

Detector Switch

Low-profile One-way Operation Type

SPVP Series



Long 2mm travel and 1.2mm thickness low-profile structure.

Detector

Push

Slide

Rotary

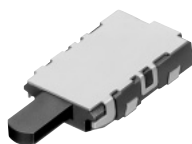
Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products



Typical Specifications

Items		Specifications
Rating (max.) / (min.) (Resistive load)		1mA 5V DC/100μA 3V DC
Contact resistance (Initial /After operating life)		5Ω max./10Ω max.
Operating force		0.55N max.
Operating life	Without load	50,000cycles
	With load	50,000cycles (1mA 5V DC)

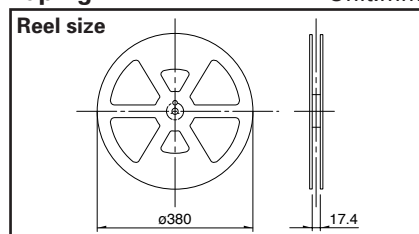
Product Line

Poles	Positions	Terminal type	Location lug	Minimum order unit (mm)	Product No.
1	1	For PC board (Reflow)	With	18,000	SPVP110100
			Without		SPVP120100

Packing Specifications

Taping

Unit:mm



Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case /Japan	1 case /export packing		
4,500	9,000	18,000	16	417×409×139

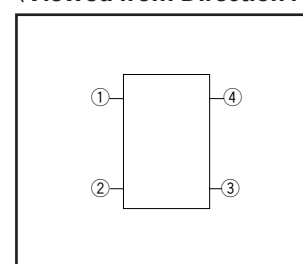
Dimensions

Unit:mm

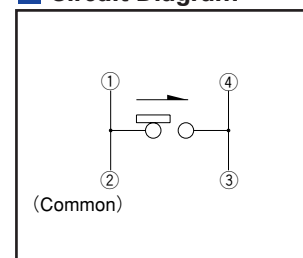
Style	PC board mounting hole and land dimensions (Viewed from direction A)

Terminal Layout

(Viewed from Direction A)



Circuit Diagram



Notes

- Above dimensions indicate "with location lug" version.
- Please place purchase orders per minimum order unit N (integer).

List of Varieties (General-purpose Type)

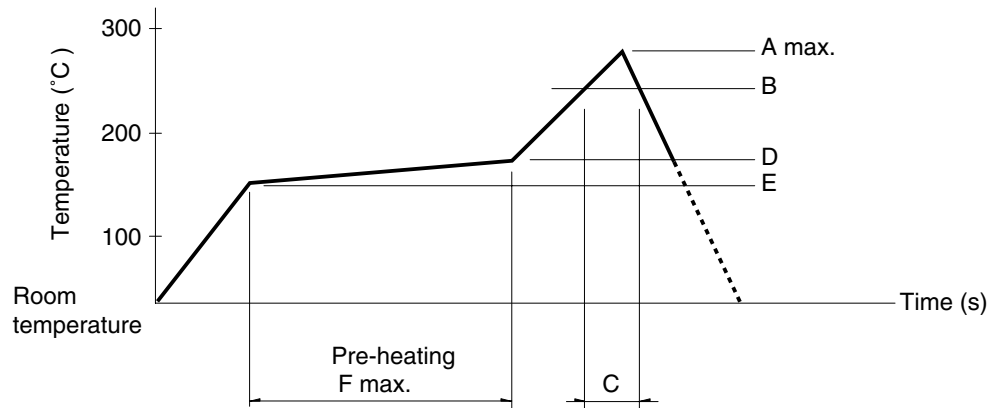
Series		General-purpose Type						
		SSCT	SSCF	SSCM	SPVP	SPVC1	SPVN	SPVS
Photo								
Operation type								
Operating temperature range		-40℃ to +85℃		-10℃ to +60℃	-40℃ to +85℃			
Automotive use				—				
Rating (max.) (Resistive load)		0.1A 12V DC		1mA 5V DC		10mA 16V DC	1mA 5V DC	
Rating (min.) (Resistive load)		50μA 3V DC			100μA 3V DC	50μA 3V DC		
Electrical performance	Initial contact resistance	200mΩ max.	100mΩ max.	2Ω max.	5Ω max.	1Ω max.	2Ω max.	
	Insulation resistance	100MΩ min. 250V DC	100MΩ min. 100V DC					
	Voltage proof	250V AC for 1 minute	100V AC for 1 minute					
Mechanical performance	Terminal strength	3N for 1 minute	5N for 1 minute	0.5N for 1 minute		3N for 1 minute	0.5N for 1 minute	
	Actuator strength	20N	10N	2N	5N	10N	5N	
Durability	Operating life without Load	10,000cycles 500mΩ max.	50,000cycles 200mΩ max.	50,000cycles 5Ω max.	50,000cycles 10Ω max.	25,000cycles 2Ω max.	50,000cycles 5Ω max.	
	Operating life with Load	(0.1A 12V DC) 10,000cycles 500mΩ max.	(0.1A 12V DC) 50,000cycles 300mΩ max.	(1mA 5V DC) 50,000cycles 5Ω max.	(1mA 5V DC) 50,000cycles 10Ω max.	(10mA 16V DC) 25,000cycles 2Ω max.	(1mA 5V DC) 50,000cycles 5Ω max.	
Environmental performance	Cold	-40±2℃ for 500h		-20±2℃ for 96h	-40±2℃ for 500h			
	Dry heat	85±2℃ for 500h		85±2℃ for 96h	85±2℃ for 500h			
	Damp heat	60±2℃, 90 to 95%RH for 500h	60±2℃, 90 to 95%RH for 96h	40±2℃, 90 to 95%RH for 96h	60±2℃, 90 to 95%RH for 500h			
Dimensions (mm)	W	12.5	11	5	3.5	6.3	3.8	3.5
	D	5	5.8	4	5.65	7.4	3.6	3.3
	H	11.5	12.4	1.5	1.2	2.8	1	
Soldering	Manual soldering	350±5℃, 3s max.	350±10℃, 3 ⁺¹ / ₋₀ s	350±5℃, 3s max.		350 ⁺¹⁰ / ₋₅ ℃, 3 ⁺¹ / ₋₀ s	350±5℃, 3s max.	
	Dip soldering	260±5℃, 5±1s			—		260±5℃, 3s max.	—
	Reflow soldering	—			Please see P.102		—	Please see P.102
Number of poles		1						
Operation force		0.7±0.3N	0.7N max.	0.35N max.	0.55N max.	0.85N max.	0.35N max.	
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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



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Series (Reflow type)	A (°C) 3s max.	B (°C)	C (s)	D (°C)	E (°C)	F (s)
SPPB	250	230	40			
SPPW8		200	20			
SPVE	260	230	40	180	150	120
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.