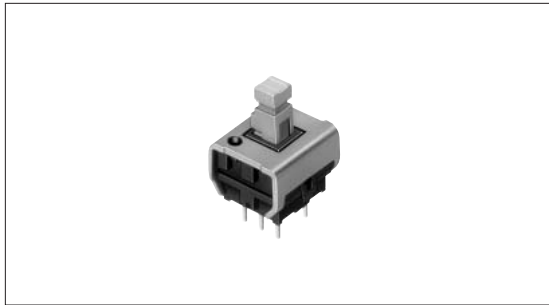


Push Switch 1.2mm-travel Vertical Type

SPEA Series



Short travel of 1.2mm, vertical type suitable for multiple circuits.



Features

- 1.2mm-travel.

Applications

- For switches in printers, sound devices, telephones, and measuring devices

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/50 μ A 3V DC |
| Contact resistance (Initial performance/After lifetime) | | 30m Ω max./50m Ω max. |
| Operating force | 2-poles | 2.5 \pm 1N |
| | 4-poles | 3 \pm 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. | Drawing No. |
|-------------------|-------------|-------------------|--------|-----------------|-----------|-----------|----------------|-----------------------------|--------------|-------------|
| Non shorting | 1.2 | 1.7 | — | PC board | 2 | Latching | Straight | 100 | SPEA121800 | 1 |
| | | | | | | | Snap-in | | SPEA122100 | |
| | | | | | Momentary | Straight | SPEA122200 | | | |
| | | | | | 4 | Latching | Snap-in | | SPEA123000 | 2 |

Note

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

For other specifications, see P.105

Push Switch

1.2mm-travel Vertical Type | SPEA Series

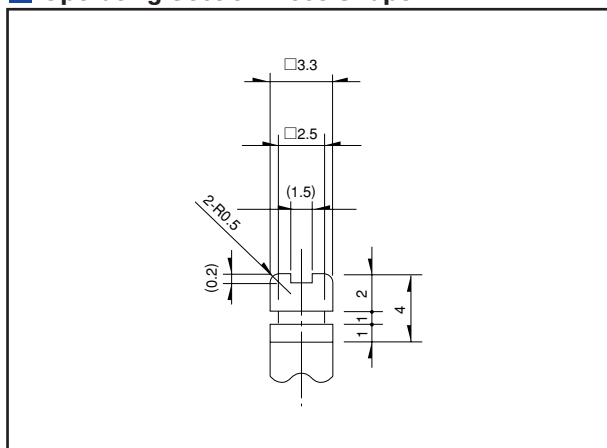
Dimensions

Unit:mm

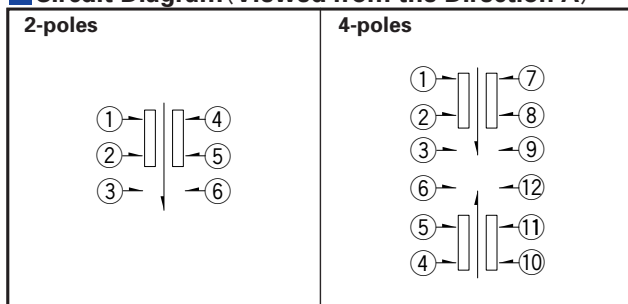
| No. | Style | PC board mounting hole dimensions (Viewed from the direction A) | |
|-----|--------------------|---|---|
| 1 | 2-poles | Straight terminal | Snap-in terminal <p>Thickness of PC board t=1.6mm</p> |
| | | Snap-in terminal <p>Thickness of PC board t=1.6mm</p> | |
| 2 | 4-poles | Snap-in terminal <p>Thickness of PC board t=1.6mm</p> | |

Operating Section Nose Shape

Unit:mm

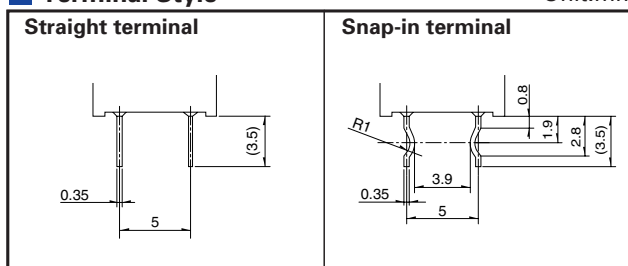


Circuit Diagram (Viewed from the Direction A)



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 ⁺¹ ₀ s | | 300±10°C 3 ⁺¹ ₀ s | 350±10°C 3 ⁺¹ ₀ s | | 350°C max. 3s max. | 350±10°C 3 ⁺¹ ₀ 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 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 100mΩ 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.

Detector

Push

Slide

Rotary

Encoders

Power

Dual-in-line
Package Type

Multi Control
Devices

TACT Switch™

Custom-
Products

Horizontal
Type

Vertical
Type