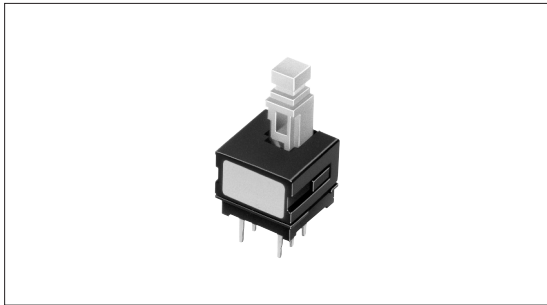


Push Switch 1.5mm-travel Vertical Type

SPPH1 Series



Vertical type available with two lever shapes.



Typical Specifications

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

Product Line

Changeover timing	Travel (mm)	Total travel (mm)	Mounting method	Poles	Operating force	Operation	Terminal type	Minimum order unit (pcs.)	Product No.	Drawing No.	
Non shorting	1.5	2.5	PC board	2	$2^{+1}_{-0.7}$ N	Latching	Straight	4,000	SPPH110800	1	
						Momentary			SPPH110300		
						Latching			Snap-in	SPPH120400	2
						Momentary				SPPH120100	
						Latching	Snap-in		SPPH130400	1	
						Momentary			SPPH130100		
						Latching			Straight	SPPH140300	2
						Momentary				SPPH140100	
					$3^{+1}_{-0.7}$ N	Latching	Straight		SPPH110900	1	
							Snap-in		SPPH130500		
		SPPH140400	2								

Packing Specifications

Bulk

Number of packages (pcs.)		Export package measurements (mm)
1 case /Japan	1 case /export packing	
800	4,000	400 × 270 × 290

Notes

- Products other than those listed in the above chart are also available. Please contact us for details.
- Please place purchase orders per minimum order unit N (integer).

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

TACT Switch™

Custom-
Products

Horizontal
Type

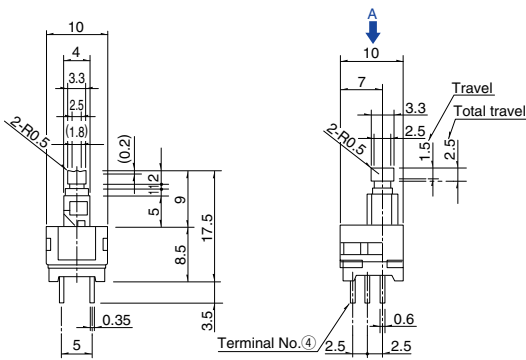
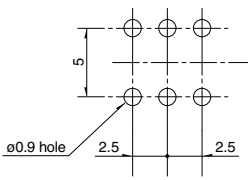
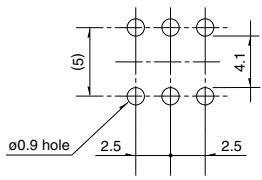
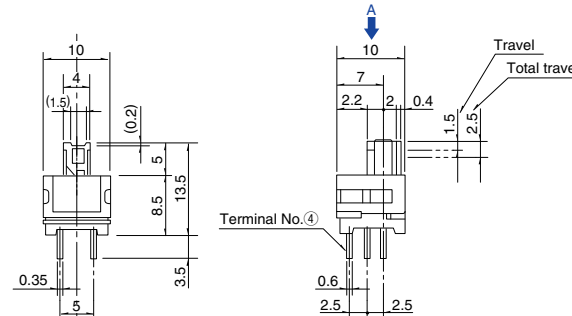
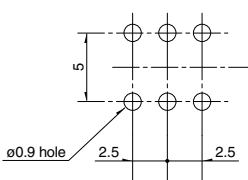
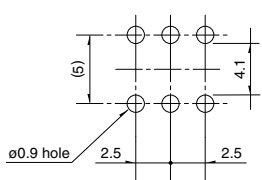
Vertical
Type



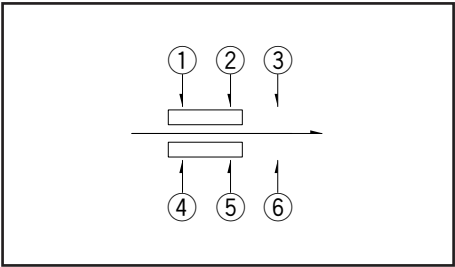
Automotive
Use

■ Dimensions

Unit:mm

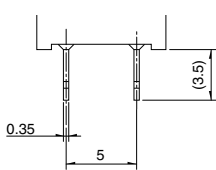
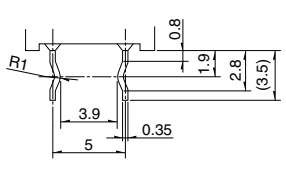
No.	Style	PC board mounting hole dimensions (Viewed from the direction A)	
1		Straight terminal 	Snap-in terminal  Thickness of PC board t=1.6mm
2		Straight terminal 	Snap-in terminal  Thickness of PC board t=1.6mm

■ Circuit Diagram (Viewed from Direction A)



■ Terminal Configuration

Unit:mm

Straight terminal	Snap-in terminal
	



Automotive
Use

List of Varieties

Series		SPPH2	SPPH4	SPPH1	SPEC	SPED2	SPED3	SPED4	SPED5	SPEF	
Photo											
Travel (mm)		1	2.2	1.5	2.5	—				1.5	
Total travel (mm)		1.5	3	2.5	3.4	4.5	3.8			2.7	
Number of poles		2					1				
Dimensions (mm)	W	6.5	8.5	10	12	14			13.5	9.4	
	D	6	6.5	10		16.8	18		18.2	9	
	H	6.5	8.5		12.5	26.7	20.7	16.97	20.7	6.9	
Operating temperature range		−10°C to +60°C			−40°C to +85°C						
Automotive use		—		●	●	●	●	●	●	●	●
Rating (max.) (Resistive load)		0.1A 12V DC	0.1A 30V DC			1A 14.5V DC					
Rating (min.) (Resistive load)		50μA 3V DC									
Electrical performance	Initial contact resistance	30mΩ max.	100mΩ max.	20mΩ max.	30mΩ max.	100mΩ max.					
	Insulation resistance	100MΩ min. 500V DC				3MΩ min. 500V DC			3MΩ min. 100VDC		
	Voltage proof	500V AC for 1minute				100V AC for 1minute					
Mechanical performance	Terminal strength	5N for 1minute			3N for 1minute	—					
	Actuator strength	Operating direction	30N		50N					90N	
		Pulling direction	—	10N	—	50N	—			30N	
Durability	Operating life without load	10,000cycles 50mΩ max.	10,000cycles 100mΩ max.	10,000cycles 40mΩ max.	10,000cycles 50mΩ max.	30,000cycles 100mΩ max.					
	Operating life without load Load:as rating										
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									
Soldering	Manual soldering	350°C max. 3s max.	350±10°C 3 ⁺ ₀ s			350±10°C 3±0.5s ※3	—	350±10°C 3±0.5s	—	350±5°C 3s max.	
	Dip soldering	260±5°C 5±1s		260±5°C 10±1s	260°C max. 5s max.	260±5°C 10±1s ※3	—	260±5°C 10±1s	—	260±5°C 10±1s ※4	
	Reflow soldering	—									Please see P.127
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- Push Switches Products Caution128

Notes

- ※3. Applicable to SPED220200(PC board type) only.
- ※4. Applicable to dip soldering.
- 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.