

Push Switch

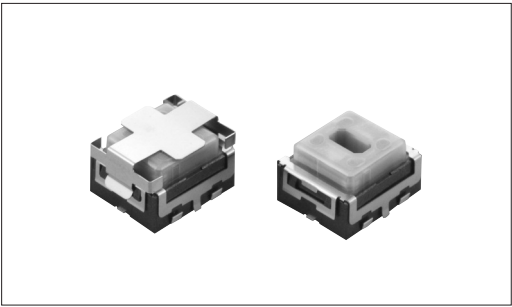
Hollow Slider Momentary Type

SPEG Series



Hollow type supporting designs such as LED illumination.

- Detector
- Push
- Slide
- Rotary
- Encoders
- Power
- Dual-in-line Package Type
- TACT Switch™
- Custom-Products



Typical Specifications

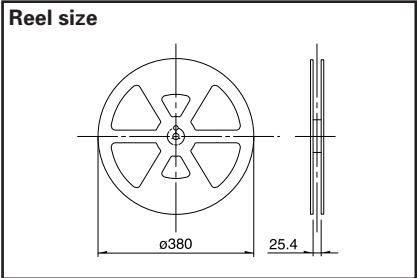
Items	Specifications
Rating (max.) / (min.) (Resistive load)	50mA 16V DC/50μA 3V DC
Contact resistance (Initial / After operating life)	200mΩ max./500mΩ max.
Operating forces	2.16N
Operating life	30,000cycles

Product Line

Total travel (mm)	Poles	Ground terminal	Minimum order unit (pcs.)	Product No.
1.1	1	Without	4,800	SPEG110100
		With		SPEG120100

Packing Specifications

Taping Unit:mm



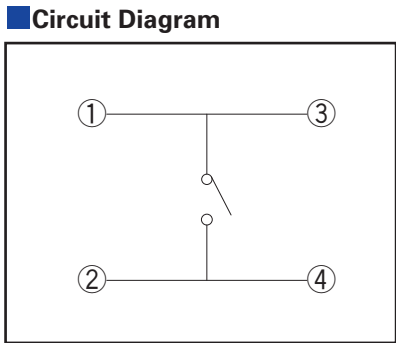
Number of packages (pcs.)			Tape width (mm)	Export package measurements (mm)
1 reel	1 case /Japan	1 case /export packing		
1,200	2,400	4,800	24	428×413×172

Note

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

Dimensions	Unit:mm
Style	PC board mounting hole dimensions
Terminal no.1 Ground terminal (with plating) Terminal no.2 Terminal no.3 Frame for mounting Ground terminal (with plating) Terminal no.4 Total Travel Position High of product 7.19 2.7 3 7.5 5.1 5 3.9 0.7 3.5 8.39 4 4-1 3 3.3 6 45° 1.8 4 1.6 6.2 4-1	In case of using ground terminal Please connect to GND.
	In case of not using ground terminal

Note
Above dimensions indicate "with ground terminal" version.



Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products

Horizontal
Type

Vertical
Type

List of Varieties

Series		SPEE	SPPJ3	SPPJ2	SPUJ ※1	SPUP ※1	SPUN	SPUN medium current※1	SPEG	SPEJ	
Photo											
Travel (mm)		0.3 0.71	2.5		2	1.5 2	2.5		—	1.7	
Total travel (mm)		0.9	3.5		3	2.5 3	3.5		1.1	1.7	
Number of poles		1	1 2	2	2 4				1	2	
Dimensions (mm)	W	4	6.6	7.2	7.5		10		7.15	7	
	D	5	12		15.2 22.7		24 36		8.35	7	
	H	1.22	8.3	9.6	8.8	10.3	13		3.5	8	
Operating temperature range		−10°C to +60°C	−40°C to +85°C		−10°C to +60°C					−40°C to +85°C	
Automotive use		—									
Rating (max.) (Resistive load)		20mA 5V DC	0.2A 30V DC		0.1A 30V DC			1A 25V DC	50mA 16V DC	0.2A 14V DC	
Rating (min.) (Resistive load)		100μA 3V DC	50μA 3V DC			50μA 3V DC				—	
Electrical performance	Initial contact resistance	※2	20mΩ max.						200mΩ max.	150mΩ max.	
	Insulation resistance	10MΩ min. 100V DC	100MΩ min. 500V DC						3MΩ min. 100V DC	100MΩ min. 500V DC	
	Voltage proof	100V AC for 1minute	500V AC for 1minute						100V AC for 1minute	500V AC for 1minute	
Mechanical performance	Terminal strength		—	5N for 1minute					0.5N for 1minute	—	
	Actuator strength	Operating direction	50N	30N		50N			50N	49N	
		Pulling direction									
Durability	Operating life without load	100,000 cycles	10,000cycles 40mΩ max.				30,000cycles 40mΩ max.	10,000cycles 40mΩ max.	30,000cycles 500mΩ max.	10,000 cycles	
	Operating life without load Load:as rating	100,000 cycles	10,000cycles 40mΩ max.				5,000cycles 40mΩ max.			10,000cycles 0.2A 14V DC	
Environmental performance	Cold		−40±2°C for 96h	−20±2°C for 96h						−40±2°C for 500h	
	Dry heat		85±2°C for 96h								85±2°C for 500h
	Damp heat		40±2°C, 90 to 95%RH for 96h								60±2°C, 90 to 95%RH for 500h
Soldering	Manual soldering	350±10°C 4 ⁺¹ ₀ s	350±10°C 3 ⁺¹ ₀ s		300±10°C 3 ⁺¹ ₀ s		350±10°C 3 ⁺¹ ₀ s		350±5°C 3s max.	350±10°C 4s max.	
	Dip soldering	—	260±5°C 5±1s	260±5°C 10±1s	260±5°C 5±1s		260±5°C 10±1s		—		
	Reflow soldering	Please see P.127								Please see P.133	
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Dual-in-line
Package Type

TACT Switch™

Custom-
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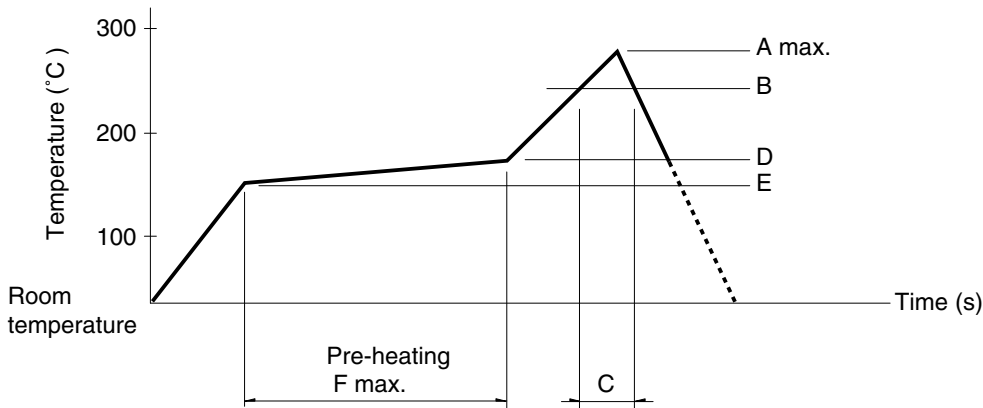
Notes

- ※1. The operating temperature range for automotive applications can be raised upon request. Please contact us for details.
- ※2. 1V or less, at the present rating of 1mA 5V DC for output voltage.
- 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 ϕCA (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)
SPEE	260	230	40	180	150	120
SPEF, SPEG, SPEJ						

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.