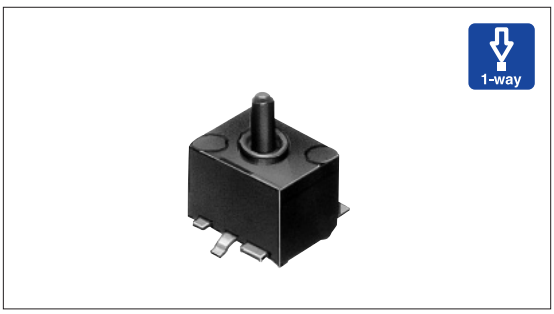
One-way Operation Type

SPPW8 Series

RoHS compliant

One-way operation detector switch ideal for media detection.



Typical Specifications

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

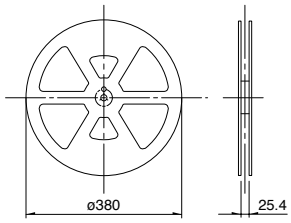
Product Line

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_1=5.6	h_2=4.45	4,000	SPPW812302	1
		For PC board (Dip)				20,000	SPPW812300	2
		For PC board (Reflow)	h=6.55	h_1=6.05	h_2=4.85	4,000	SPPW810201	1
		For PC board (Dip)				20,000	SPPW810203	2
		For PC board (Reflow)	h=7.6	h_1=7.1	h_2=5.9	3,400	SPPW811203	1
		For PC board (Dip)				20,000	SPPW811200	2
		For PC board (Reflow)	10.3	9.8	8.6		SPPW810401	3
		For PC board (Dip)					SPPW810400	4

Packing Specifications

Taping Unit:mm

Reel size



Product No.	Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
	1 reel	1 case /Japan	1 case /export packing		
SPPW812302 SPPW810201	1,000	2,000	4,000	24	406×406×160
SPPW811203	850	1,700	3,400		

Bulk

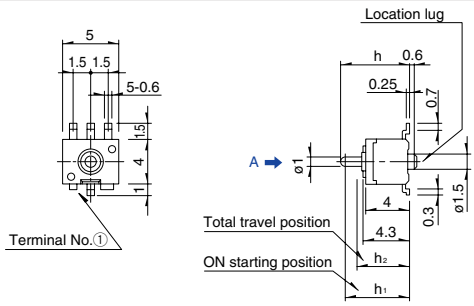
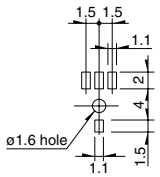
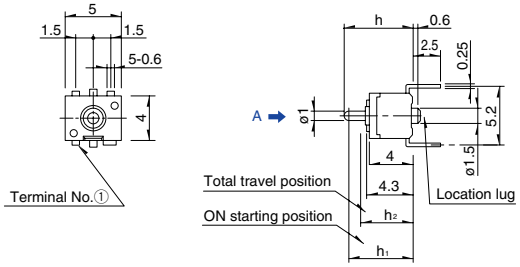
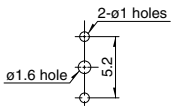
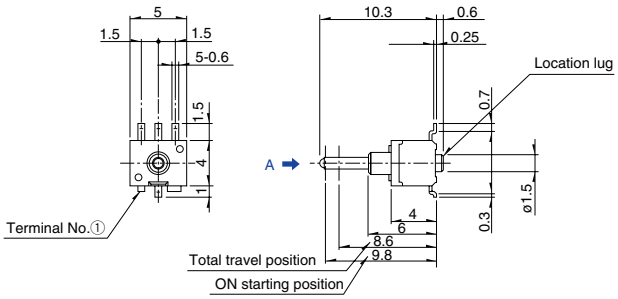
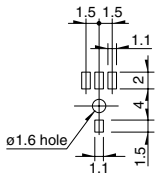
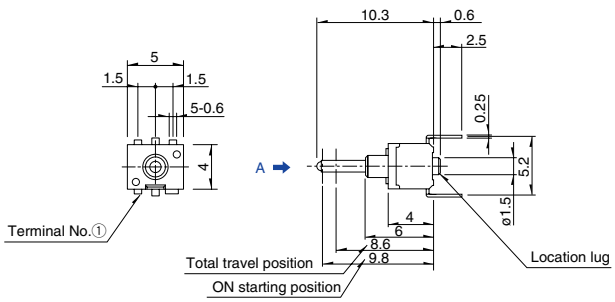
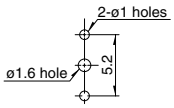
Product No.	Number of packages (pcs.)		Export package measurements (mm)
	1 case /Japan	1 case /export packing	
SPPW812300,SPPW810203 SPPW811200,SPPW810400 SPPW810401	4,000	20,000	400×270×290

Notes

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

Dimensions

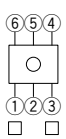
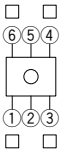
Unit:mm

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

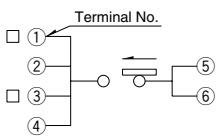
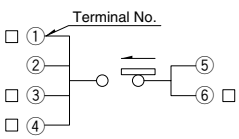
Note

Above dimensions indicate "with locating lug" versions.

Terminal Layout (Viewed from Direction A)

Reflow	Dip
	

Circuit Diagram

Reflow	Dip
	

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
Photo									
Operation type			1-way 2-way	1-way	1-way	2-way	2-way	2-way	2-way
Operating temperature range			-40℃ to +85℃	−10℃ to +60℃		−40℃ to +85℃		-10℃ to +60℃	-40℃ to +85℃
Automotive use			●	—	—	●	●	—	●
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		1Ω max.	500mΩ max.	1Ω max.	2Ω max.	3Ω max.	500mΩ max.	70mΩ max.
	Insulation resistance		100MΩ min. 100V DC						100MΩ 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
Durability	Operating life without Load		50,000cycles 2Ω max.	50,000cycles 1Ω max.	100,000cycles 2Ω max.	50,000cycles 5Ω max.		100,000cycles 1Ω max.	10,000cycles 100mΩ max.
	Operating life with Load		(0.1A 30V DC) 50,000cycles 2Ω max.	(0.1A 30V DC) 50,000cycles 1Ω max.	(0.1A 30V DC) 100,000cycles 2Ω max.	(1mA 5V DC) 50,000cycles 5Ω max.		(1mA 5V DC) 100,000cycles 1Ω max.	(0.1A 12V DC) 10,000cycles 100mΩ max.
Environmental performance	Cold		-40±2℃ for 500h	−20±2℃ for 96h		−40±2℃ for 500h		−40±2℃ for 96h	−40±2℃ for 500h
	Dry heat		85±2℃ for 500h	85±2℃ for 96h		85±2℃ for 500h		85±2℃ for 96h	85±2℃ for 500h
	Damp heat		60±2℃, 90 to 95%RH for 500h	40±2℃, 90 to 95%RH for 96h		60±2℃, 90 to 95%RH for 500h		40±2℃, 90 to 95%RH for 96h	60±2℃, 90 to 95%RH for 500h
Dimensions (mm)		W	6.3	3.4	5	2.8	3.6	9	11
		D	3		4	3.5	4.2	3.5	5.8
		H	4.9	2.3		1.5	1.2	4.5	7
Soldering	Manual soldering		300±5℃, 5s max.	350±5℃, 3s max.				300±10℃, 3^{+1}_{0}s	350±5℃, 3s max.
	Dip soldering		255±5℃, 5±1s	—	255±5℃, 5±1s	—		245±5℃, 5±1s	—
	Reflow soldering		Please see P.102					—	
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.
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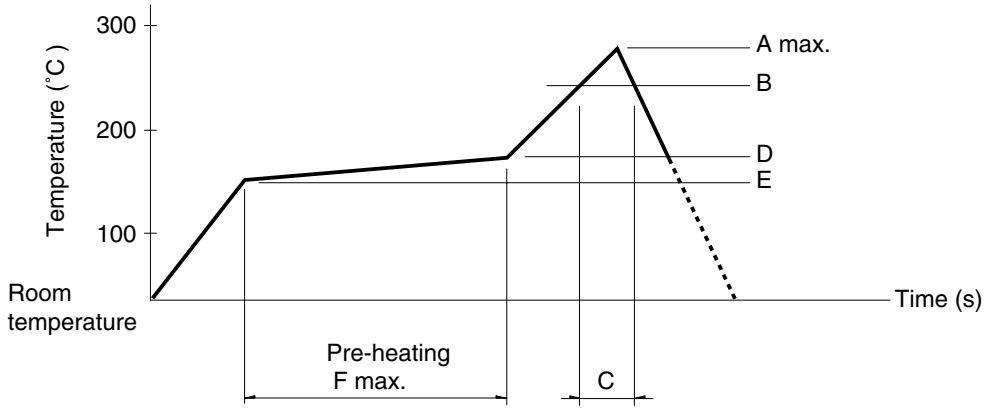
● Detector Switches Cautions ……103

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 ϕ CA (K) or CC (T) at soldering portion (copper foil surface) . A heat resisting tape should be used for fixed measurement.
3. Temperature profile



Series (Reflow type)	A (℃) 3s max.	B (℃)	C (s)	D (℃)	E (℃)	F (s)
SPPB	250	230	40	180	150	120
SPPW8		200	20			
SPVE	260	230	40			
SPVG						
SPVL						
SPVM						
SPVN						
SPVP						
SPVR						
SPVS						
SPVT						
SSCM						
SPPY5	240		20	150	Room temperature	180

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.