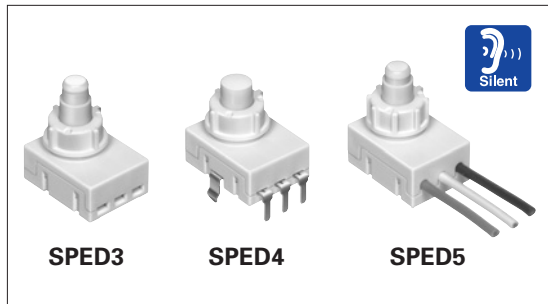


# Push Switch 3.8mm-travel Push-push Type

## SPED3/SPED4/SPED5 Series



Smooth and linear operation feeling.



### Features

- A mid-size version of in our SPED2 series.
- Smooth and linear operation feeling achieved from ratchet cam structure.
- Near-silent operation contributes to improved comfort in the car interior.
- Only 4 pushes in one cycle (conventional products 6-8 times) contributing to VA.

### Applications

- For ON/FF switching in in-car map lamps

### Typical Specifications

Items	Specifications
Ratings	1A 14.5V DC
Contact resistance (Initial performance)	100mΩ max.
Operating force	4.17±0.74N
Operating life (Without load)	30,000cycles
Circuit configuration	1-pole, 2-positions
Travel	3.8mm

### Product Line

Changeover timing	Travel (mm)	Total travel (mm)	Mounting method	Rating	Poles	Operation	Terminal style	Minimum packing unit (pcs.)	Product No.	Drawing No.
Non shorting	—	3.8	Connector	—	1	Alternate	—	100	SPED310200	1
			PC board				For PC board	280	SPED420200	2
			With wire ※				—	240	SPED530202	3

### Note

※ Contact us for lead length variations.

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line  
Package Type

Multi Control  
Devices

TACT Switch™

Custom-  
Products

Horizontal  
Type

Vertical  
Type

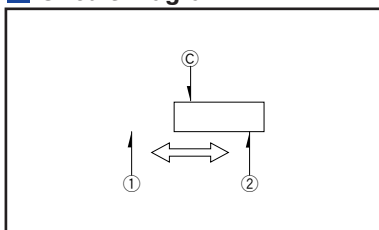
Refer to P.105 for product specifications.

**Dimensions**

Unit:mm

No.	Style	Reference dimension of connection terminal (T=0.5~0.65mm)
1	<p>Full stroke point Turnover point (Mechanical and Electrical) Reset point</p> <p>Terminal No. ① Terminal No. ③ Terminal No. ②</p>	
2	<p>Full stroke point Turnover point (Mechanical and Electrical) Reset point</p> <p>Terminal No. ① Terminal No. ③ Terminal No. ②</p>	<p><b>PC board mounting hole dimensions (Viewed from the direction A)</b></p>
3	<p>Full stroke point Turnover point (Mechanical and Electrical) Reset point</p> <p>Wire length Strip length</p> <p>Terminal No. ② Terminal No. ③ Terminal No. ①</p>	

**Circuit Diagram**



**Note**

Factory setting for contact points can be either ① or ②.

# Product Specifications

Series		SPEE	SPPJ6	SPPJ2	SPPJ3	SPUJ SPUP ※1	SPUN ※1	SPUN (medium current) ※1	SPPH2	SPPH4	SPPH1	SPEA	SPEC	SPED2	SPED3	SPED4	SPED5	SPEF								
<b>Operating temperature range</b>		-10°C to +60°C		-40°C to +85°C		-10°C to +60°C					-40°C to +85°C		-40°C to +85°C													
<b>Rating (max.) (Resistive load)</b>		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													
<b>Electrical performance</b>	<b>Initial contact resistance</b>	※2		20mΩ max.					30mΩ max.	100mΩ max.	20mΩ max.	30mΩ max.		100mΩ max.												
	<b>Insulation resistance</b>	10mΩ min. 100V DC		100MΩ min. 500V DC													3MΩ min. 500V DC		3MΩ min. 100V DC							
	<b>Voltage proof</b>	100V AC for 1minute		500V AC for 1minute										100V AC for 1minute		100V AC for 1minute										
<b>Mechanical performance</b>	<b>Terminal strength</b>		5N for 1minute									3N for 1minute		—												
	<b>Actuator strength</b>	<b>Operating direction</b>	50N		30N		50N		30N		50N						90N									
		<b>Pulling direction</b>	—				24.6350N		—		10N		—		50N		—		30N							
	<b>Vibration</b>		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																							
	<b>Resistance to soldering heat</b>	<b>Manual soldering</b>	350±10°C 4±0s		350±10°C 3 <sup>+1</sup> ±1s		300±10°C 3 <sup>+1</sup> ±1s		350±10°C 3 <sup>+1</sup> ±1s		350°C max. 3s max.		350±10°C 3 <sup>+1</sup> ±1s			350±10°C 3±0.5s		—		350±10°C 3±0.5s		—		350±5°C 3s max.		
<b>Dip soldering</b>		—		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 5s max.		260±5°C 10±1s		—		260±5°C 10±1s		—		260±5°C 10±1s
<b>Reflow</b>		Please see P.107																								
<b>Durability</b>	<b>Operating life without load</b>		100,000 cycles		10,000 cycles 40mΩ max.		30,000cycles 40mΩ max.		10,000cycles 40mΩ max.		10,000cycles 50mΩ max.		10,000cycles 100mΩ max.		10,000cycles 40mΩ max.		10,000cycles 50mΩ max.		30,000cycles 100Ω max.							
	<b>Operating life with load Load : As rating</b>		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.		30,000cycles 100mΩ max.									
<b>Environmental performance</b>	<b>Cold</b>		-40±2°C for 96h		-20±2°C for 96h										-40±2°C for 96h											
	<b>Dry heat</b>		85±2°C for 96h																							
	<b>Damp heat</b>		40±2°C, 90 to 95%RH for 96h																							

**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.

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