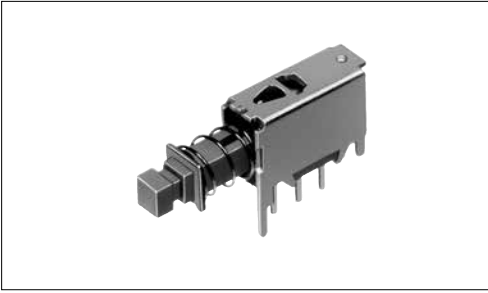


Lever height 4.7mm, small sized horizontal type



■ Typical Specifications

| Items | | Specifications |
|--|--------------|-----------------------------|
| Rating (max.)/(min.) (Resistive load) | | 0.2A 30V DC / 50μA 3V DC |
| Contact resistance (Initial/After operating life) | | 20mΩ max. / 40mΩ max. |
| Operating force | 1-pole | 2.3±1N |
| | 2-pole | 3.3±1N |
| Operating life | Without load | 10,000 cycles |
| | With load | 10,000 cycles (0.2A 30V DC) |

■ Product Line

| Changeover timing | Travel (mm) | Total travel (mm) | Mounting method | Poles | Operation | Terminal type | Minimum order unit (pcs.) | | Product No. | Drawing No. |
|-------------------|-------------|-------------------|-----------------|-------|-----------|---------------|---------------------------|--------|-------------------|-------------|
| | | | | | | | Japan | Export | | |
| Non shorting | 2.5 | 3.5 | PC board | 1 | Latching | For PC board | 900 | 4,500 | SPPJ310500 | 1 |
| | | | | | Momentary | | | | | |
| | | | | 2 | Latching | | | | SPPJ320600 | 2 |
| | | | | | Momentary | | | | SPPJ322300 | |

■ Packing Specifications

Bulk

| Number of packages (pcs.) | | Export package measurements (mm) |
|---------------------------|-------------------------|----------------------------------|
| 1 case / Japan | 1 case / export packing | |
| 900 | 4,500 | 400×270×290 |

■ Dimensions

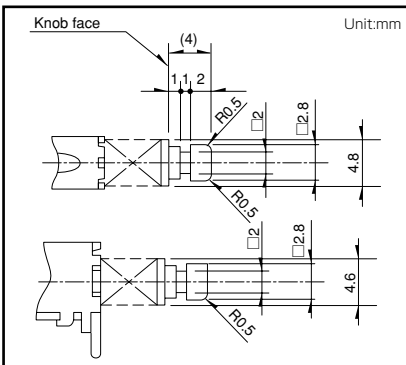
| No. | Style | PC board mounting hole dimensions (Viewed from the direction A) |
|-----|----------------------------------|--|
| 1 | <p>1-pole, 2-position</p> | |

SPPJ3 2.5mm-travel Compact-sized Horizontal Type

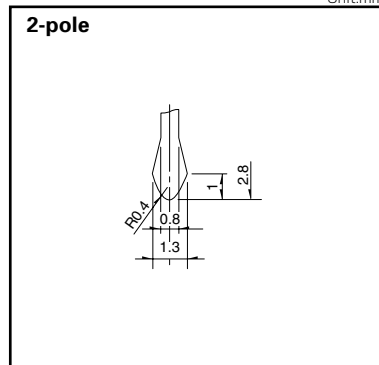
■ Dimensions

| No. | Style | PC board mounting hole dimensions (Viewed from the direction A) |
|-----|----------------------------------|--|
| 2 | <p>2-pole, 2-position</p> | |

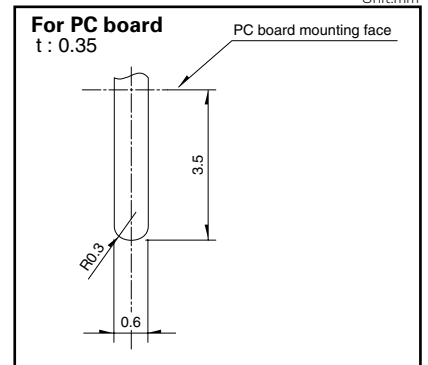
■ Actuator Configuration at Front Edge



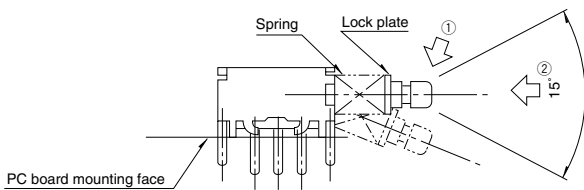
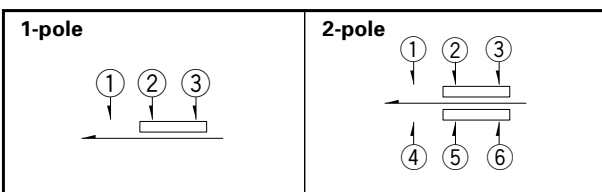
■ Detail of ①



■ Terminal Configuration



■ Circuit Diagram (Viewed from Direction A)



Note

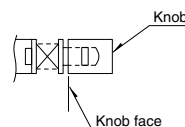
The SPPJ3 series should be operated in arrow 2 direction as shown in the following figure and applied within an angle of 15° based from the center. If excessive force is applied to the lever from arrow ① direction, it may fall down as illustrated and cause malfunctions.

■ Attached Parts

| Knob outline drawing | Model |
|----------------------|------------------------|
| | <p>UJ206022</p> |











Notes

1. Other knob varieties are also available. Please inquire.
2. We recommend the use of adhesive to secure the knob when mounting onto switches.



Push Switches

List of Varieties

| Series | | Horizontal | | | | |
|--------------------------------|---|---|---|---|---|---|
| | | SPPJ3 | SPPJ2 | SPUJ | SPUN | SPUN medium current |
| Photo | |  |  |  |  |  |
| Dimensions (mm) | W | 5 or 6.6 | 7.2 | 7.5 | 10 | |
| | D | 12 | | 15.2 22.7 | 24 36 | |
| | H | 8.3 | 9.6 | 8.8 | 13 | |
| Travel (mm) | | 2.5 | | 2 | 2.5 | |
| Total travel (mm) | | 3.5 | | 3 | 3.5 | |
| Number of poles | | 1 2 | 2 | 2 4 | | |
| Operating temperature range | | -40°C to +85°C | | -10°C to +60°C | | |
| Automotive use | | ● | ● | — | — | — |
| Life cycle | |  |  |  |  |  |
| Rating (max.) (Resistive load) | | 0.2A 30V DC | | 0.1A 30V DC | | 1A 25V DC |
| Rating (min.) (Resistive load) | | 50μA 3V DC | | | | — |
| Durability | Operating life without load | 10,000 cycles 40mΩ max. | | | 30,000 cycles 40mΩ max. | 10,000 cycles 40mΩ max. |
| | Operating life with load (at max. rated load) | 10,000 cycles 40mΩ max. | | | 5,000 cycles 40mΩ max. | |
| Electrical performance | Initial contact resistance | 20mΩ max. | | | | |
| | Insulation resistance | 100MΩ min. 500V DC | | | | |
| | Voltage proof | 500V AC for 1minute | | | | |
| Mechanical performance | Terminal strength | 5N for 1minute | | | | |
| | Actuator strength | Operating direction | 50N | 30N | 50N | |
| | | Pulling direction | — | — | 50N | |
| Environmental performance | Cold | -40°C 96h | -20°C 96h | | | |
| | Dry heat | 85°C 96h | | | | |
| | Damp heat | 40°C, 90 to 95%RH 96h | | | | |
| Page | | 111 | 113 | 115 | 117 | |

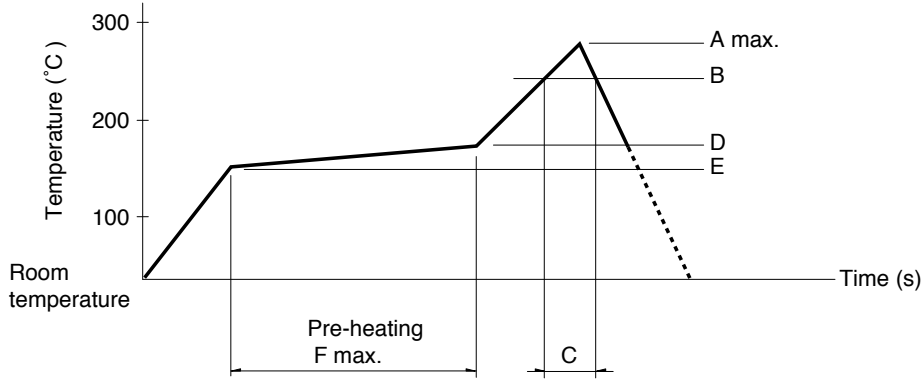
| | |
|------------------------------------|-----|
| Push Switches Soldering Conditions | 130 |
| Push Switches Cautions | 131 |

Note

● Indicates applicability to all products in the series.

Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple ϕ 0.1 to 0.2 CA (K) or CC (T) at soldering portion (copper foil surface). A heat resisting tape should be used for fixed measurement.
3. Temperature profile



| Series (Reflow type) | A (°C) 3s max. | B (°C) | C (s) | D (°C) | E (°C) | F (s) |
|----------------------|-------------------|--------|-------|--------|--------|-------|
| SPEJ | 260 | 230 | 40 | 180 | 150 | 120 |
| SPEF | | | | | | |
| SPEH | | | | | | |

Notes

1. The condition mentioned above is the temperature on the mounting surface of a PC board. There are cases where the PC board's temperature greatly differs from that of the switch, depending on the PC board's material, size, thickness, etc. The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines. Prior verification of soldering condition is highly recommended.

Reference for Hand Soldering

| Series | Soldering temperature | Soldering time |
|---|-----------------------|----------------|
| SPPJ3, SPPJ2, SPUN, SPPH4, SPPH1 | 350±10°C | 3+1/0s |
| SPED2, SPED4 | 350±10°C | 3±0.5s |
| SPEJ | 350±10°C | 4s max. |
| SPEF | 350±5°C | 3s max. |
| SPEH | 350°C max. | 3s max. |
| SPUJ | 300±10°C | 3+1/0s |

Reference for Dip Soldering

(For PC board terminal types)

| Series | Items | | Dip soldering | |
|---|------------------------|-----------------|-----------------------|-----------------------|
| | Preheating temperature | Preheating time | Soldering temperature | Duration of immersion |
| SPPJ3 | 100°C max. | 60s max. | 260±5°C | 5±1s |
| SPUN | 100°C max. | 60s max. | 260±5°C | 10±1s |
| SPUJ, SPPH4 | — | — | 260±5°C | 5±1s |
| SPPJ2, SPPH1, SPED2, SPED4, SPEF | — | — | 260±5°C | 10±1s |