

# Detector Switch

## One-way Operation Type

### SPPW8 Series



One-way operation detector switch ideal for media detection.

#### Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
Package Type

TACT Switch™

Custom-  
Products



#### Typical Specifications

Items		Specifications
Rating (max.) (min.) (Resistive load)		0.1A 30V DC/100μA 3V DC
Contact resistance (Initial /After operating life)		1 max./2 max.
Operating force		0.3N max.
Operating life	Without load	100,000cycles
	With load	100,000cycles( 0.1A 30V DC )

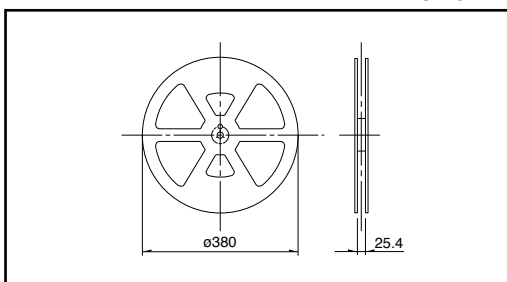
#### Product Line

Poles	Positions	Terminal type	Slider height (mm)	ON start position (mm)	Total travel (mm)	Minimum order unit ( pcs )	Product No.	Drawing No.
1	1	For PC board (Reflow)	h=6.1	h <sub>1</sub> =5.6	h <sub>2</sub> =4.45	4,000	SPPW812302	1
		For PC board (Dip)				20,000	SPPW812300	2
		For PC board (Reflow)	h=6.55	h <sub>1</sub> =6.05	h <sub>2</sub> =4.85	4,000	SPPW810201	1
		For PC board (Dip)				20,000	SPPW810203	2
		For PC board (Reflow)	h=7.6	h <sub>1</sub> =7.1	h <sub>2</sub> =5.9	3,400	SPPW811203	1
		For PC board (Dip)				20,000	SPPW811200	2
		For PC board (Reflow)	10.3	9.8	8.6	20,000	SPPW810401	3
		For PC board (Dip)					SPPW810400	4

#### Taping Specifications (Taping Packaging)

Reel Size

Unit:mm



Series	Number of packages ( pcs. )			Tape width ( mm )
	1 reel	1 case /Japan	1 case /export packing	
h = 6.1 (Reflow)	1,000	2,000	4,000	24
h = 6.55 (Reflow)				
h = 7.6 (Reflow)	850	1,700	3,400	

#### Notes

- Standard type dimensions indicate "with location lug" version.
- Products other than those listed in the above chart are also available. Please contact us for details.
- Please place purchase orders per minimum order unit ( integer ).

**Dimensions**

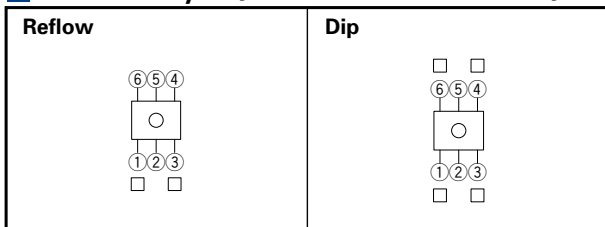
Unit:mm

No.	Style	PC board mounting hole dimensions (Viewed from direction A)
1	<b>Reflow</b> 	
2	<b>Dip</b> 	
3	<b>Reflow</b> 	
4	<b>Dip</b> 	

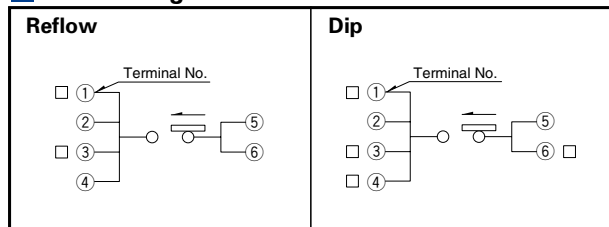
**Note**

Above dimensions indicate "with locating lug" versions.

**Terminal Layout (Viewed from Direction A)**




















**Circuit Diagram**



**Notes**

1. Products without location lug are also available.
2. Contact us for other slider height variations.
3. mark shows a cutting terminal.
4. Contact us for other terminal types.

## List of Varieties ( General-purpose Type )

Series	General-purpose Type								
	SPPB	SPVE	SPPW8	SPVM	SPVR	SPVF	SSCU	SSCT	
Photo									
Operation type	 								
Operating temperature range	-40 to +85	-10 to +60		-40 to +85		-10 to +60	-40 to +85		
Rating (max.) (Resistive load)	0.1A 30V DC			1mA 5V DC			0.1A 12V DC		
Rating (min.) (Resistive load)	50μA 3V DC		100μA 3V DC	50μA 3V DC	100μA 3V DC	50μA 3V DC			
Electrical performance	Initial contact resistance	1 max.	500m max.	1 max.	2 max.	3 max.	500m max.	70m max. 20m max.	
	Insulation resistance	100M min. 100V DC						100M min. 250V DC	
	Voltage proof	100V AC for 1 minute						250V AC for 1 minute	
Mechanical performance	Terminal strength	3N for 1 minute	0.5N for 1 minute	3N for 1 minute	1N for 1 minute	0.5N for 1 minute	3N for 30s	3N for 1 minute	
	Actuator strength	10N	5N	10N	5N	2N	1N	5N 10N	
Durability	Operating life without Load	50,000cycles 2 max.	50,000cycles 1 max.	100,000cycles 2 max.	50,000cycles 5 max.		100,000cycles 1 max.	10,000cycles 100m max. 40m max.	
	Operating life with Load	(0.1A 30V DC) 50,000cycles 2 max.	(0.1A 30V DC) 50,000cycles 1 max.	(0.1A 30V DC) 100,000cycles 2 max.	(1mA 5V DC) 50,000cycles 5 max.		(1mA 5V DC) 100,000cycles 1 max.	(0.1A 12V DC) 10,000cycles 150m max. 60m max.	
Environmental performance	Cold	-20 ± 2 for 96h					-40 ± 2 for 96h	-20 ± 2 for 96h	
	Dry heat	85 ± 2 for 96h							
	Damp heat	40 ± 2 , 90 to 95%RH for 96h							
Dimensions (mm)	W	6.3	3.4	5	2.8	3.6	9	11 12.5	
	D	3		4	3.5	4.2	3.5	5.8 5	
	H	4.9	2.3		1.5	1.2	4.5	7 11.5	
Soldering	Manual soldering	300 ± 5 , 5s max.	350 ± 5 , 3s max.				300 ± 10 , 3 ± 1s	350 ± 5 , 3s max.	
	Dip soldering	260 ± 5 , 5 ± 1s		255 ± 5 , 5 ± 1s			245 ± 5 , 5 ± 1s	260 ± 5 , 5 ± 1s	
	Reflow soldering	Please see P.79							
Number of poles	1					1.2	1		
Operation force	0.35N max.	0.3N max.		0.4N max.	0.35N max.	0.3N max.	0.5N max.	0.7 ± 0.3N	
Page	28	34	36	38	40	41	44	45	

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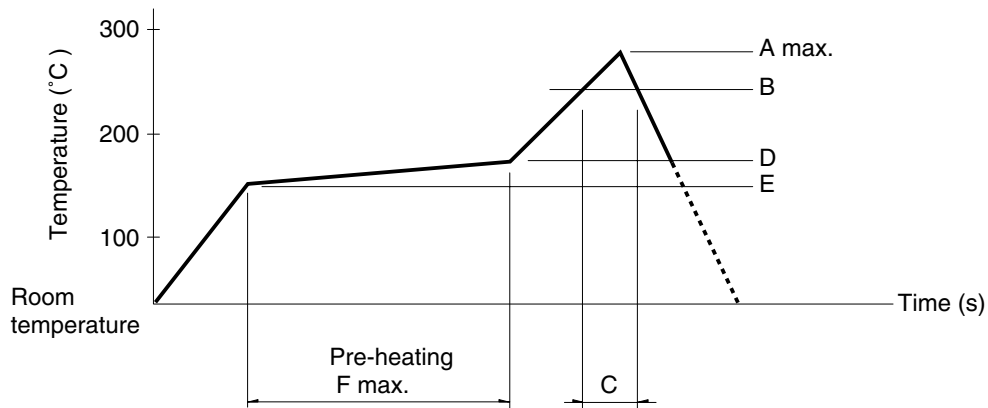
Detector Switches Soldering Conditions .....79

Detector Switches Cautions .....80

## Soldering Conditions

### Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple 0.1 to 0.2 CA (K) or CC (T) at soldering portion (copper foil surface). A heat resisting tape should be used for fixed measurement.
3. Temperature profile



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Series( Reflow type )	A( ) 3s max.	B( )	C(s)	D( )	E( )	F(s)
SPPB	250	230	40			
SPPW8		200	20			
SPVE	260	230	40	180	150	120
SPVG						
SPVL						
SPVM						
SPVN						
SPVP						
SPVR						
SPVS						
SSCM						
SPPY5						

**Notes**

1. The condition mentioned above is the temperature on the mounting surface of a PC board. There are cases where the PC board's temperature greatly differs from that of the switch, depending on the PC board's material, size, thickness, etc. The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines. Prior verification of soldering condition is highly recommended.