

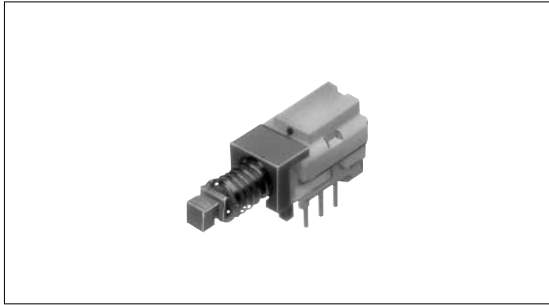
# Push Switch 2mm-travel Horizontal Type

SPUJ Series



Horizontal type suitable for multiple circuits.

- Detector
- Push**
- Slide
- Rotary
- Encoders
- Power
- Dual-in-line  
Package Type



### Typical Specifications

Items		Specifications
Rating (max.) (min.) (Resistive load)		0.1A 30V DC/50 $\mu$ A 3V DC
Contact resistance (Initial / After operating life)		20m max./40m max.
Operating forces	2-poles	1.5 $\pm$ 1N
	4-poles	2.3 $\pm$ 1N
Operating life	Without load	10,000cycles
	With load	10,000cycles( 0.1A 30V DC )

TACT Switch™

Custom-Products

Horizontal Type

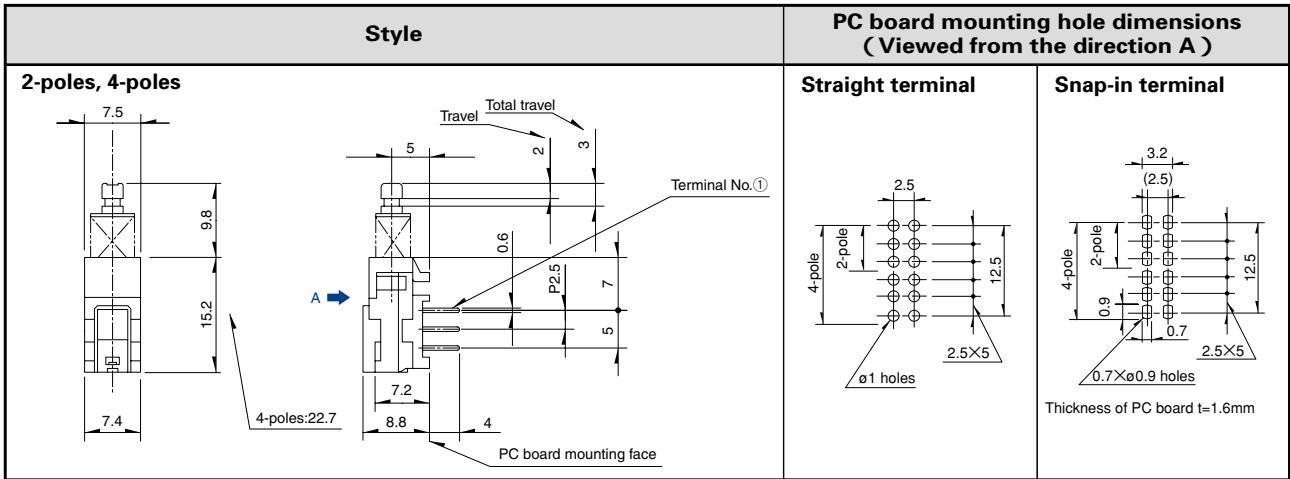
Vertical Type

### Product Line

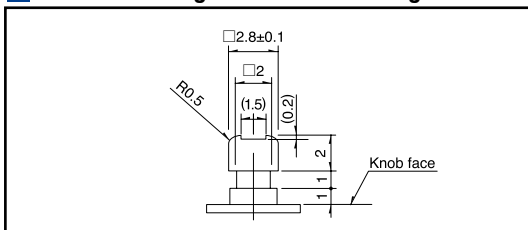
Changeover timing	Travel (mm)	Total travel (mm)	Rating	Mounting method	Poles	Operation	Terminal style	Minimum order unit ( pcs. )	Product No.
Non shorting	2	3		PC board	2	Latching	Straight	3,000	SPUJ190900
							Snap-in		SPUJ191000
						Momentary	Straight		SPUJ191500
							Snap-in		SPUJ191900
					4	Latching	Straight	2,000	SPUJ193700
							Snap-in		SPUJ193900
						Momentary	Straight		SPUJ194500

### Dimensions

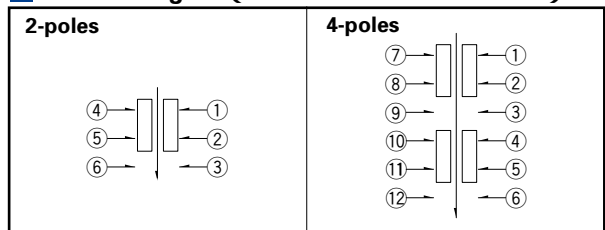
Unit:mm



### Actuator Configuration at Front Edge Unit:mm



### Circuit Diagram ( Viewed from Direction A )



### 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 (integer).
- Please contact us for automotive use.

Refer to P.107 for knobs.

## List of Varieties

Series		SPEE	SPPJ6	SPPJ3	SPPJ2	SPUJ 1	SPUP 1	SPUN	SPUN medium current 1	SPEG	SPPH2		
Detector	Photo												
Push	Travel (mm)	0.3 0.71	1.5	2.5		2	1.5 2	2.5			1		
Slide	Total travel (mm)	0.9	2.5	3.5		3	2.5 3	3.5		1.2	1.5		
Rotary	Number of poles	1	2	1 2	2	2 4				1	2		
Encoders	Dimensions (mm)	W	4	9		6.6		7.2	7.5		10	7.15	6.5
Power		D	5	12		15.2 22.7		24 36		8.35	6		
Dual-in-line Package Type		H	1.22	4.5	8.3	9.6	8.8	10.3	13		3.5	6.5	
TACT Switch™	Operating temperature range	- 10°C to + 60°C		- 40°C to + 85°C		- 10°C to + 60°C							
Custom-Products	Rating (max. $\chi$ Resistive load)	20mA 5V DC	0.2mA 5V DC	0.2mA 30V DC		0.1mA 30V DC			1A 25V DC	50mA 16V DC	0.1A 12V DC		
	Rating (min. $\chi$ Resistive load)	100 $\mu$ A 3V DC	50 $\mu$ A 3V DC						1A 25V DC	50 $\mu$ A 3V DC			
Electrical performance	Initial contact resistance	2	20m max.							200m max.	30m max.		
	Insulation resistance	10M min. 100V DC	100M min. 500V DC							3M min. 100V DC	100M min. 500V DC		
	Voltage proof	100V AC for 1minute	500V AC for 1minute							100V AC for 1minute	500V AC for 1minute		
Horizontal Type	Mechanical performance	Terminal strength	5N for 1minute							0.5N for 1minute	5N for 1minute		
		Actuator strength	Operating direction 50N		30N		50N			50N	30N		
Vertical Type	Durability	Operating life without load	100,000 cycles	10,000cycles 40m max.				30,000cycles 40m max.	10,000cycles 40m max.	35,000cycles 500m max.	10,000cycles 50m max.		
		Operating life without load Load:as rating	100,000 cycles	10,000cycles 40m max.				5,000cycles 40m max.					
Environmental performance	Soldering	Cold	-40 $\pm$ 2 for 96h	-20 $\pm$ 2 for 96h						-20 $\pm$ 2 for 96h			
		Dry heat	85 $\pm$ 2 for 96h							85 $\pm$ 2 for 96h			
		Damp heat	40 $\pm$ 2 , 90 to 95%RH for 96h							40 $\pm$ 2 , 90 to 95%RH for 96h			
Soldering	Soldering	Manual soldering	350 $\pm$ 10 4 <sup>+1</sup> <sub>0</sub> s	350 $\pm$ 10 3 <sup>+1</sup> <sub>0</sub> s		300 $\pm$ 10 3 <sup>+1</sup> <sub>0</sub> s		350 $\pm$ 10 3 <sup>+1</sup> <sub>0</sub> s		350 $\pm$ 5 3s max.	350 max. 3s max.		
		Dip soldering		260 $\pm$ 5 5 $\pm$ 1s	260 $\pm$ 5 10 $\pm$ 1s	260 $\pm$ 5 5 $\pm$ 1s		260 $\pm$ 5 10 $\pm$ 1s			260 $\pm$ 5 5 $\pm$ 1s		
		Reflow soldering	Please see P.108								Please see P.108		
	Page	84	85	86	88	90	91	92		94	96		

Push Switches Attached Parts .....107

Soldering Conditions .....108

Push Switches Products Caution .....109

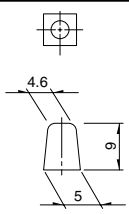
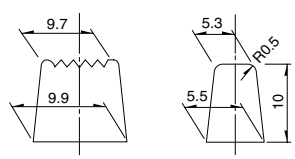
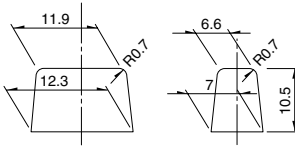
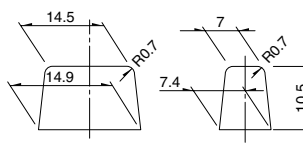
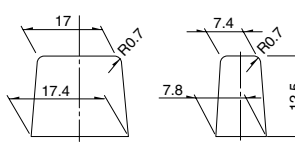
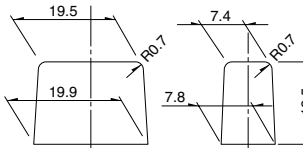
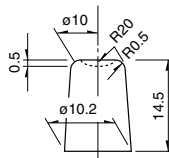
### Notes

- ※1. The operating temperature range for automotive applications can be raised upon request. Please contact us for requirements of this kind.
- ※2. 1V or less, at the present rating of 1mA, 5V DC for output voltage.

## Attached Parts

Please specify required knob.

Unit:mm

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

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
Package Type

TACT Switch™

Custom-  
Products

Horizontal  
Type

Vertical  
Type

### Note

We recommend the use of adhesive to secure the knob when mounting onto switches.

