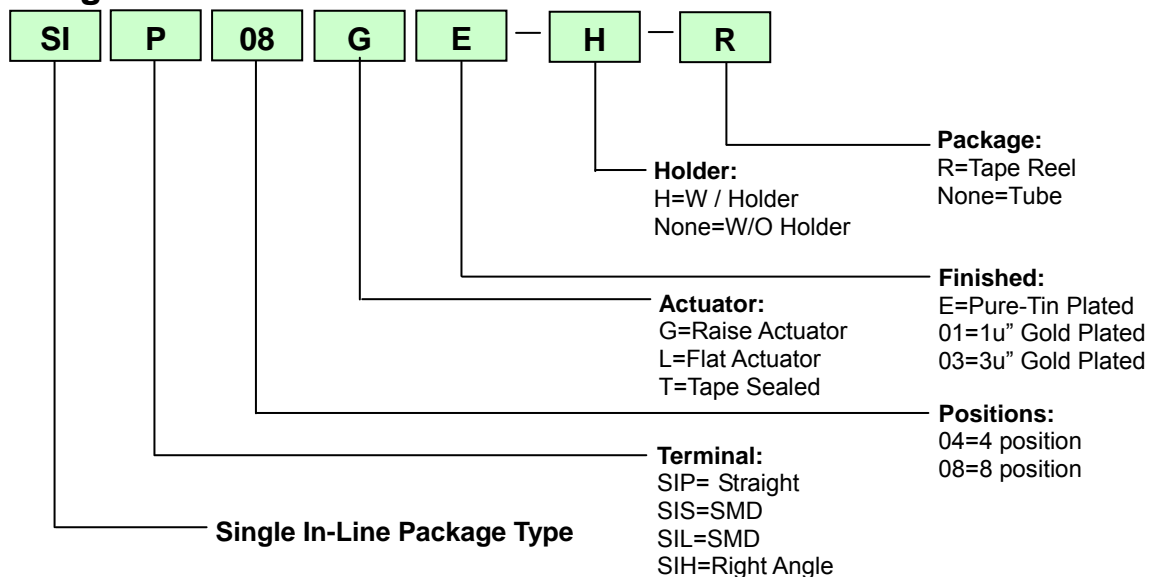


<b>MODEL</b>	<b>SPECIFICATION</b> RoHS Compliant DIP SWITCH	SP-001	Page
<b>SIP series</b> Single In-Line Package			1/8

### Ordering Information:



### Specifications

◆ Contact Rating	Switching..... 25mA, 24VDC
	Non-Switching..... 100mA, 50VDC
◆ Contact Resistance	Initial..... 50mΩ Max.
	After Life Test..... 100mΩ Max.
◆ Insulation Resistance	..... 100MΩ Min. at 500VDC
◆ Dielectric Strength	..... 500VDC / 1 minute
◆ Operation Force	..... 1,000g max
◆ Travel :	..... 0.9mm
◆ Mechanical Life	..... <b>5,000 cycles (Min.)</b>
◆ Electrical Life	..... <b>2,000 cycles / 25mA, 24VDC</b>
◆ Operation Temperature	..... -40°C ~ +85°C
◆ Storage Temperature	..... -40°C ~ +85°C

<b>MODEL</b>	<b>SPECIFICATION</b>	SP-002	Page
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### **Soldering Information**

◆ **Hand Soldering**

Soldering iron 30W or under at 350°C for 3 sec max or at 270°C for 5 sec max.

◆ **Reflow Soldering**

(1) Gold-plated series available 2~3 times process

(2) Tin-plated series available 1 time process

(4) Vapor Phase Heating (VPH) switch must with Tape sealed type

◆ **Wave Soldering**

For lead free wave solder simulation of typical components, the solder bath temperature shall be maintained to 275°C.

The hold time in the solder shall be 10 +2/-0 seconds.

◆ **Keep all actuators in "OFF" position during soldering and cleaning process.**

### Classification Reflow Profiles

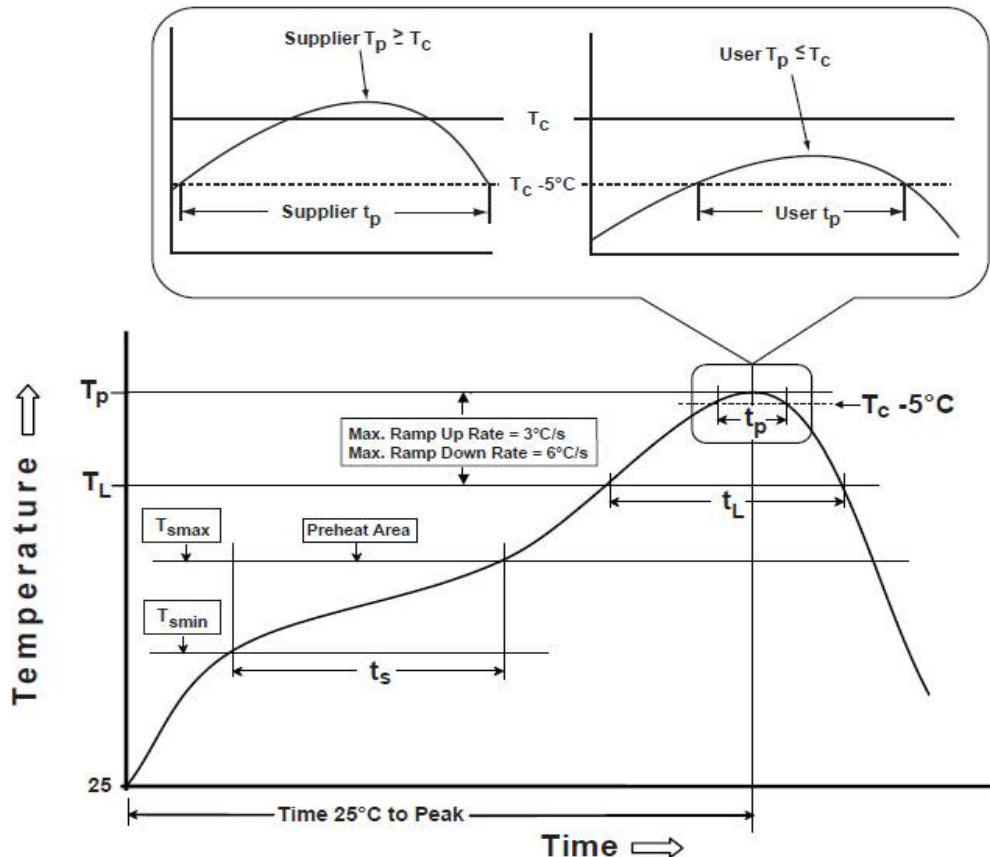
Profile Feature	Pb-Free Assembly
<b>Preheat / Soak</b>	
Temperature Min ( $T_{smin}$ )	150°C
Temperature Max ( $T_{smax}$ )	200°C
Time( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	60 ~120 seconds
Ramp-up Rate ( $T_L$ to $T_p$ )	3°C/second max
Liquidous temperature ( $T_L$ )	217°C
Time ( $t_L$ ) maintained 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.

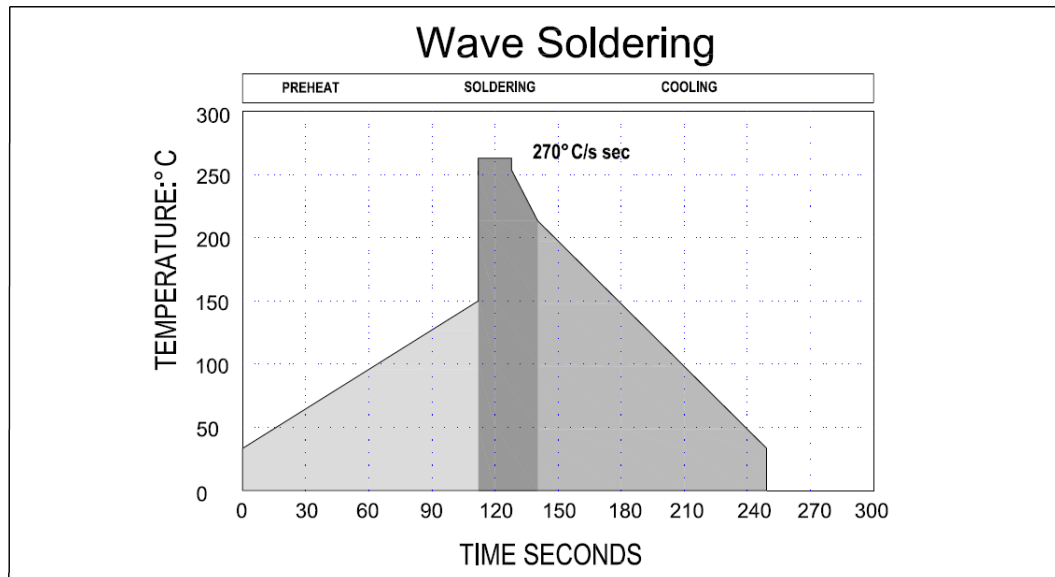
The table copy from IPC/JEDEC J-STD-020 D.1

### Reflow Soldering Standard Conditions



<b>MODEL</b>	<b>SPECIFICATION</b>	SP-004	Page
<b>SIP series</b> Single In-Line Package			<b>RoHS Compliant DIP SWITCH</b>

### Classification Wave Soldering Profiles



**Maximum dwell time in the solder wave (270°C) shall not exceed 5 seconds.**

### 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 re-commended.

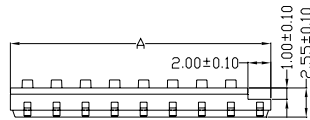
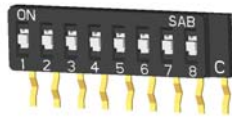
- ⊗ All switches must set in OFF position when through Soldering process.
- ⊗ Any flux enters the switch may influence contact function.

<b>MODEL</b>	<b>SPECIFICATION</b>	<b>SP-005</b>	<b>Page</b>
<b>SIP series</b> Single In-Line Package			<b>RoHS Compliant DIP SWITCH</b>

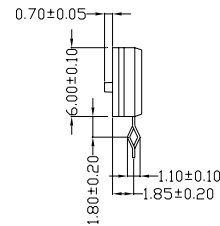
**Materials:**

- ◆ Cover .....PPS (UL 94V-0), Black
- ◆ Base .....PPS (UL 94V-0), Black
- ◆ Actuator SIS/SIL.....PA46 (UL 94V-0), White  
SIP/SIH.....PA66 (UL 94V-0), White
- ◆ Terminal Contact .....Gold Plated / Pure-Tin Plated
- ◆ Movable Contact .....Gold Plated / Pure-Tin Plated
- ◆ Terminal .....40u" +/-10u" Nickel Cover 1u" Gold-Plated  
.....40u" +/-10u" Nickel Cover 3u" Gold-Plated  
.....40u" +/-10u" Nickel Cover (Pure) Tin-Plated
- ◆ Tape .....Polyimide Film

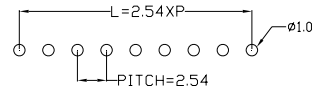
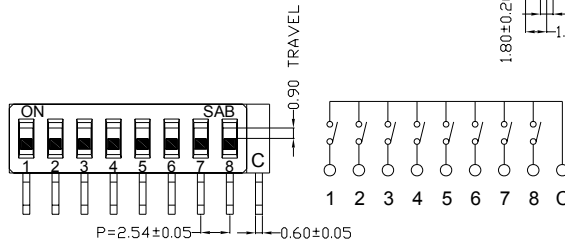
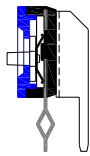
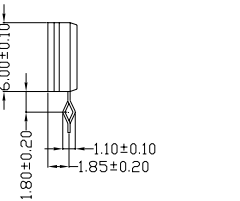
**SIP**



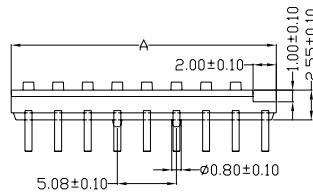
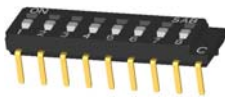
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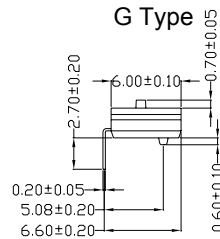
**L Type**



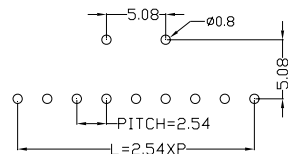
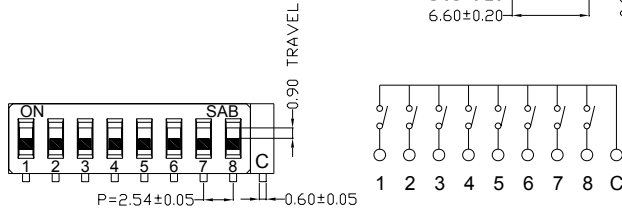
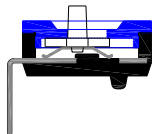
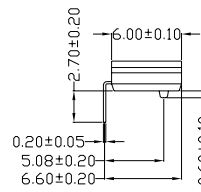
**SIH**



**G Type**

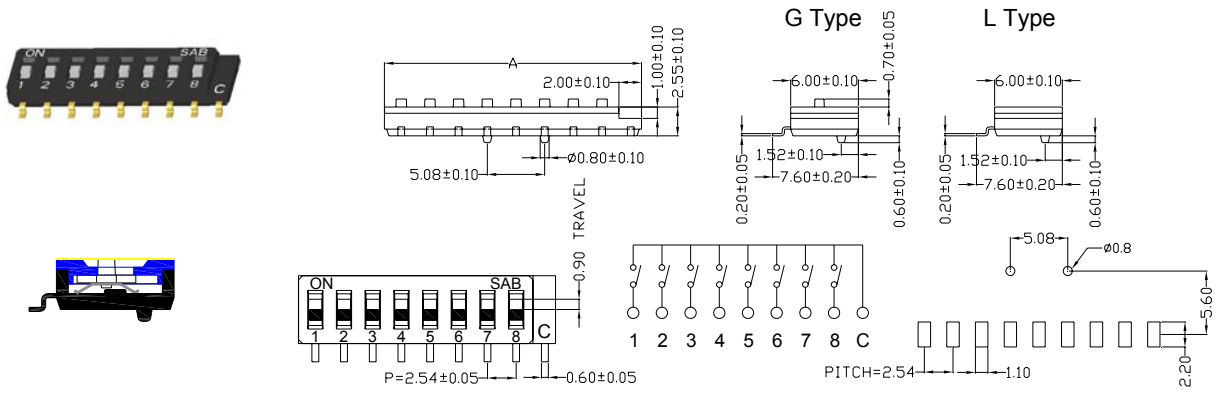


**L Type**

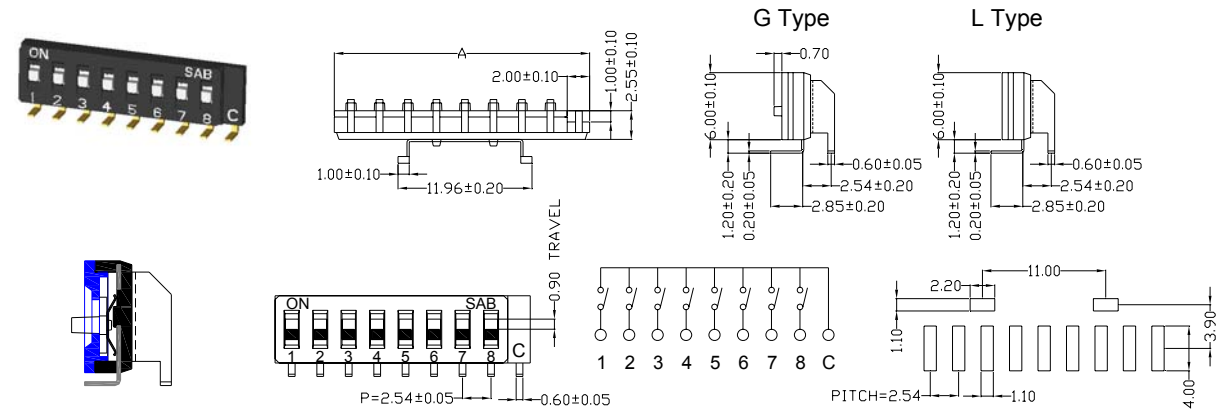


<b>MODEL</b>	<b>SPECIFICATION</b>	<b>SP-006</b>	<b>Page</b>
<b>SIP series</b> Single In-Line Package			<b>RoHS Compliant DIP SWITCH</b>

### SIS



### SIL



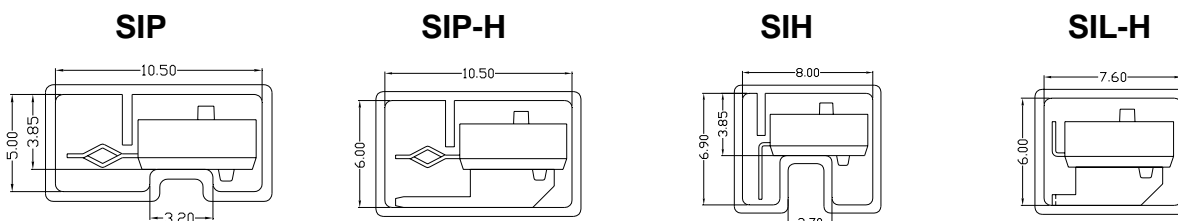
<b>MODEL</b>	<b>SPECIFICATION</b>	SP-007	Page
<b>SIP series</b> Single In-Line Package			<b>RoHS Compliant DIP SWITCH</b>

### Part Number Table

No. Pos.	Dim. "A"	Straight Pure-Tin Lead Raise Actuator Tube Package W/ Holder	SMD 1u" Gold Lead Flat Actuator Tube Package W/O Holder	SMD 1u" Gold Lead Tape Sealed Tape Reel W/O Holder	Right Angle 3u" Gold Lead Raise Actuator Tube Package W/ Holder
2	7.52	SIP02GE-H	SIS02L01	SIL02T01-R	SIH02G-H
4	12.60	SIP04GE-H	SIS04L01	SIL04T01-R	SIH04G-H
6	17.68	SIP06GE-H	SIS06L01	SIL06T01-R	SIH06G-H
8	22.76	SIP08GE-H	SIS08L01	SIL08T01-R	SIH08G-H
10	27.84	SIP10GE-H	SIS10L01	SIL10T01-R	SIH10G-H
12	32.92	SIP12GE-H	SIS12L01	SIL12T01-R	SIH12G-H

### Tube Package:

POLE	2	4	6	8	10	12
TUBE	69	41	29	23	8	16
BOX	13800	8200	5800	4600	1600	3200
CTN 1	27600	16400	11600	9200	3200	6400



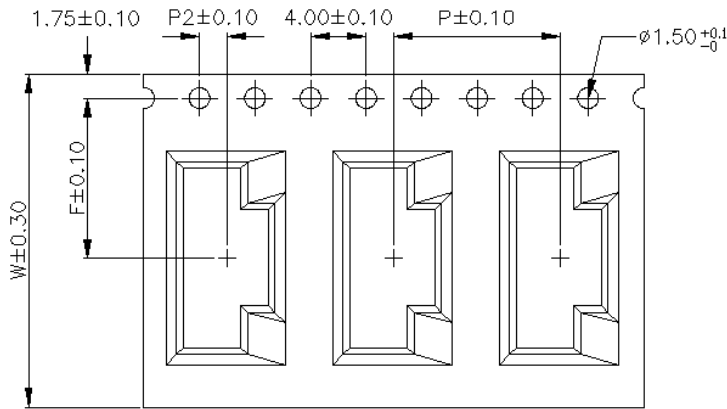
### Tape & Reel package

#### SIL

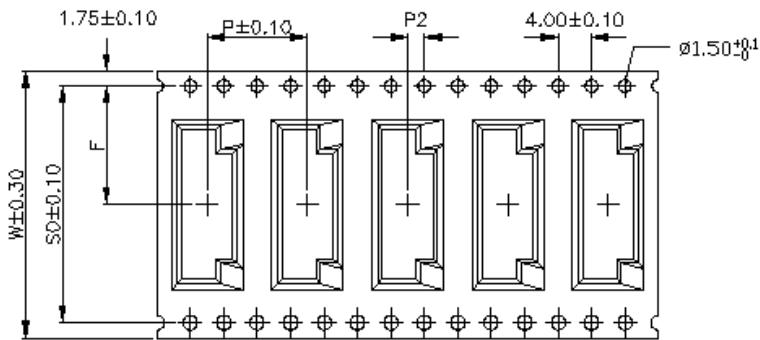
POLE	02	04	06	08	10	12
Pitch(mm)	12	12	12	12	12	12
Width(mm)	24	24	32	44	44	56
G type / Reel	700	700	700	700	700	700
L type / Reel	700	700	700	700	700	700

<b>MODEL</b>	<b>SPECIFICATION</b>	SP-008	Page
<b>SIP series</b> Single In-Line Package			RoHS Compliant DIP SWITCH

**SIL02/04**



**SIL06/08/10/12**



**Box Dimension:**

- ◆ Tube .....56cm × 12cm × 12cm
- ◆ Tape & Reel .....34cm x 12cm x 33cm

**Carton Dimension:**

- ◆ Tube CTN 1 / 2 Boxes.....58.5cm x 26.5cm x 16cm
- CTN 2 / 4 Boxes.....58.5cm x 26.5cm x 24cm
- ◆ Tape & Reel .....34cm x 26cm x 35cm