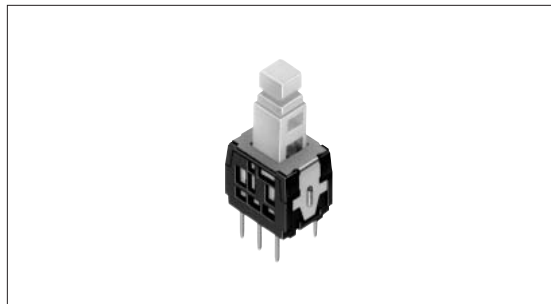


# Push Switch 2.2mm-travel Medium-sized Vertical Type

SPPH4 Series



Medium vertical type with high operability.



## 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

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
Package Type

Multi Control  
Devices

TACT Switch™

Custom-  
Products

Horizontal  
Type

Vertical  
Type

## Typical Specifications

Items	Specifications
Rating (max.) / (min.) (Resistive load)	0.1A 30V DC/50μA 3V 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 specifications, see P.105

# Push Switch

## 2.2mm-travel Medium-sized Vertical Type | SPPH4 Series

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

### Dimensions

Unit:mm

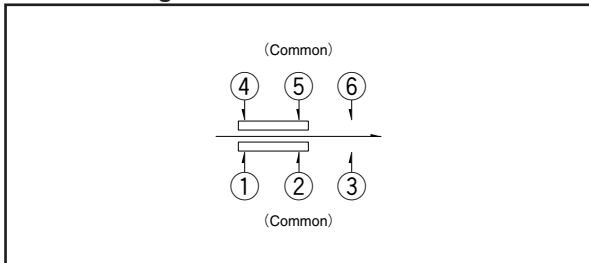
Style	PC board mounting hole dimensions (Viewed from the direction A)
	<p>Thickness of PC board t=1.6mm</p>

### Note

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

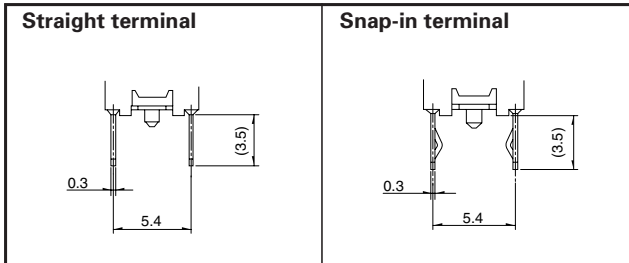
- Horizontal Type
- Vertical Type**

### 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	
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															
	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 <sup>+1</sup> <sub>0</sub> s		300±10°C 3 <sup>+1</sup> <sub>0</sub> s	350±10°C 3 <sup>+1</sup> <sub>0</sub> s		350°C max. 3s max.	350±10°C 3 <sup>+1</sup> <sub>0</sub> 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.	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.

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