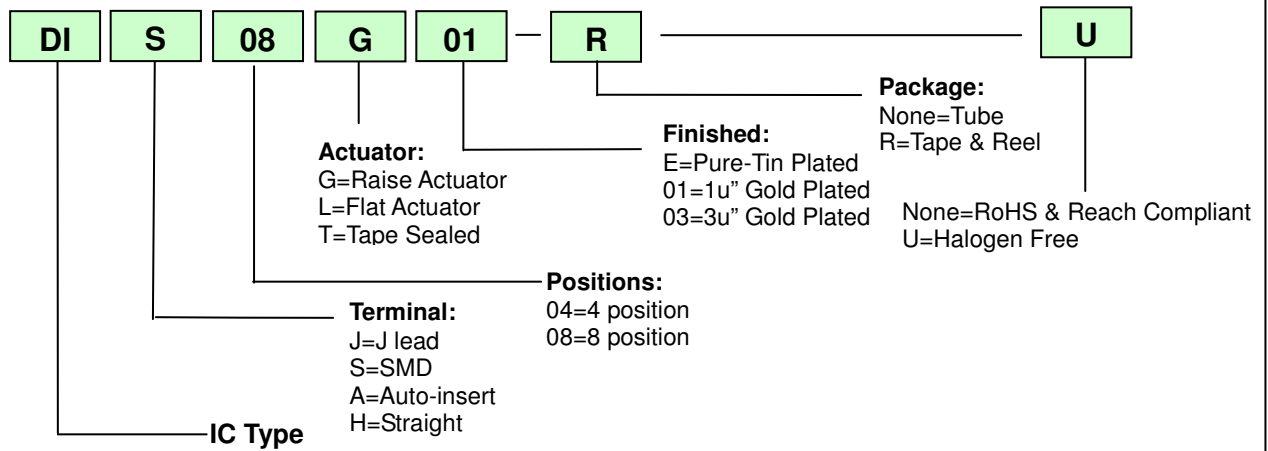


<b>MODEL</b>	<b>SPECIFICATION</b> <b>DIP SWITCH</b> <b>RoHS&amp;REACH Compliant / Halogen Free</b>	SP-001	Page
DI series			1/9
IC Type			

### 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	.....500VDC / 1 minute
◆ Operating Force	.....1,000g max
◆ Travel	.....0.9mm
◆ Mechanical Life	..... <b>5,000 cycles (Min.)</b>
◆ Electrical Life	..... <b>2,000 cycles / 25mA, 24VDC</b>
◆ Operating Temperature	SMD.....-40°C ~ +105°C
	THT.....-40°C ~ +85°C
◆ Storage Temperature	.....-40°C ~ +85°C

### Soldering Information

- ◆ **Hand Soldering**  
Soldering iron of 30W or under at 350°C for 3 sec. max or at 270°C for 5 sec. max.
- ◆ **Reflow Soldering**  
(1) Gold-plated types allow 2~3-time reflow process.  
(2) Tin-plated types allow 1-time reflow process only.  
(3) For Vapor Phase Heating (VPH) use, the switch must be tape-sealed.
- ◆ **Wave Soldering**  
For lead free wave solder simulation of typical components, the solder bath temperature shall be maintained at 270°C max./ 5~10 seconds.
- ◆ **Keep all actuators in "OFF" position during soldering and cleaning processes.**

<b>MODEL</b>	<b>SPECIFICATION</b> <b>DIP SWITCH</b> <b>RoHS&amp;REACH Compliant / Halogen Free</b>	SP-002	Page
<b>DI series</b>			2/9
<b>IC Type</b>			

### Classification Reflow Profiles

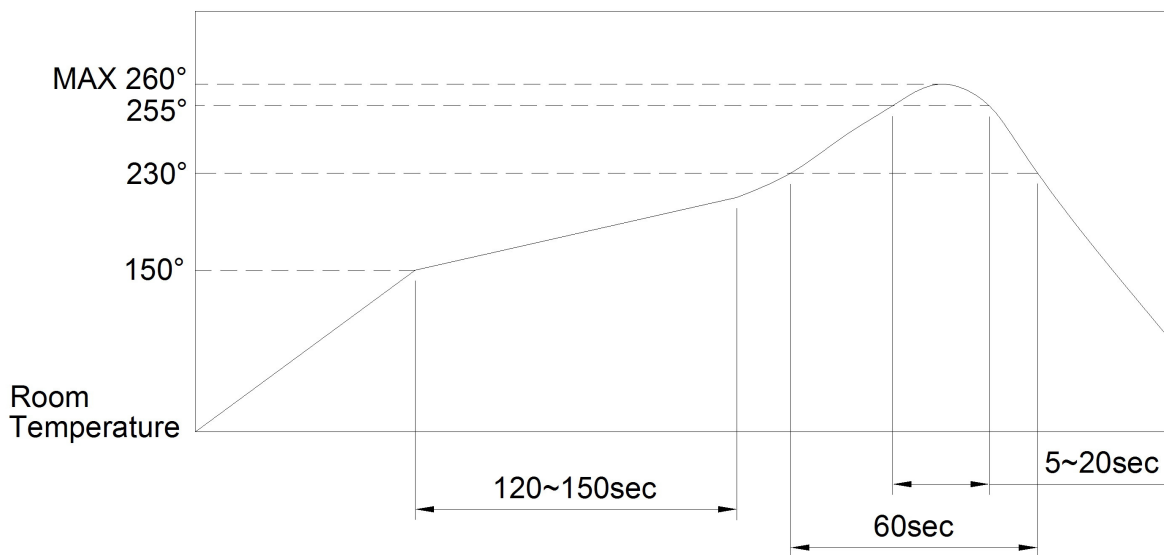
Profile Feature	Pb-Free Assembly
<b>Preheat / Soak</b>	
Temperature Min ( $T_{S_{min}}$ )	150°C
Temperature Max ( $T_{S_{max}}$ )	200°C
Time(ts) from ( $T_{S_{min}}$ to $T_{S_{max}}$ )	60 ~120 seconds
Ramp-up Rate ( $T_L$ to $T_p$ )	3°C/second max
Liquidous temperature ( $T_L$ )	217°C
Time ( $t_L$ ) maintained aboe 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:>2.5mm) For supilers $T_p$ must equal or exceed the Classification temp:250°C (Package Thickness:>2.5mm)
Time (tp) 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 (tp) specified for the reflow profiles is a “supplier” minimum and “user” maximum.

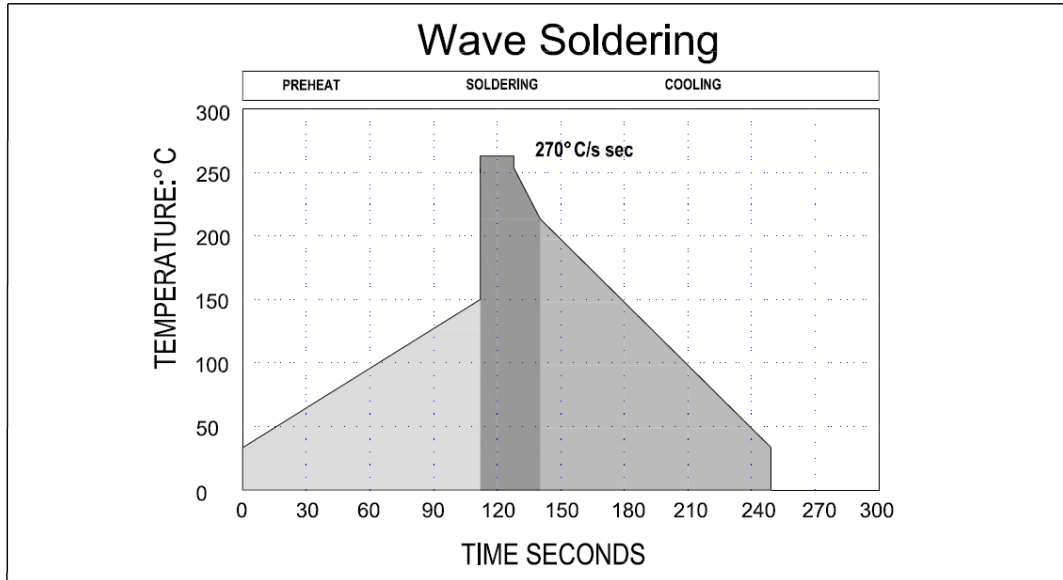
Source: IPC/JEDEC J-STD-020D.1

### Recommended Reflow Soldering Conditions



<b>MODEL</b>	<b>SPECIFICATION</b> <b>DIP SWITCH</b> <b>RoHS&amp;REACH Compliant / Halogen Free</b>	SP-003	Page
DI series			3/9
IC Type			

### Recommended Wave Soldering Profiles



**Maximum dwell time in the solder wave (270°C) shall not exceed 10 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 recommended without Tape sealed.

- ※ 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>DIP SWITCH</b> <b>RoHS&amp;REACH Compliant / Halogen Free</b>	SP-004	Page
<b>DI series</b>			
<b>IC Type</b>			4/9

### Materials

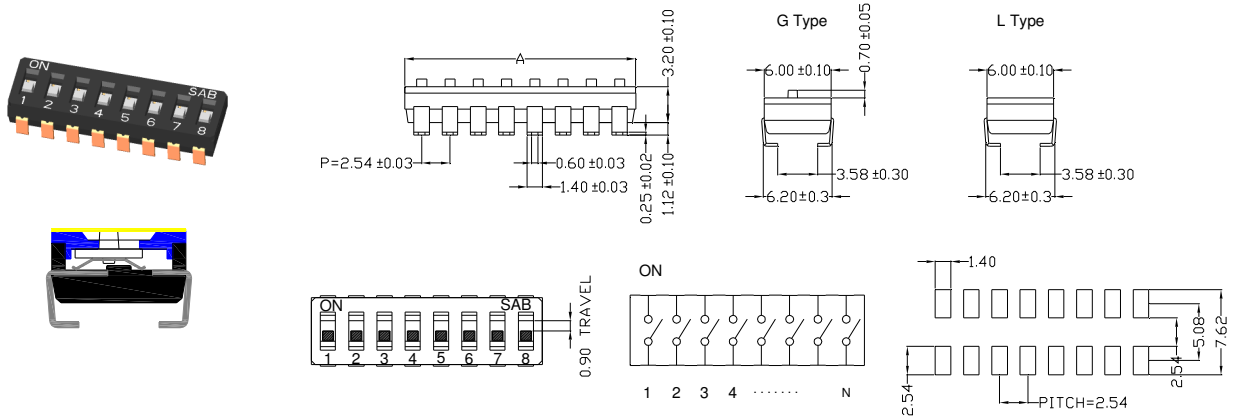
◆ Cover	RoHS&REACH Compliant.....Thermoplastic UL 94V-0, Black Halogen Free.....Thermoplastic UL 94-HB, Coffee
◆ Base	RoHS&REACH Compliant.....Thermoplastic UL 94V-0, Black Halogen Free.....Thermoplastic UL 94-HB, Coffee
◆ Actuator	.....Thermoplastic UL 94-HB, White
◆ Movable Contact	E type.....40u" +/-10u" Nickel Cover (Pure) Tin-Plated 01 type.....40u" +/-10u" Nickel Cover 1u" Gold-Plated 03 type.....40u" +/-10u" Nickel Cover 3u" Gold-Plated
◆ Terminal Contact	E type.....40u" +/-10u" Nickel Cover (Pure) Tin-Plated 01 type.....40u" +/-10u" Nickel Cover 1u" Gold-Plated 03 type.....40u" +/-10u" Nickel Cover 3u" Gold-Plated
◆ Terminal	E type.....40u" +/-10u" Nickel Cover (Pure) Tin-Plated 01 type.....40u" +/-10u" Nickel Cover 1u" Gold-Plated 03 type.....40u" +/-10u" Nickel Cover 3u" Gold-Plated
◆ Tape	.....Polyimide Film

### Part Number Table

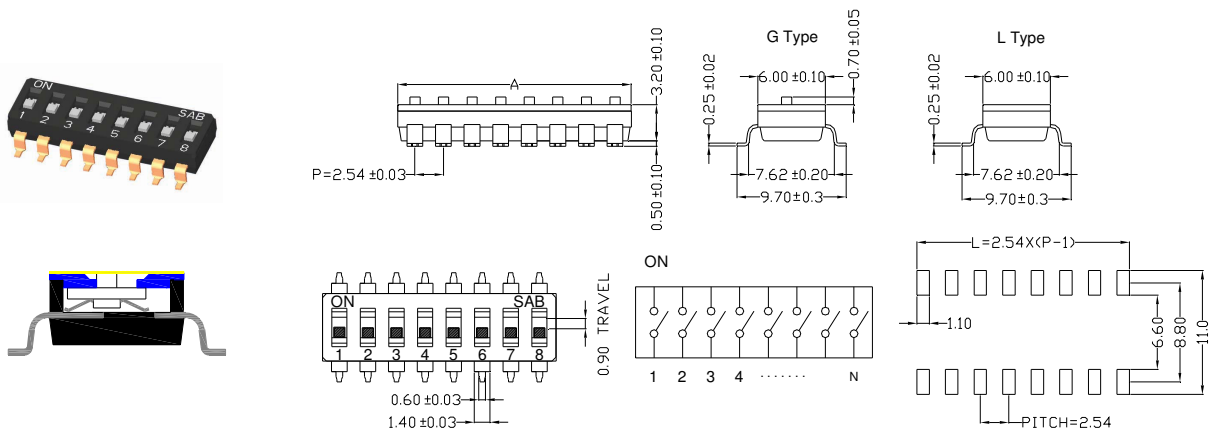
No. Pos.	Dim. "A"	Auto Insert Pure-Tin Lead Raise Actuator Tube Package	SMD 1u" Gold Lead Flat Actuator Tube Package	J Lead 3u" Gold Lead Tape Sealed Tape Reel
1	2.98	DIA01GE	DIS01L01	DIJ01T03-R
2	5.52	DIA02GE	DIS02L01	DIJ02T03-R
3	8.06	DIA03GE	DIS03L01	DIJ03T03-R
4	10.60	DIA04GE	DIS04L01	DIJ04T03-R
5	13.14	DIA05GE	DIS05L01	DIJ05T03-R
6	15.68	DIA06GE	DIS06L01	DIJ06T03-R
7	18.22	DIA07GE	DIS07L01	DIJ07T03-R
8	20.76	DIA08GE	DIS08L01	DIJ08T03-R
9	23.30	DIA09GE	DIS09L01	DIJ09T03-R
10	25.84	DIA10GE	DIS10L01	DIJ10T03-R
12	30.92	DIA12GE	DIS12L01	DIJ12T03-R

<b>MODEL</b>	<b>SPECIFICATION</b> <b>DIP SWITCH</b> <b>RoHS&amp;REACH Compliant / Halogen Free</b>	<b>SP-005</b>	<b>Page</b>
<b>DI series</b>			5/9
<b>IC Type</b>			

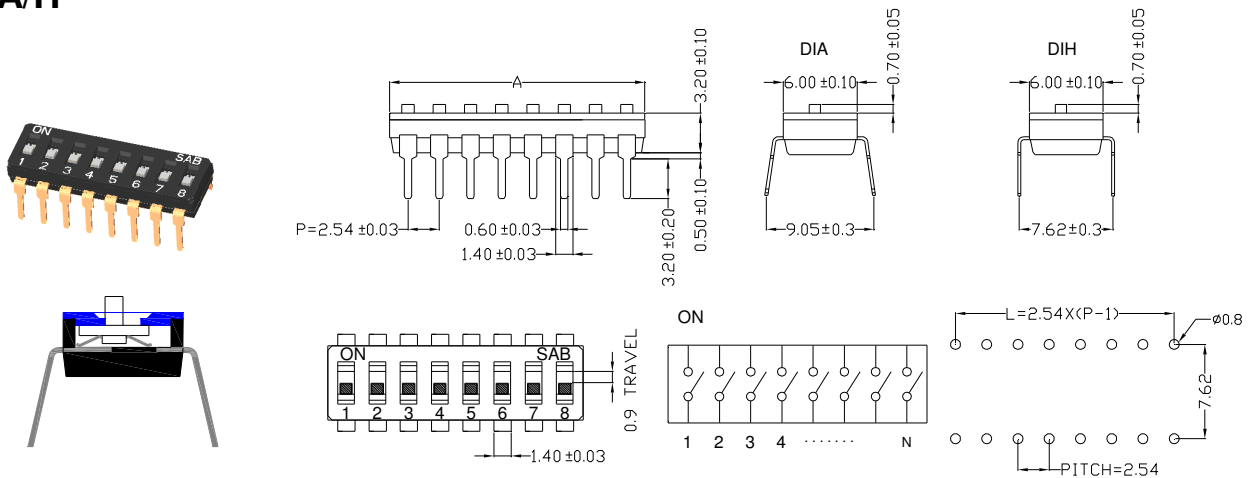
### DIJ



### DIS



### DIA/H

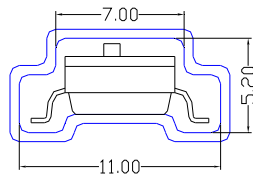


<b>MODEL</b>	<b>SPECIFICATION</b> <b>DIP SWITCH</b> <b>RoHS&amp;REACH Compliant / Halogen Free</b>								SP-006		Page
<b>DI series</b>											6/9
<b>IC Type</b>											

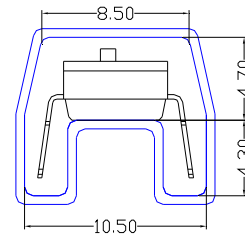
### Tube Package

POLE	1	2	3	4	5	6	7	8	9	10	12
TUBE	174	95	65	48	39	33	28	25	22	20	17
BOX	17400	9500	6500	4800	3900	3300	2800	2500	2200	2000	1700
CTN 1	34800	19000	13000	9600	7800	6600	5600	5000	4400	4000	3400
CTN 2	69600	38000	26000	19200	15600	13200	11200	10000	8800	8000	6800

#### DIS



#### DIA/H



### Tape & Reel package

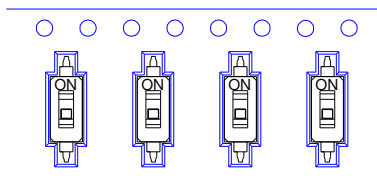
#### ◆ DIS

POLE	01	02	03	04	05	06	07	08	09	10	12
Pitch (mm)	8	8	16	16	16	16	16	16	16	16	16
Width (mm)	16	16	16	24	24	24	32	32	44	44	44
G type / Reel	1500	1500	800	800	800	800	800	800	800	800	800
L type / Reel	2000	2000	1000	1000	1000	1000	1000	1000	1000	1000	1000

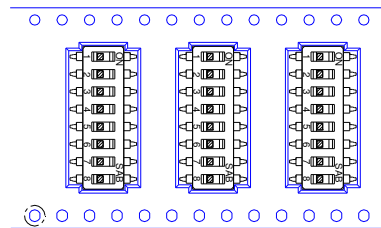
#### ◆ DIJ

POLE	01	02	03	04	05	06	07	08	09	10	12
Pitch (mm)	8	12	12	12	12	12	12	12	12	12	12
Width (mm)	16	16	16	24	24	24	32	32	44	44	44
G type / Reel	1500	900	900	900	900	900	900	900	900	900	900
L type / Reel	1600	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100

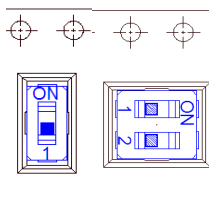
DIS01/DIS02



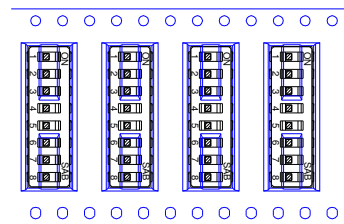
DIS03~12



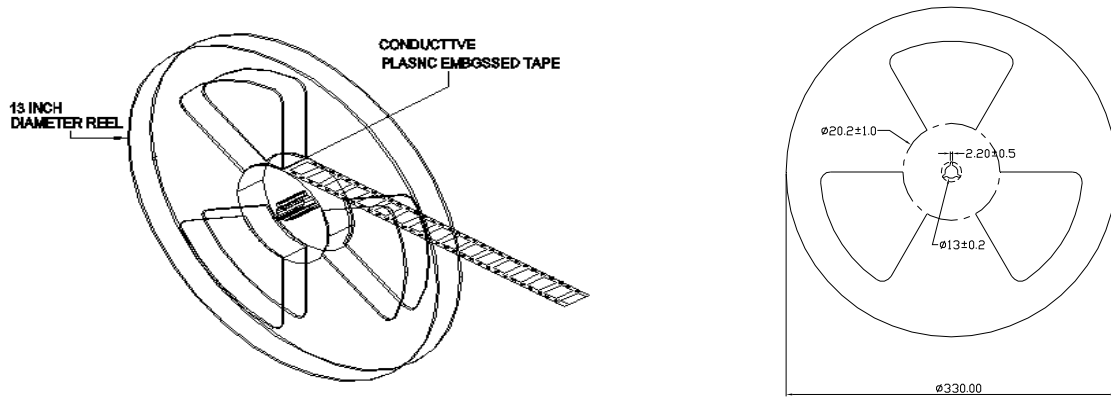
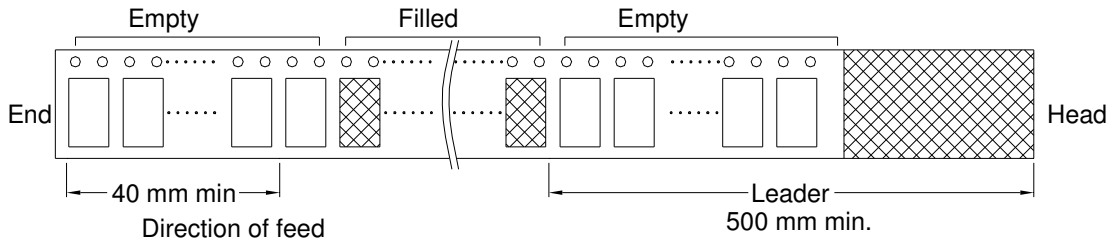
DIJ01/DIJ02



DIJ03~12



<b>MODEL</b>	<b>SPECIFICATION</b> <b>DIP SWITCH</b> <b>RoHS&amp;REACH Compliant / Halogen Free</b>	<b>SP-007</b>	Page
<b>DI series</b>			7/9
<b>IC Type</b>			

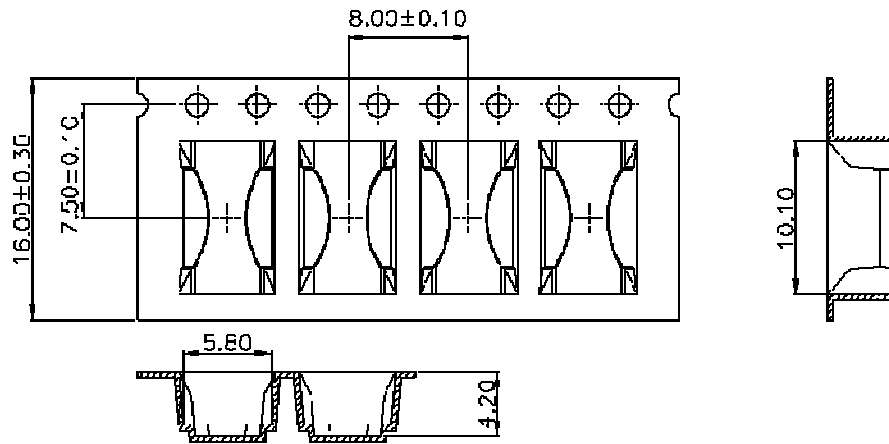


**Carry Tape Table:**

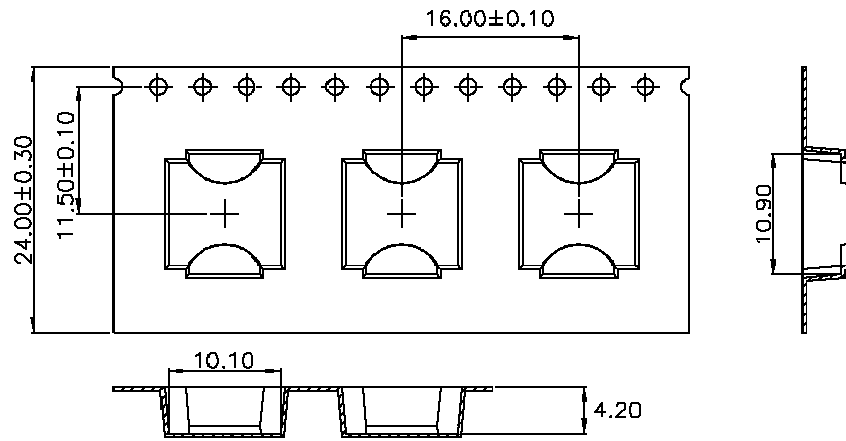
P/N	Pitch(mm)	Thickness(mm)	Width(mm)	Sellotape(mm)	@REEL/BOX	Q'ty/Reel
DIS01	8	0.35	16	13.3	6	1500(G)/2000(L)
DIS02	8	0.35	16	13.3		1500(G)/2000(L)
DIS03	16	0.35	16	13.3		800(G)/1000(L)
DIS04	16	0.35	24	21.3	4	800(G)/1000(L)
DIS05	16	0.35	24	21.3		800(G)/1000(L)
DIS06	16	0.35	24	21.3		800(G)/1000(L)
DIS07	16	0.35	32	25.5	3	800(G)/1000(L)
DIS08	16	0.35	32	25.5		800(G)/1000(L)
DIS09	16	0.4	44	37.5	2	800(G)/1000(L)
DIS10	16	0.4	44	37.5		800(G)/1000(L)
DIS12	16	0.4	44	37.5		800(G)/1000(L)

MODEL	<b>SPECIFICATION</b> <b>DIP SWITCH</b> <b>RoHS&amp;REACH Compliant / Halogen Free</b>	SP-008	Page
DI series			8/9
IC Type			

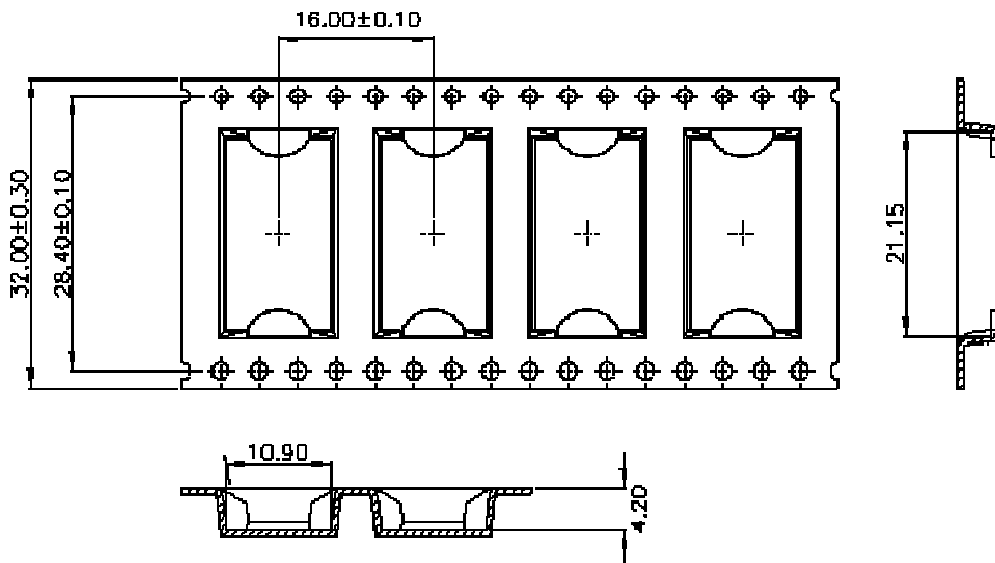
### 16mm



### 24mm



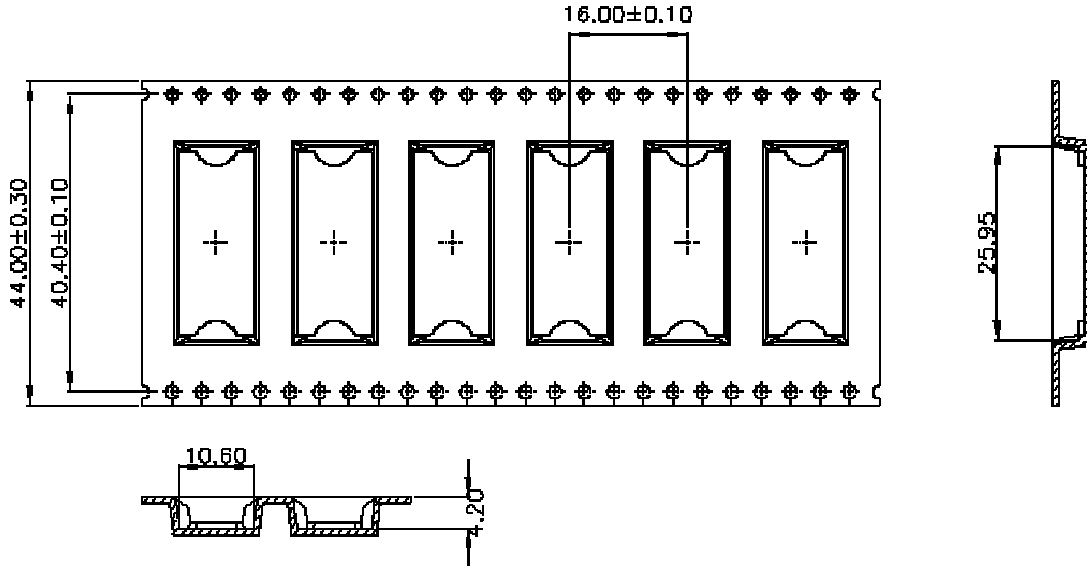
### 32mm





<b>MODEL</b>	<b>SPECIFICATION</b> <b>DIP SWITCH</b> <b>RoHS&amp;REACH Compliant / Halogen Free</b>	SP-009	Page
<b>DI series</b>			9/9
<b>IC Type</b>			

44mm



**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