

SPPJ2 2.5mm-travel Horizontal Type

Switches with a lever height of 5.5mm, directly mountable onto set product



Detector

Slide

Push

Rotary

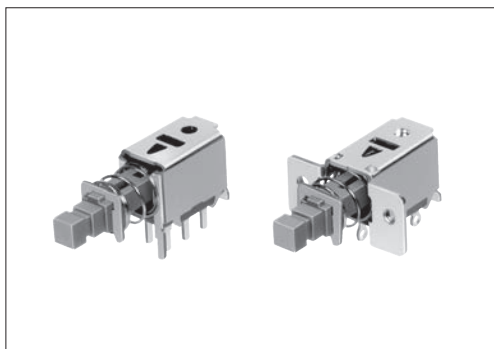
Power

Dual-In-Line Package Type

Horizontal Type

Vertical 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 | | 3±1.5N |
| 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 | 2 | Latching | For PC board | 100 | 3,500 | SPPJ222200 | 1 | |
| | | | | | Momentary | | | | | | SPPJ223200 |
| | | | M2-screw | | Latching | For Lead | | | 2,500 | SPPJ225800 | 2 |
| | | | | | Momentary | | | | | | |

Packing Specifications

Bulk

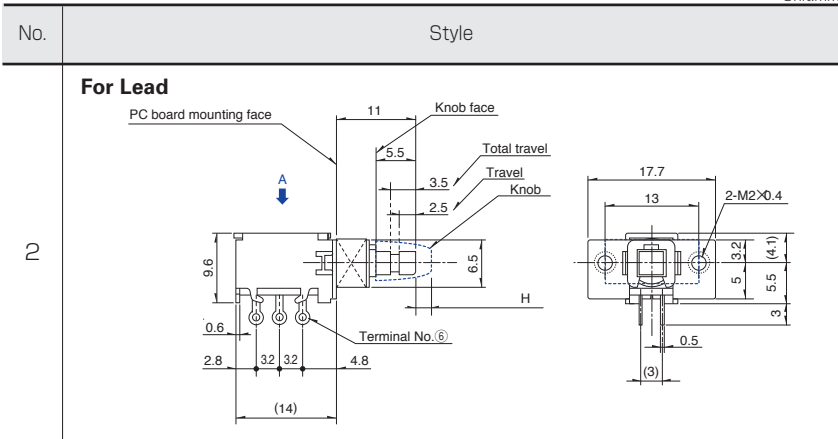
| Product No. | Number of packages (pcs.) | | Export package measurements (mm) |
|--------------------------|---------------------------|-------------------------|----------------------------------|
| | 1 case / Japan | 1 case / export packing | |
| SPPJ222200 SPPJ223200 | 700 | 3,500 | 400×270×290 |
| SPPJ225800 SPPJ226400 | 500 | 2,500 | |

Dimensions

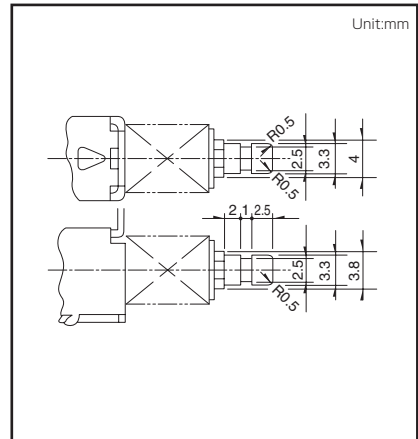
Unit:mm

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

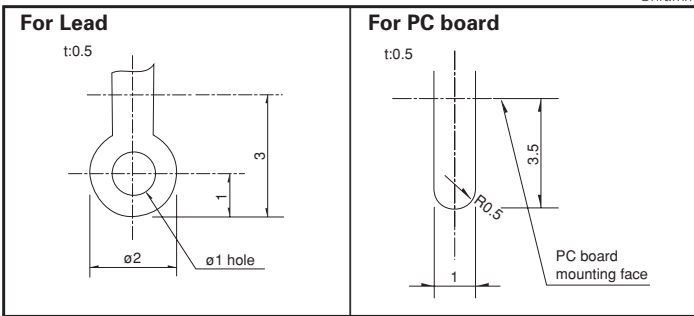
■ Dimensions



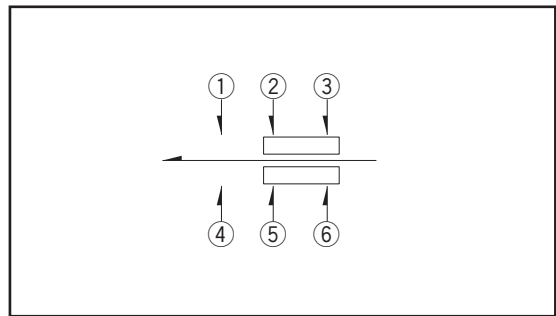
■ Actuator Configuration at Front Edge



■ Terminal Configuration



■ Circuit Diagram (Viewed from Direction A)

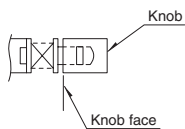


■ Attached Parts Please specify required knob.

| Knob outline drawing | | Model | Knob attachment height (H) |
|----------------------|--|--------------------------------|----------------------------|
| Square knob | | Color:Black UE201011 | 5 |
| Round knob | | Color:Black UE200011 | 9 |











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 | | | | 1A 25V 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 | | | | | |
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| | |
|--|-----|
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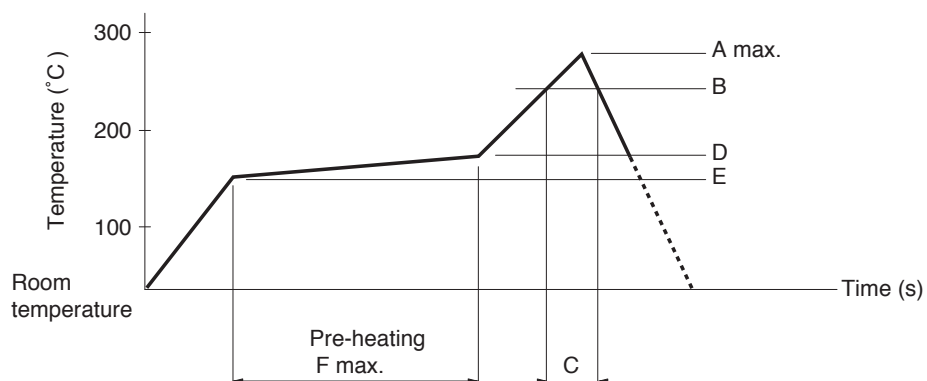
Notes

- ※ The operating temperature range for automotive applications can be raised upon request. Please contact us for details.
- Indicates applicability to all products in the series.

Push Switches Soldering Conditions

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) |
|----------------------|-------------------|--------|-------|--------|--------|-------|
| SPEG | 260 | 230 | 40 | 180 | 150 | 120 |
| SPEJ | | | | | | |
| 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. |
| SPEG, SPEF | 350±5°C | 3s max. |
| SPEH, SPPH2 | 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, SPPH2, SPPH4 | — | | 260±5°C | 5±1s |
| SPPJ2, SPPH1, SPED2, SPED4, SPEF | — | | 260±5°C | 10±1s |