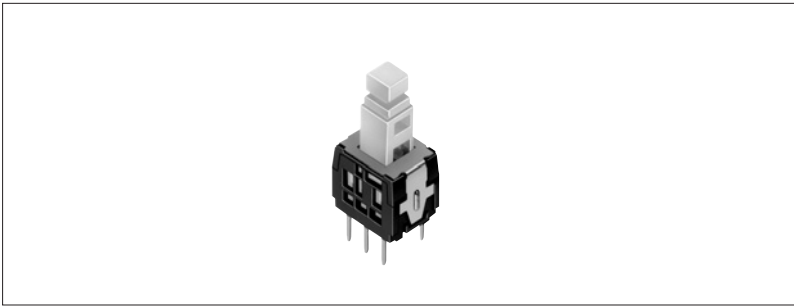


2.2mm-travel Medium-sized Vertical Type Push Switch

SPPH4 Series

Medium vertical type with high operability.

- 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

- Optional location lug is available to prevent mounting direction failure.

Applications

- AV devices, including DVD players, portable CD/MD players, and audio mixers
- For the switching functions of electronic devices, including game consoles

Typical Specifications

Items	Specifications
Rating (max.) (Resistive load)	0.1A 30V DC
Contact resistance	100mΩ max.
Operating force	2±1N
Operating life with load	10,000 cycles (0.1A 30V DC)

Products Line

Changeover timing	Travel (mm)	Total travel (mm)	Rating	Mounting method	Poles	Operating	Terminal style	Location lug	Minimum packing unit (pcs.)	Products No.
Non shorting	2.2	3	—	PC board	2	Latching	Straight	With	100	SPPH410100
						Momentary		Without		SPPH410200
						Latching	Snap-in	With		SPPH420100
						Momentary		SPPH430100		
									SPPH430200	

Note

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

For other detailed specifications, see P.100

Dimensions

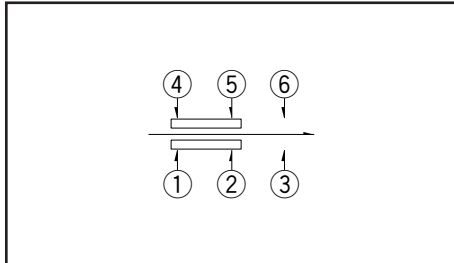
Unit : mm

Style	PC board mounting hole dimensions (Viewed from the direction A)

Note

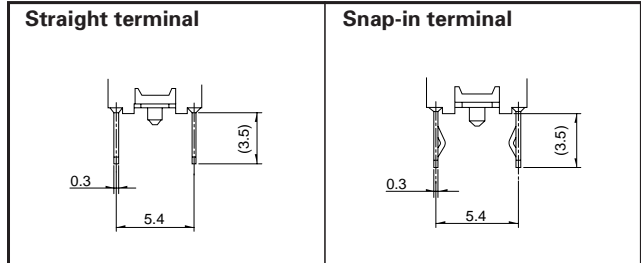
Only the configurations with location lug are indicated in the dimensions.

Circuit Diagram (Viewed from the Direction A)



Terminal style

Unit : mm



- Power
- Push**
- Slide
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Products Specifications

Series		Item																		
		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.						
		Insulation resistance													100MΩ min. 500V DC			3MΩ min. 100V DC		
Rotary	Voltage proof													500V AC for 1 min.			100V AC for 1 min.			
Encoders	Robustness of terminal													5N for 1 min.		3N for 1 min.		—		
Jog Shuttle	Mechanical performance	Robustness of actuator	Operating direction		50N	30N		50N		30N		50N								
Telephone-hook			Pulling direction		—		50N		—	10N	—	50N		—						
Detector	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						
Vibration Sensors	Solderability													230±5°C、3±0.5s			—	—	230±5°C 3±0.5s	—
Dual-in-line Package Type	Resistance to soldering heat	Manual soldering		350±10°C 3 ⁺ ₀ ⁺ s		300±10°C 3 ⁺ ₀ ⁺ s	350±10°C 3 ⁺ ₀ ⁺ s		350°C max. 3s max.	350±10°C 3 ⁺ ₀ ⁺ s					—	—	350±10°C 3±0.5s	—		
Multi Control Devices		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	—	
TACT	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.						
Horizontal 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					