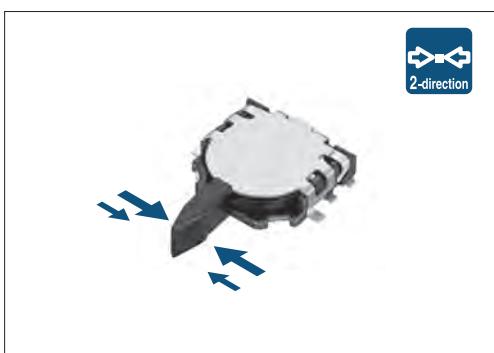


Industry's smallest two-step detector switch
takes up 30% less space than existing products



Detector
Slide
Push
Rotary
Power
Dual-line
Package Type
General
purpose Type
Waterproof
Type
Fast Switching



■ Typical Specifications

Items		Specifications
Rating (max.)/(min.) (Resistive load)		1mA 5V DC / 50μA 3V DC
Contact resistance (Initial / After operating life)		2Ω max. / 5Ω max.
Operating force		0.35N max.
Operating life	Without load	50,000cycles
	With load	50,000cycles (1mA 5V DC)

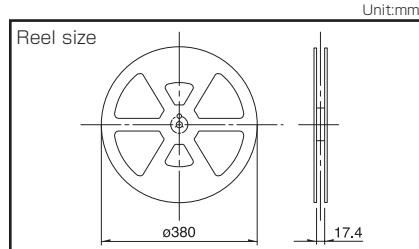
■ Product Line

Poles	Positions	Terminal type	Total travel (mm)	Location lug	Minimum order unit (pcs.)		Product No.
					Japan	Export	
1	Two-direction type : 2-position each side	For PC board (Reflow)	3.73	With	4,000	16,000	SSCQ110100
				Without			SSCQ120102

■ Packing Specifications

Taping

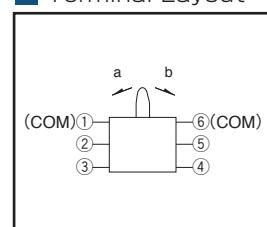
Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case /Japan	1 case /export packing		
4,000	8,000	16,000	16	417×409×139



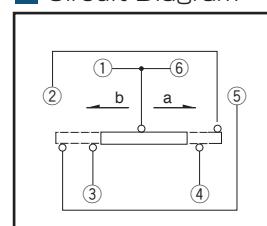
■ Dimensions

Style	PC board mounting hole dimensions
With boss	
Terminal No.(1)	0.85
Terminal No.(2)	0.38
Terminal No.(3)	0.33
Terminal No.(4)	0.45
Terminal No.(5)	0.55
Terminal No.(6)	0.55
Center of lever rotation	3.8
Free position	0.7
1st ON starting position	0.3
2nd ON Starting position	0.3
Full Stroke position	1.25±0.05
(3.73) Full Stroke position (Sideward direction)	1.25±0.05
(2.47) 2nd ON Starting position (Sideward direction)	0.37±0.05
(0.89) 1st ON starting position (Sideward direction)	0.37±0.05
Center of lever rotation	3.8
Full Stroke position	1.21
2±0.1 Center of lever rotation	1.21
1.76) Full Stroke position (Vertical direction)	1.76
(3.29) 2nd ON Starting position (Vertical direction)	1.76
(4.01) 1st ON starting position (Vertical direction)	1.76

■ Terminal Layout



■ Circuit Diagram



Note

Dimensions drawing is for type with location lugs.

Detector Switches

List of Varieties

Series		General-purpose Type			
		SSCQ	SSCM	SPVL	SPPB
Photo					
Operation type		Two-way Two-direction type	Two-way	Three-way	One-way Two-way
Dimensions (mm)	W	3.8	5	5.55	6.3
	D	3.6	4	6.6	3
	H	0.9	1.5	1	4.9
Operating temperature range		-10°C to +60°C		-40°C to +85°C	
Automotive use		—	—	●	●
Life cycle (availability)		 3	 3	 3	 3
Poles / Positions		1 / Two-direction type: 2-position each side	1/2	1/1	
Rating (max.) (Resistive load)		1mA 5V DC			0.1A 30V DC
Rating (min.) (Resistive load)		50μA 3V DC			
Durability	Operating life without load	50,000cycles 5Ω max.			50,000cycles 2Ω max.
	Operating life with load Rating (max.) (Resistive load)	50,000cycles 5Ω max			50,000cycles 2Ω max.
Electrical performance	Initial contact resistance	2Ω max.			1Ω max.
	Insulation resistance	100MΩ min. 100V DC			
	Voltage proof	100V AC for 1 minute			
Mechanical performance	Terminal strength	0.5N for 1minute		1N for 1minute	3N for 1minute
	Actuator strength	1N	2N	5N	10N
Environmental performance	Cold	-20°C 96h		-40°C 500h	
	Dry heat	85°C 96h		85°C 500h	
	Damp heat	40°C, 90 to 95%RH 96h		60°C, 90 to 95%RH 500h	
Operation force		0.35N max.			
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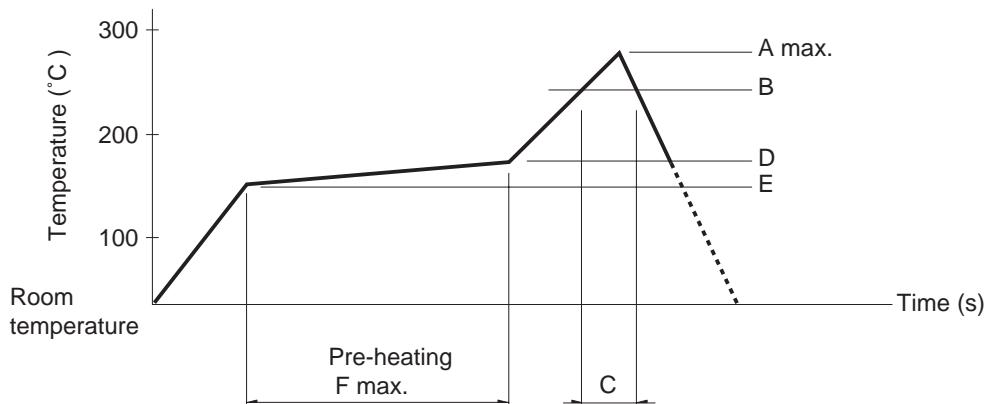
Note

- Indicates applicability to all products in the series.

Detector Switches / Soldering Conditions

Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple $\phi 0.1$ 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



Series (Reflow type)	A (°C) 3s max.	B (°C)	C (s)	D (°C)	E (°C)	F (s)
SPPB	250					
SPVE						
SPVL						
SPVM						
SPVN						
SPVR	260	230	40	180	150	120
SPVS						
SPVT						
SSCM						
SSCQ						
SPVQC	250					

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.

■ Reference for Hand Soldering

Series	Soldering temperature	Soldering time
SPVS, SPVN, SPVT, SPVM, SPVR, SPVE, SSCQ, SSCM, SPVL, SSCT, SPVQC	$350 \pm 5^\circ\text{C}$	3s max.
SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SSCN, SPVQA	$300 \pm 10^\circ\text{C}$	3 + 1 / 0s
SPPB (Reflow)	$300 \pm 5^\circ\text{C}$	5s max.
SSCF, SPPB (For Lead, Dip)	$350 \pm 10^\circ\text{C}$	3 + 1 / 0s

■ Reference for Dip Soldering (For PC board terminal types)

Series	Items		Dip soldering	
	Preheating temperature	Preheating time	Soldering temperature	Duration of immersion
SSCT, SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SPVQA	$100 \pm 10^\circ\text{C}$	60s max.	$260 \pm 5^\circ\text{C}$	$5 \pm 1\text{s}$
SPPW8, SPPB	100°C max.	60s max.	$255 \pm 5^\circ\text{C}$	$5 \pm 1\text{s}$
SSCF	—	—	$260 \pm 5^\circ\text{C}$	$5 \pm 1\text{s}$

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