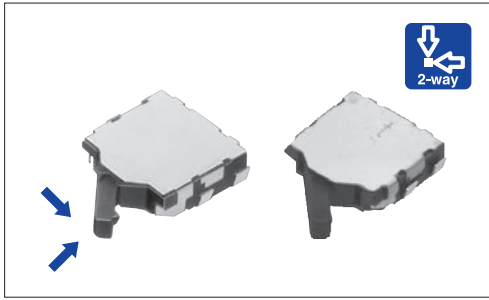


Low-profile type with thickness of 1mm.



Typical Specifications

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

Detector

Slide

Push

Rotary

Encoders

Power

Dual-in-line
Package Type

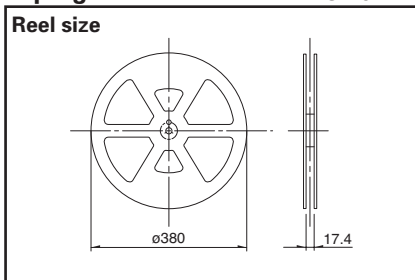
TACT Switch™

Product Line

Poles	Positions	Terminal type	Lever length	Operating direction	Location lug	Minimum order unit (pcs)		Product No.	Drawing No.
						Japan	Export		
1	1	For PC board (Reflow)	Standard	Right	With	5,000	20,000	SPVN110101	1
					Without			SPVN120101	
				Left	With			SPVN210101	
					Without			SPVN220101	
			Long	Right	With			SPVN310100	3
					Without			SPVN320100	
				Left	With			SPVN410100	4
					Without			SPVN420100	

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		
5,000	10,000	20,000	16	417 × 409 × 139

Dimensions

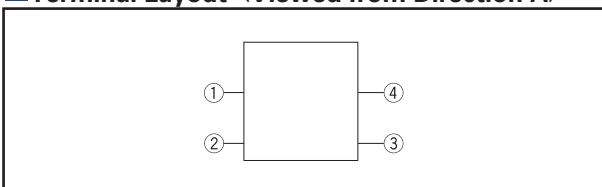
Unit:mm

Detector	No.	Photo	Style	PC board mounting hole and land dimensions (Viewed from direction A)
Slide Push Rotary Encoders Power Dual-in-line Package Type TACT Switch™	1			
	2			
	3			
	4			

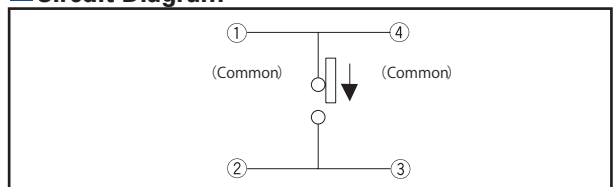
Note

Dimensions drawing is for type with location lugs.

Terminal Layout (Viewed from Direction A)

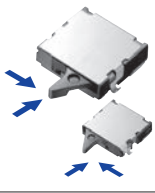
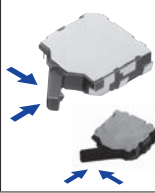
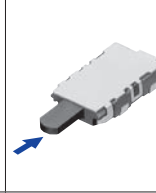
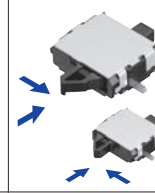
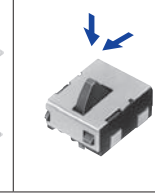
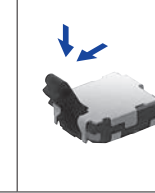








Circuit Diagram



Detector Switches

List of Varieties (General-purpose Type)

Series		General-purpose Type					
		SPVS	SPVN	SPVP	SPVT	SPVM	SPVR
Photo							
Operation type		Two-way		One-way	Two-way		
Dimensions (mm)	W	3.5	3.8	3.5	5.6	2.8	3.6
	D	3.3	3.6	5.65	4.7	3.5	4.2
	H	1		1.2	1.9	1.5	1.2
Operating temperature range		-40°C to +85°C					
Automotive use		●	●	●	●	●	●
Life cycle (availability)							
Poles / Positions		1 / 1					
Rating (max.) (Resistive load)		1mA 5V DC			50mA 20V DC	1mA 5V DC	
Rating (min.) (Resistive load)		50μA 3V DC		100μA 3V DC		50μA 3V DC	100μA 3V DC
Durability	Operating life without Load	50,000cycles 5 Ω max.		50,000cycles 10 Ω max.	100,000cycles 1 Ω max.	50,000cycles 5 Ω max.	
	Operating life with Load Rating (max.) (Resistive load)	50,000cycles 5 Ω max.		50,000cycles 10 Ω max.	100,000cycles 1 Ω max.	50,000cycles 5 Ω max.	
Electrical performance	Initial contact resistance	2 Ω max.		5 Ω max.	500mΩ max.	2 Ω max.	3 Ω 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	0.5N for 1minute
	Actuator strength	5N			10N	5N	2N
Environmental performance	Cold	-40±2°C for 96h					
	Dry heat	85±2°C for 96h					
	Damp heat	40 ± 2°C, 90 to 95% RH for 96h					
Operation force		0.35N max.		0.55N max.	0.4N max.		0.35N max.
Page		13	15	17	18	21	23

- Detector Switches Soldering Conditions 66
- Detector Switches Cautions 67

Note

- indicates applicability to all products in the series.

Detector

Slide

Push

Rotary

Encoders

Power

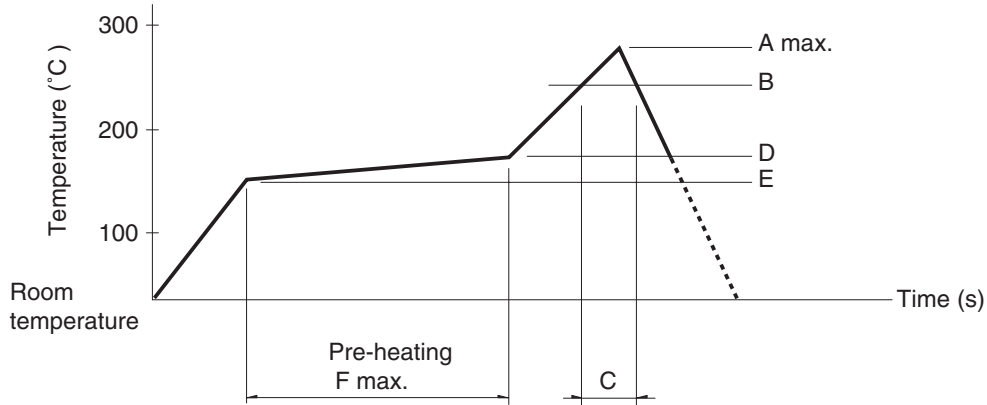
Dual-in-line
Package Type

TACT Switch™

Detector Switches 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	180	150	120				
SPPW8			35							
SPVE	260		230				40	180	150	120
SPVL										
SPVM										
SPVN										
SPVP										
SPVR										
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, SPVP, SPVT, SPVM, SPVR, SPVE, SPPW8, SSCQ, SSCM, SPVL, SSCT, SPVQC	350 ± 5°C	3s max.
SPVQ1, SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SSCN, SPVQA	300 ± 10°C	3 + 1 / 0s
SPPB	350 ± 5°C	5s max.
SSCF	350 ± 10°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, SPVQ1, SPVQ3, SPVQ6, SPVQ7, SPVQ8, SPVQ9, SPVQA	100 ± 10°C	60s max.	260 ± 5°C	5 ± 1s
SPPW8, SPPB	100°C max.	60s max.	255 ± 5°C	5 ± 1s
SSCF	—		260 ± 5°C	5 ± 1s