

Detector Switch General-purpose Type

SPPB Series



A wide variety of detector switches available for various Digital AV devices.

- Detector
- Push
- Slide
- Rotary
- Encoders
- Power



Typical Specifications

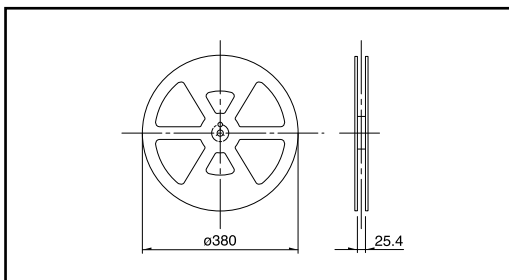
| Items | | Specifications |
|---|--------------|------------------------------|
| Rating (max.) (min.) (Resistive load) | | 0.1A 30V DC/50 μ A 3V DC |
| Contact resistance (Initial /After operating life) | | 1 max./2 max. |
| Operating force | | 0.35N max. |
| Operating life | Without load | 50,000cycles |
| | With load | 50,000cycles(0.1A 30V DC) |

Product Line

| Poles | Positions | Operating part shape | Operating direction | Terminal type | Packaging style | Minimum order unit (pcs) | Product No. | Drawing No. | |
|-------|------------|-------------------------|---------------------|-------------------------|-----------------|----------------------------|-------------|-------------|----|
| 1 | 1 | Push | Horizontal | Lead | Bulk | 10,000 | SPPB110300 | 1 | |
| | | | | | | | SPPB120200 | 2 | |
| | | | | | | | SPPB310400 | 7 | |
| | | Actuator A | Horizontal | Lead | | Bulk | 5,000 | SPPB320100 | 8 |
| | | | | | | | | SPPB1A0100 | 3 |
| | | | | | | | | SPPB1A0101 | 4 |
| | | Actuator C | Horizontal | Lead | | Bulk | 5,000 | SPPB2A0100 | 5 |
| | | | | | | | | SPPB2A0101 | 6 |
| | | | | | | | | SPPB512300 | 9 |
| | | Push | Vertical | For PC board (Dip) | Bulk | 20,000 | SPPB610400 | 13 | |
| | | | | | | | SPPB620300 | 14 | |
| | | | | | | | SPPB5A0100 | 10 | |
| | | Actuator A | Horizontal | For PC board (Dip) | | Bulk | 5,000 | SPPB6A0100 | 15 |
| | | | | | | | | SPPB6A0400 | 16 |
| | | | | | | | | SPPB530701 | 11 |
| | | Push | Vertical | For PC board (Reflow) | | Taping | 6000 | SPPB530601 | 12 |
| | | | | | | | | SPPB630101 | 17 |
| | | | | | | | | SPPB640201 | 18 |
| Push | Horizontal | For PC board (Reflow) | Taping | 2400 | SPPB630101 | | 17 | | |
| | | | | | SPPB640201 | | 18 | | |
| | | | | | SPPB640201 | | 18 | | |

Taping Specifications (Taping Packaging)

Reel Size Unit:mm



| Product No. | Number of packages(pcs.) | | | Tape width (mm) |
|--------------------------|----------------------------|---------------|------------------------|-------------------|
| | 1 reel | 1 case /Japan | 1 case /export packing | |
| SPPB530701 | 1,500 | 3,000 | 6,000 | 24 |
| SPPB530601 | 600 | 1,200 | 2,400 | |
| SPPB630601 SPPB640201 | 1,300 | 2,600 | 5,200 | |

Note

Please place purchase orders per minimum order unit(integer).

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Dual-in-line
 Package Type


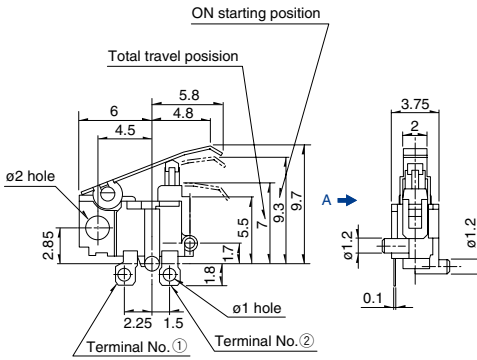
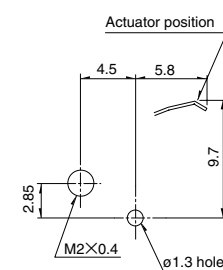
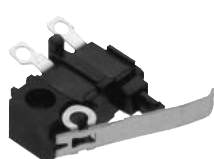
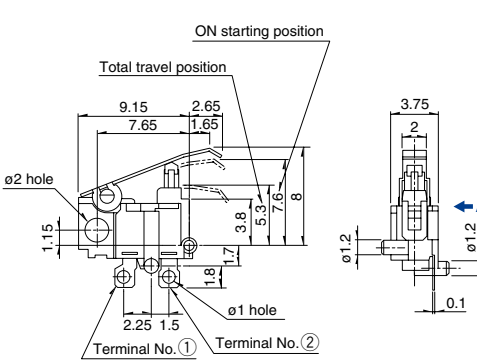
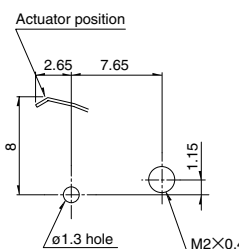

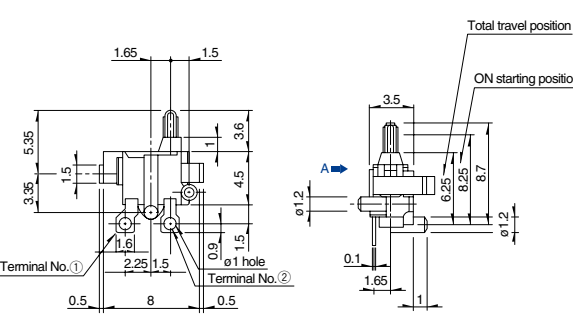
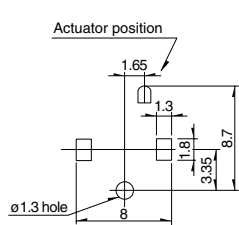

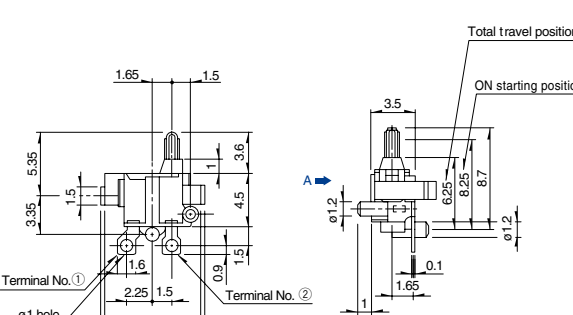
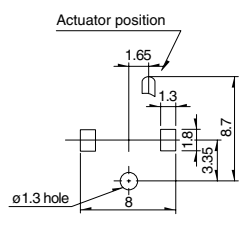
TACT Switch™

Custom-
 Products

| Dimensions | | Unit:mm | |
|------------|-------|---------|---|
| No. | Photo | Style | PC board mounting hole dimensions (Viewed from direction A) |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |

Dimensions

Unit:mm

| No. | Photo | Style | PC board mounting hole dimensions (Viewed from direction A) |
|-----|---|--|---|
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |
| 8 |  |  |  |

Detector

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Dual-in-line
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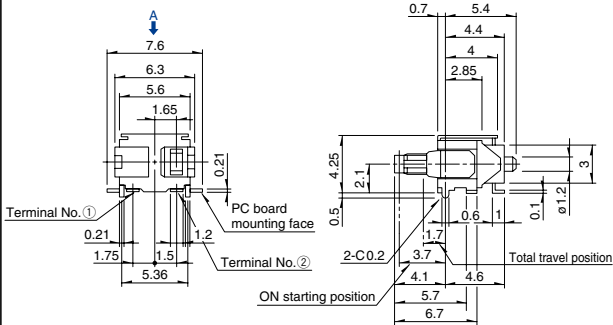
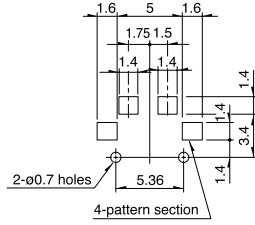

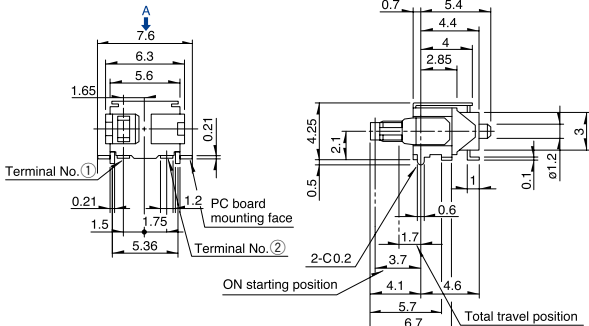
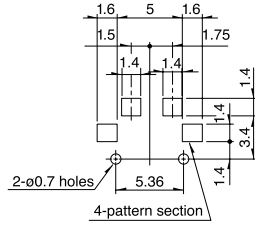
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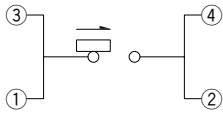
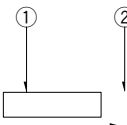
Dual-in-line
 Package Type

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Custom-
 Products

| ■ Dimensions | | Unit:mm | |
|--------------|--|---|--|
| No. | Photo | Style | PC board mounting hole and land dimensions (Viewed from direction A) |
| 17 |  |  |  |
| 18 |  |  |  |

■ Circuit Diagram (Viewed from Direction A)

| | |
|---|---|
| <p>Applicable to SPPB512300, SPPB530601, SPPB5A0100</p>  | <p>Applicable to other switches</p>  |
|---|---|

List of Varieties (General-purpose Type)

| Series | General-purpose Type | | | | | | | | |
|--------------------------------|--|---|---|---|--|---|---|---|--|
| | SPPB | SPVE | SPPW8 | SPVM | SPVR | SPVF | SSCU | SSCT | |
| Photo |  |  |  |  |  |  |  |  | |
| Operation type |   |  |  |  |  |  |  |  | |
| Operating temperature range | -40 to +85 | -10 to +60 | | -40 to +85 | | -10 to +60 | -40 to +85 | | |
| Rating (max.) (Resistive load) | 0.1A 30V DC | | | 1mA 5V DC | | | 0.1A 12V DC | | |
| Rating (min.) (Resistive load) | 50μA 3V DC | | 100μA 3V DC | 50μA 3V DC | 100μA 3V DC | 50μA 3V DC | | | |
| Electrical performance | Initial contact resistance | 1 max. | 500m max. | 1 max. | 2 max. | 3 max. | 500m max. | 70m max. 20m max. | |
| | Insulation resistance | 100M min. 100V DC | | | | | | 100M min. 250V DC | |
| | Voltage proof | 100V AC for 1 minute | | | | | | 250V AC for 1 minute | |
| Mechanical performance | Terminal strength | 3N for 1 minute | 0.5N for 1 minute | 3N for 1 minute | 1N for 1 minute | 0.5N for 1 minute | 3N for 30s | 3N for 1 minute | |
| | Actuator strength | 10N | 5N | 10N | 5N | 2N | 1N | 5N 10N | |
| Durability | Operating life without Load | 50,000cycles 2 max. | 50,000cycles 1 max. | 100,000cycles 2 max. | 50,000cycles 5 max. | | 100,000cycles 1 max. | 10,000cycles 100m max. 40m max. | |
| | Operating life with Load | (0.1A 30V DC) 50,000cycles 2 max. | (0.1A 30V DC) 50,000cycles 1 max. | (0.1A 30V DC) 100,000cycles 2 max. | (1mA 5V DC) 50,000cycles 5 max. | | (1mA 5V DC) 100,000cycles 1 max. | (0.1A 12V DC) 10,000cycles 150m max. 60m max. | |
| Environmental performance | Cold | -20 ± 2 for 96h | | | | | -40 ± 2 for 96h | -20 ± 2 for 96h | |
| | Dry heat | 85 ± 2 for 96h | | | | | | | |
| | Damp heat | 40 ± 2 , 90 to 95%RH for 96h | | | | | | | |
| Dimensions (mm) | W | 6.3 | 3.4 | 5 | 2.8 | 3.6 | 9 | 11 12.5 | |
| | D | 3 | | 4 | 3.5 | 4.2 | 3.5 | 5.8 5 | |
| | H | 4.9 | 2.3 | | 1.5 | 1.2 | 4.5 | 7 11.5 | |
| Soldering | Manual soldering | 300 ± 5 , 5s max. | | 350 ± 5 , 3s max. | | | 300 ± 10 , 3 ± 1s 350 ± 5 , 3s max. | | |
| | Dip soldering | 260 ± 5 , 5 ± 1s | | 255 ± 5 , 5 ± 1s | | 245 ± 5 , 5 ± 1s | | 260 ± 5 , 5 ± 1s | |
| | Reflow soldering | Please see P.79 | | | | | | | |
| Number of poles | 1 | | | | | 1.2 | 1 | | |
| Operation force | 0.35N max. | 0.3N max. | | 0.4N max. | 0.35N max. | 0.3N max. | 0.5N max. | 0.7 ± 0.3N | |
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Dual-in-line Package Type

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Custom-Products

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Soldering Conditions

Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple 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



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| Series(Reflow type) | A() 3s max. | B() | C(s) | D() | E() | F(s) |
|-----------------------|-----------------|------|------|------|------|------|
| SPPB | 250 | 230 | 40 | | | |
| SPPW8 | | 200 | 20 | | | |
| SPVE | 260 | 230 | 40 | 180 | 150 | 120 |
| SPVG | | | | | | |
| SPVL | | | | | | |
| SPVM | | | | | | |
| SPVN | | | | | | |
| SPVP | | | | | | |
| SPVR | | | | | | |
| SPVS | | | | | | |
| SSCM | | | | | | |
| SPPY5 | | | | | | |

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.

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JONHON

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