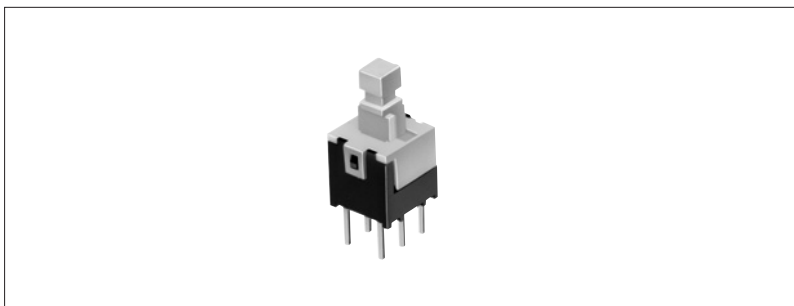


# 1.0mm-travel Compact-sized Vertical Type Push Switch

SPPH2 Series

Short-travel of 1.0mm, small type.

- Power
- Push**
- Slide
- Rotary
- Encoders
- Jog Shuttle
- Telephone-hook
- Detector
- Vibration Sensors
- Dual-in-line Package Type
- Multi Control Devices
- TACT
- Horizontal Type
- Vertical Type**



## Features

- 1.0mm-travel.

## Applications

- Printers and peripheral devices
- For switches in sound devices including CTVs, PDP, LCD TVs, mini component stereos and audio mixers
- For various switching of house related devices such as air conditioners

## Typical Specifications

Items		Specifications
Rating (max.) (Resistive load)		0.1A 12V DC
Contact resistance (Initial performance / After lifetime)		30mΩ max. / 50mΩ max.
Operating force		2±1N
Operating life	Without load	10,000 cycles
	With load	10,000 cycles (0.1A 12V DC)

## Products Line

Changeover timing	Travel (mm)	Total travel (mm)	Rating	Mounting method	Poles	Knob style	Operating	Terminal style	Minimum packing unit (pcs.)	Products No.	Drawing No.
Non shorting	1	1.5	—	PC board	2	Standard	Latching	Straight	100	SPPH210100	1
							Momentary			SPPH210500	
							Latching	Snap-in		SPPH260100	2
							Momentary			SPPH230500	
						Short	Latching	Straight		SPPH220100	3
							Momentary			SPPH220200	
							Latching	Snap-in		SPPH240100	
							Momentary			SPPH240300	

## Note

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

For other detailed specifications, see P.100

Dimensions

Unit : mm

No.	Style	PC board mounting hole dimensions (Viewed from the Direction A)
1		<p><b>Straight terminal</b></p> <p><b>Snap-in terminal</b></p>
2		<p><b>Snap-in terminal</b></p>
3		<p><b>Straight terminal</b></p> <p><b>Snap-in terminal</b></p>

Power

Push

Slide

Rotary

Encoders

Jog Shuttle

Telephone-hook

Detector

Vibration Sensors

Dual-in-line Package Type

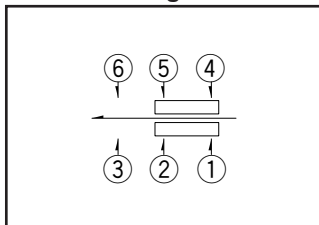
Multi Control Devices

TACT

Horizontal Type

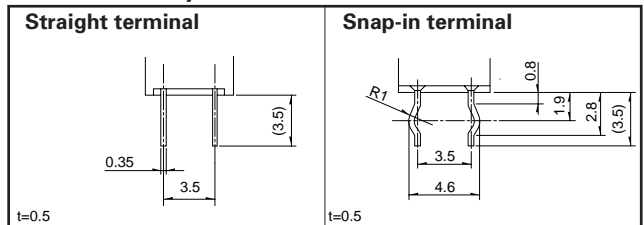
Vertical Type

Circuit Diagram (Viewed from the Direction A)



Terminal Style

Unit : mm



## Products Specifications

Item	Series																								
	SPPJ6	SPPJ2	SPPJ3	SPUJ SPUP	SPUN	SPUN (medium current)	SPPH2	SPPH4	SPPH1	SPEA	SPEC	SPED1	SPED2	SPED3											
Power	Operating temperature range											-10°C to +60°C		-40°C to +85°C											
Push	Rating (max.) (Resistive load)											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					
Slide	Electrical performance	Initial contact resistance											20mΩ max.			30mΩ max.	100mΩ max.	20mΩ max.	30mΩ max.	100mΩ max.					
Rotary		Insulation resistance											100MΩ min. 500V DC						3MΩ min. 100V DC						
Encoders		Voltage proof											500V AC for 1 min.						100V AC for 1 min.						
Jog Shuttle	Mechanical performance	Robustness of terminal											5N for 1 min.			3N for 1 min.			—						
Telephone -hook		Robustness of actuator	Operating direction											50N	30N	50N	30N	50N							
Detector			Pulling direction											—		50N	—	10N	—	50N	—				
Vibration Sensors		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												
Dual-in-line Package Type		Solderability											230±5°C、3±0.5s						—	—	230±5°C 3±0.5s	—			
Multi Control Devices		Resistance to soldering heat	Manual soldering											350±10°C 3 <sup>+</sup> <sub>0</sub> <sup>+</sup> s		300±10°C 3 <sup>+</sup> <sub>0</sub> <sup>+</sup> s	350±10°C 3 <sup>+</sup> <sub>0</sub> <sup>+</sup> s		350°C max. 3s max.	350±10°C 3 <sup>+</sup> <sub>0</sub> <sup>+</sup> s			—	—	350±10°C 3±0.5s
TACT	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°C max. 5s max.	—	—	260±5°C 10±1s	—		
Horizontal Type	Durability	Operating life without load											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 1Ω max.				
		Operating life with load Load : As rating											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.	10,000 cycles 1Ω max.					
Vertical Type		Environmental performance											Cold						-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							