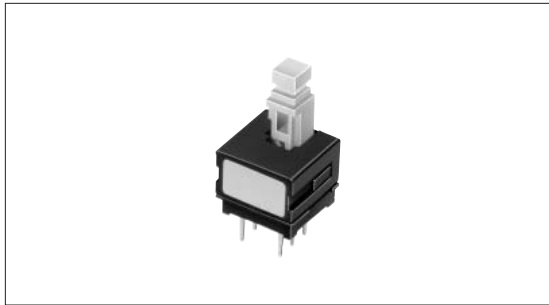


Push Switch 1.5mm-travel Vertical Type

SPPH1 Series



Vertical type available with two lever shapes.



Features

- 1.5mm-travel.

Applications

- For switches of in-vehicle units, hazard systems, and rear differential drives
- For various switching for LCD TVs, printers, and audio equipment

Typical Specifications

Items		Specifications
Rating (max.)/(min.) (Resistive load)		0.1A 30V DC/50 μ A 3V DC
Contact resistance (Initial performance/After lifetime)		20m Ω max./40m Ω max.
Operating force		Refer to the products line
Operating life	Without load	10,000 cycles
	With load	10,000 cycles (0.1A 30V DC)

Products Line

Changeover timing	Travel (mm)	Total travel (mm)	Rating	Mounting method	Poles	Operating force	Operating	Terminal style	Minimum packing unit (pcs.)	Products No.	Drawing No.
Non shorting	1.5	2.5	—	PC board	2	$2^{+1}_{-0.7}N$	Latching	Straight	100	SPPH110800	1
							Momentary			SPPH110300	
							Latching			SPPH120400	2
							Momentary			SPPH120100	
							Latching	Snap-in		SPPH130400	1
							Momentary			SPPH130100	
							Latching			SPPH140300	2
							Momentary			SPPH140100	
						$3^{+1}_{-0.7}N$	Latching	Straight		SPPH110900	1
								Snap-in		SPPH130500	
			SPPH140400	2							

Note

Additional switches not included in the above list are also available. Contact us for details.

For other specifications, see P.105

Push Switch

1.5mm-travel Vertical Type | SPPH1 Series

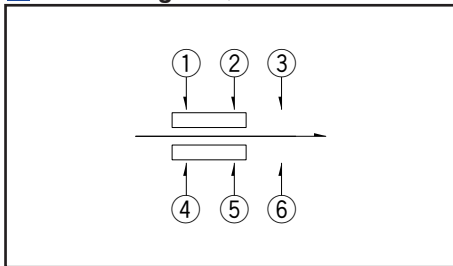
Dimensions

Unit:mm

No.	Style	PC board mounting hole dimensions (Viewed from the direction A)	
1		Straight terminal 	Snap-in terminal <p>Thickness of PC board t=1.6mm</p>
		Straight terminal 	Snap-in terminal <p>Thickness of PC board t=1.6mm</p>
2		Straight terminal 	Snap-in terminal <p>Thickness of PC board t=1.6mm</p>
		Straight terminal 	Snap-in terminal <p>Thickness of PC board t=1.6mm</p>

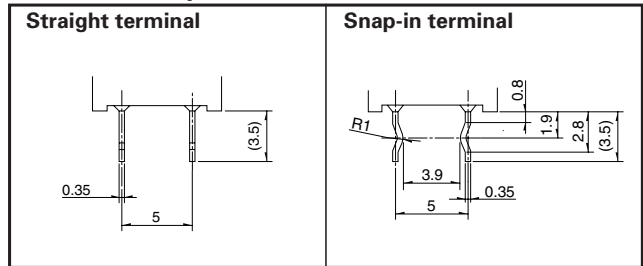
- Detector
- Push**
- Slide
- Rotary
- Encoders
- Power
- Dual-in-line Package Type
- Multi Control Devices
- TACT Switch™
- Custom-Products
- Horizontal Type
- Vertical Type**

Circuit Diagram (Viewed from the Direction A)



Terminal Style

Unit:mm



Products Specifications

Series		SPEE	SPPJ6	SPPJ2	SPPJ3	SPUJ SPUP	SPUN	SPUN (medium current)	SPPH2	SPPH4	SPPH1	SPEA	SPEC	SPED2	SPED3	SPED4	SPED5	
Item																		
Operating temperature range		-10°C to +60°C												-40°C to +85°C				
Rating (max.) (Resistive load)		5V 20mA	0.2A 12V DC	0.2A 30V DC		0.1A 30V DC		1A 25V DC	0.1A 12V DC	0.1A 30V DC				1A 14.5V DC				
Electrical performance	Initial contact resistance	※	20mΩ max.						30mΩ max.	100mΩ max.	20mΩ max.	30mΩ max.		100mΩ max.				
	Insulation resistance	10mΩ min 100V DC	100MΩ min. 500V DC														3MΩ min. 500V DC	
	Voltage proof	100V AC for 1min	500V AC for 1 min.														100V AC for 1 min.	
Mechanical performance	Robustness of terminal	—	5N for 1 min.								3N for 1 min.		—					
	Robustness of actuator	Operating direction	50N		30N		50N		30N		50N							
		Pulling direction	—				50N		—	10N	—	50N		—				
	Vibration		10 to 55 to 10Hz/min., the amplitude is 1.5mm for all the frequencies, in the 3 direction of X, Y and Z for 2 hours respectively															
	Resistance to soldering heat	Manual soldering	—	350±10°C 3 ⁺¹ ₀ s		300±10°C 3 ⁺¹ ₀ s	350±10°C 3 ⁺¹ ₀ s		350°C max. 3s max.	350±10°C 3 ⁺¹ ₀ s				350±10°C 3±0.5s	—	350±10°C 3±0.5s	—	
		Dip soldering	—	260±5°C 5±1s	260±5°C 10±1s	260±5°C 5±1s	260±5°C 10±1s	260±5°C 5±1s	260±5°C 10±1s	260±5°C 5±1s	260±5°C 10±1s	260±5°C 5±1s	260°C max. 5s max.	260±5°C 10±1s	—	260±5°C 10±1s	—	
Reflow		260°C max 10s max	—															
Durability	Operating life without load	100,000 cycles	10,000 cycles 40mΩ max.				30,000 cycles 40mΩ max.	10,000 cycles 40mΩ max.	10,000 cycles 50mΩ max.	10,000 cycles 100mΩ max.	10,000 cycles 40mΩ max.	10,000 cycles 50mΩ max.	30,000 cycles 100Ω max.					
	Operating life with load Load : As rating	100,000 cycles	10,000 cycles 40mΩ max.				5,000 cycles 40mΩ max.	10,000 cycles 50mΩ max.	10,000 cycles 100mΩ max.	10,000 cycles 40mΩ max.	10,000 cycles 50mΩ max.		30,000 cycles 100mΩ max.					
Environmental performance	Cold	-40±2°C for 96h	-20±2°C for 96h												-40±2°C for 96h			
	Dry heat	85±2°C for 96h																
	Damp heat	40±2°C, 90 to 95%RH for 96h																

Note

1V or less, at the present rating of 1mA, 5V DC for output voltage.

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

Multi Control
Devices

TACT Switch™

Custom-
Products

Horizontal
Type

Vertical
Type