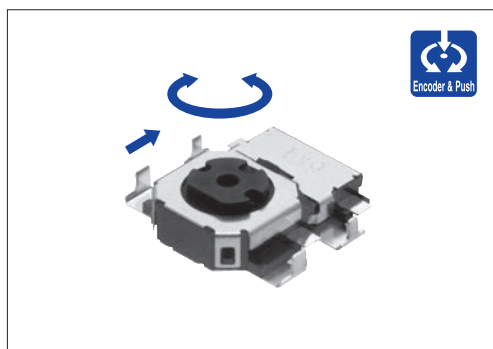


A compact multifunctional operating device that can be utilized on the side of the set device



■ Typical Specifications



| Items | | Specifications |
|---|--------------|--|
| Ratings (max.)/(min.) (Resistive load) | | 1mA 5V DC/50μA 3V DC |
| Output voltage | Jog portion | 1V max. at 1mA 5V DC (Resistive load) |
| | Push portion | |
| Operating force (Push portion) | | 3.5±1.5N |
| Travel (Push operation) | | 0.2mm |
| Operating life | Jog portion | 100,000 cycles |
| | Push portion | |

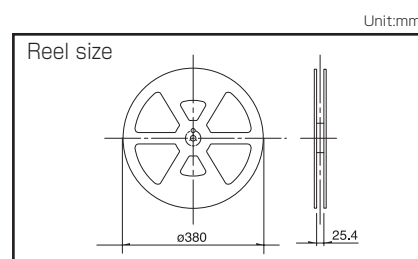
■ Product Line

| Product No. | Number of detent | Number of pulse | Operating direction | Mounting method | Rotational torque (Jog portion) | Minimum order unit (pcs.) | | Drawing No. |
|-------------|------------------|-----------------|---------------------|-----------------|------------------------------------|---------------------------|--------|-------------|
| | | | | | | Japan | Export | |
| SRBE110301 | 12 | 6 | Horizontal | Standard | 3±2mN·m | 1,500 | 6,000 | 1 |
| SRBE210200 | | | | Low-profile | | 1,300 | 5,200 | 2 |

■ Packing Specifications

Taping

| Product No. | Number of packages (pcs.) | | | Tape width (mm) | Export package measurements (mm) |
|-------------|---------------------------|----------------|-------------------------|--------------------|-------------------------------------|
| | 1 reel | 1 case / Japan | 1 case / export packing | | |
| SRBE110301 | 1,500 | 3,000 | 6,000 | 24 | 428×413×172 |
| SRBE210200 | 1,300 | 2,600 | 5,200 | | |

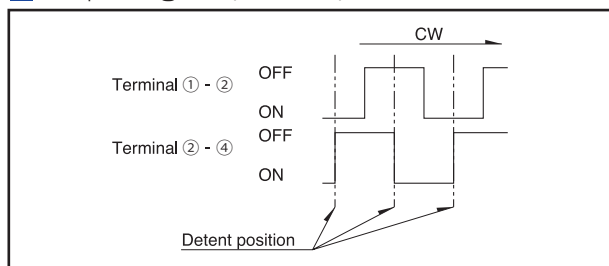


■ Dimensions

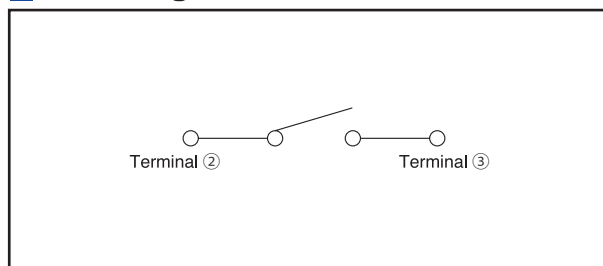
Unit:mm

| No. | Style | PC board mounting hole dimensions (Viewed from direction A) |
|-----|-------|--|
| 1 | | |
| 2 | | |

■ Output Signal (Encoder)



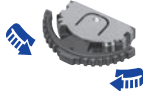



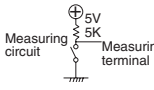


■ Circuit Diagram



Multi Control Devices

List of Varieties

| Type | | Switch type | | |
|--|--|---|--|---|
| Series | | SRBE | SLLB | SLLB5 Small type |
| Photo | |  |  |  |
| Dimensions (typical value) (mm) | W | — | 11.8 | 9.5 |
| | D | — | 8.7 | 5.5 |
| | H | — | 3 | 2.2 |
| Number of operating shafts | | Single-shaft | | |
| Shaft material | | Resin | | |
| Directional resolution | | — | 2-direction | |
| Directional operating feeling (tactile feeling) | | With | Without | |
| Lever return mechanism | | Without | With | |
| Center-push switch | | With | With/Without | With |
| Encoder | | With | Without | |
| Operating temperature range | | −10℃ to +60℃ | −40℃ to +85℃ | −10℃ to +60℃ |
| Operating life | Operating life without load | 100,000 cycles | 100,000 cycles | 100,000 cycles |
| | Operating life with load (at max. rated load) | — | 100,000 cycles | 100,000 cycles |
| Automotive use | | — | — | — |
| Life cycle (availability) | |  |  |  |
| Rating (max.) (Resistive load) | | 1mA 5V DC | 10mA 5V DC | |
| Electrical performance | Output voltage | 1V max. at 1mA 5V DC (Resistive load) | 1V max. at 1mA 5V DC (Resistive load)  | — |
| | Encoder resolution | 6 pluses/360° | — | |
| | Insulation resistance | 10MΩ min. 50V DC | 100MΩ min. 100V DC | |
| | Voltage proof | 50V AC for 1min. | 100V AC for 1min. | |
| Mechanical performance | Push operating force | — | 0.65±0.3N | |
| | Encoder detent torque | 3.5±1.5N | 2±1N | 2.5±1N |
| | Terminal strength | 3±2mN·m | — | — |
| | Terminal strength | — | 3N for 1min. | |
| | Actuator strength | <div>Push / pull directions</div> <div>Operating direction</div> | 50N | 10N |
| Environmental performance | Cold | −30℃ 96h | −40℃ 96h | −20℃ 96h |
| | Dry heat | 85℃ 96h | | |
| | Damp heat | 40℃, 90 to 95%RH 96h | | |
| Page | | 455 | 457 | 459 |

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 Switch Type Multi Control Devices Cautions 462

Switch Type / Soldering Conditions

Reference for Manual Soldering

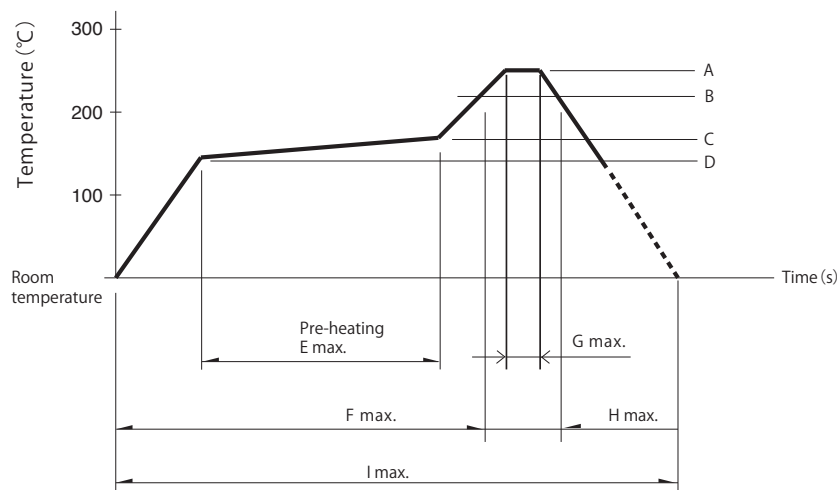
| Series | Tip temperature | Soldering time | No. of solders |
|---|-----------------|---------------------------------|----------------|
| RKJXT1F, RKJXM, RKJXL, SLLB, SLLB5, SRBE, SKRV, SKRH | 350±5℃ | 3s max. | 1 time |
| RKJXS | 350±10℃ | 3 ⁺¹ ₋₀ s | 2 time max. |

Reference for Dip Soldering

| Series | Preheating | | Dip soldering | | No. of solders |
|-----------------------|-------------------------------|--------------|-----------------------|----------------|----------------|
| | Soldering surface temperature | Heating time | Soldering temperature | Soldering time | |
| RKJXT1F, RKJXM | 100℃ max. | 2 min. max. | 260±5℃ | 5±1s | 2 time max. |
| RKJXL | 120℃ max. | 70s max. | 260℃ max. | 6s max. | 2 time max. |

Example of Reflow Soldering Condition

Temperature profile



| Series | A | B | C | D | E | F | G | H | I | No. of reflows |
|-------------------------------|------|------|------|------|--------|--------|-----|-----|--------|----------------|
| RKJXS | 260℃ | 230℃ | 150℃ | 150℃ | 2 min. | — | 10s | 40s | 4 min. | 1 time |
| SLLB5 | 250℃ | 230℃ | 150℃ | 150℃ | — | 2 min. | — | 30s | — | 1 time |
| SKRV, SKRH, SLLB, SRBE | 260℃ | 230℃ | 180℃ | 150℃ | 2 min. | — | — | 40s | — | 1 time |

Notes

- The above temperature shall be measured 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 material, size thickness of PC boards and others. The above-stated conditions shall also apply to switch surface temperatures.
- Soldering conditions differ depending on reflow soldering machines. Prior verification of soldering condition is highly recommended.