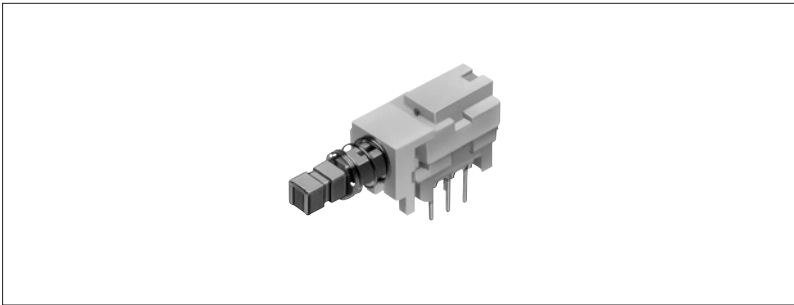


# 1.5/2.0mm-travel Medium-sized Horizontal Type Push Switch

SPUP Series

Medium horizontal type suitable for multiple circuits.

- 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



Car Use

## Features

- Two types of travel: 1.5mm and 2.0mm.
- Only 6.5mm in height of lever from the mounting surface of a PC board.
- Standard knobs are available.

## Applications

- Electronic devices, including PDPs and DSC printers
- Secondary power source of CTVs and PDPs

## Typical Specifications

Items		Specifications
Rating (max.) (Resistive load)		0.1A 30V DC
Contact resistance (Initial performance / After lifetime)		20mΩ max. / 40mΩ max.
Operating force	2-poles	1.7±1N
	4-poles	2.3±1N
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	Terminal style	Minimum packing unit (pcs.)	Products No.
Non shorting	1.5	2.5	—	PC board	2	Latching	Straight	100	SPUP190700
						Latching	Snap-in		SPUP192900
					4	Momentary	Straight		SPUP192300
						Momentary	Snap-in		SPUP193200
	2	3			2	Latching	Straight		SPUP190300
						Latching	Snap-in		SPUP192700
					4	Momentary	Straight		SPUP192000
						Momentary	Snap-in		SPUP191000
								SPUP193100	

## Note

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

For other detailed specifications, see P.100  
For knobs, see P.101

**Dimensions**

Unit : mm

Style	PC board mounting hole dimensions (Viewed from the Direction A)	
	Straight terminal	Snap-in terminal
2-poles, 4-poles		<p>Thickness of PC board t=1.6mm</p>

Power

**Push**

Slide

Rotary

Encoders

Jog Shuttle

Telephone-hook

Detector

Vibration Sensors

Dual-in-line Package Type

Multi Control Devices

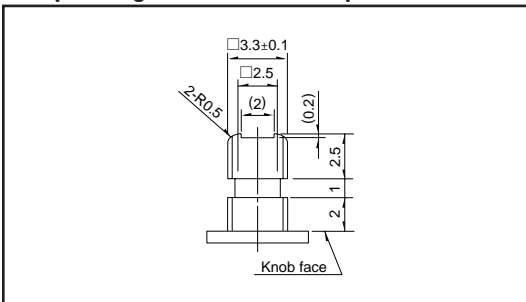
TACT

**Horizontal Type**

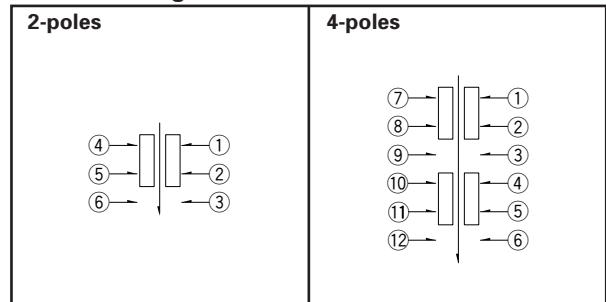
Vertical Type

**Operating Section Nose Shape**

Unit : mm



**Circuit Diagram (Viewed from the Direction A)**



## 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						

## Attached Parts

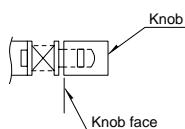
Specify the Desired Knob.

Unit : mm

Knob outline drawing	Variety		Series
	Color	Model	
	<p><b>Black</b> <b>Red</b> <b>White</b></p>	<p>UJ206022 UJ206020 UJ206026</p>	<p>SPPJ3 SPUJ</p>
<p><b>Key pitch 10mm</b></p> <p><b>Square knob</b></p>		<p>4093-1 4093-2 4093-3</p>	<p>SPPJ2 SPUP SPUN SPEC</p>
<p><b>Key pitch 12.5mm</b></p> <p><b>Square knob</b></p>		<p>UE201011 UE201012 UE201013</p>	
<p><b>Key pitch 15mm</b></p> <p><b>Square knob</b></p>		<p>UE202011 UE202012 UE202013</p>	
<p><b>Key pitch 17.5mm</b></p> <p><b>Square knob</b></p>		<p>UE203011 UE203012 UE203013</p>	
<p><b>Key pitch 20mm</b></p> <p><b>Square knob</b></p>		<p>UE204011 UE204012 UE204013</p>	
<p><b>Round knob</b></p>		<p>UE200011 UE200012 UE200013</p>	

**Note**

When mounting the switch, it is recommended to secure the knob with an adhesive agent.



- Power
- Push**
- Slide
- Rotary
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