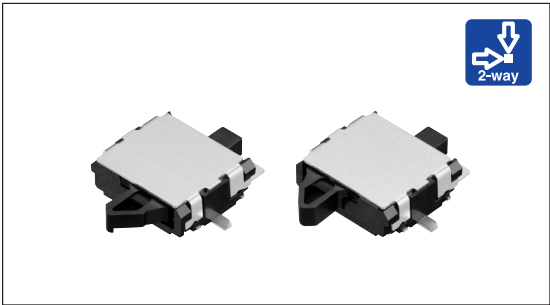


Detector Switch

1.9mm-Thick Two-way Operation Type

SPVT Series

Surface mount type, two-way detection with body thickness of 1.9mm

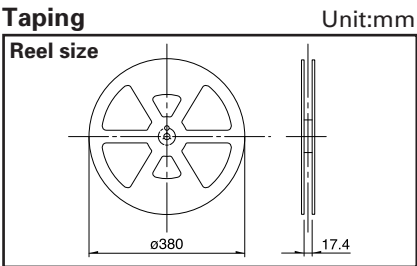


Typical Specifications		
Items		Specifications
Rating (max.) / (min.) (Resistive load)		50mA 20V DC/100μA 3V DC
Contact resistance (Initial /After operating life)		500mΩ max./1Ω max.
Operating force		0.4N max.
Operating life	Without load	100,000cycles
	With load	100,000cycles (50mA 20V DC)

Product Line

Poles	Positions	Terminal type	Operating direction	Location lug	Side terminal	Minimum order unit (pcs)	Product No.	Drawing No.
1	1	For PC board (Reflow)	Right	With	With both sides.	10,000	SPVT110102	1
					With a right side.		SPVT130101	2
					With a left side.		SPVT120101	3
					Without		SPVT140101	4
				Without	With both sides.		SPVT110201	1
					With a right side.		SPVT130201	2
					With a left side.		SPVT120201	3
					Without		SPVT210101	5
			Left	With	With both sides.		SPVT230101	6
					With a right side.		SPVT220102	7
					With a left side.		SPVT240101	8
					Without		SPVT210201	5
				Without	With both sides.		SPVT230201	6
					With a right side.		SPVT220201	7
					With a left side.			

Packing Specifications



Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case /Japan	1 case /export packing		
2,500	5,000	10,000	16	417 × 409 × 139

Note

Please place purchase orders per minimum order unit N (integer).

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line Package Type

TACT Switch™

Custom-Products

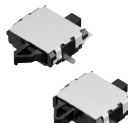


Automotive Use

Unit:mm

[illegible]

List of Varieties (General-purpose Type / Water-proof Type)

Series		General-purpose Type				Water-proof Type			
		SPVT	SPVL	SSCW	SPVQ5	SPVQ1	SPVQ3	SPVQ4H	
Photo									
Operation type									
Operating temperature range		-40℃ to +85℃							
Automotive use									
Rating (max.) (Resistive load)		50mA 20V DC	1mA 5V DC	0.1A 12V DC					
Rating (min.) (Resistive load)		100μA 3V DC	50μA 3V DC	100μA 3V DC	50μA 3V DC		50μA 5V DC or 1mA 5V DC	1mA 5V DC	
Electrical performance	Initial contact resistance	500mΩ max.	2Ω max.	500mΩ max.					
	Insulation resistance	100MΩ min. 100V DC		100MΩ min. 250V DC	100MΩ min. 500V DC				
	Voltage proof	100V AC for 1 minute		250V AC for 1 minute	500V AC for 1 minute				
Mechanical performance	Terminal strength	0.5N for 1 minute	1N for 1 minute	—————			3N for 1 minute Wire strength 30N for 1minute Applicable to product with wire		Wire strength 30N for 1minute
	Actuator strength	10N	5N	20N					
Durability	Operating life without Load	100,000cycles 1Ω max.	50,000cycles 5Ω max.	100,000cycles 1Ω max.	300,000cycles 1Ω max.		300,000cycles or 1,200,000cycles 1Ω max.	300,000cycles 1Ω max.	
	Operating life with Load	(50mA 20V DC) 100,000cycles 1Ω max.	(1mA 5V DC) 50,000cycles 5Ω max.	(0.1A 12V DC) 100,000cycles 1Ω max.	(0.1A 12V DC) 300,000cycles 1Ω max.		(0.1A 12V DC) 300,000cycles or 1,200,000 cycles 1Ω max.	(0.1A 12V DC) 300,000cycles 1Ω max.	
Environmental performance	Cold	-40±2℃ for 500h							
	Dry heat	85±2℃ for 500h							
	Damp heat	40±2℃, 90 to 95%RH for 500h	60±2℃, 90 to 95%RH for 500h						
Dimensions (mm)		W	5.6	5.55	13.1	13.8	13.3	13	19
		D	6.5	6.6	11.35		5.8		6
		H	1.9	1	5.3		5.8	8	8.35
Soldering	Manual soldering	350±5℃, 3s max.		—————			300±10℃, 3 ⁺¹ / ₋₀ s		—————
	Dip soldering	—————				260±5℃, 5±1s		—————	
	Reflow soldering	Please see P.97		—————					
Number of poles		1							
Operation force		0.4N max.	0.35N max.	1N max.	2N max.	2N max. 5.9N max.	3N max.		
Page		68	71	72	73	74	78	84	

- Detector Switches Soldering Conditions97
- Detector Switches Cautions98

Note

●marks in "Available for automotive use" indicate that all of the series products can work at the operating temperature range from -40°C to +85°C.

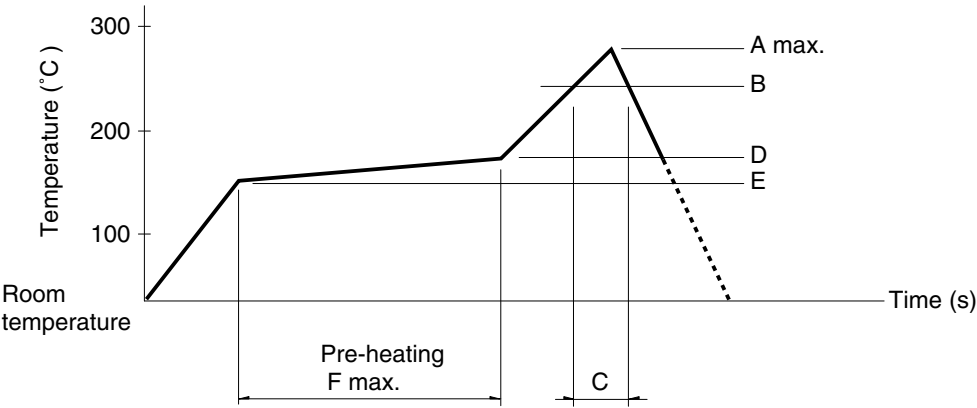
Soldering Conditions

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 (°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, surface 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.