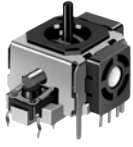
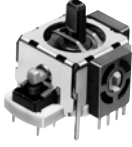

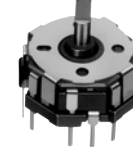

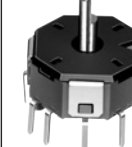


Index for Function

| Type | | Variable Resistor type | | | Switch type | | | |
|------------------------------------|-------------------------------|---|---|---|--|---|---|--------------|
| Series | | RKJXK | RKJXP | RKJXF | RKJXT | RKJXM | RKJXL | |
| Photo | |  |  |  |  |  |  | |
| Function | | Stick controllers | | Motorized stick controllers | 8-direction switch + center push + encoder | | 8-direction switch + center push | |
| Outlined specifications | Number of operating shafts | Single-shaft | | | | Single-shaft / Dual-shaft | | Single-shaft |
| | Shaft material | Metal | Resin | Metal | | | | |
| | Directional resolution | Continuous | | | 8-direction | | | |
| | Directional operating feeling | Without | | | With | | Without | |
| | Lever return mechanism | With / Without | With | Without | With | | | |
| | Center push switch | With / Without | With | Without | With | | | |
| | Encoder | — | | | With | With / Without | Without | |
| External size (typical value) (mm) | W | 20.7 | | 44 | 16.8 | 20.5 | 13 | |
| | D | 25.4 | 25.8 | 44 | 16.8 | 20.5 | 13 | |
| | H | 12.9 | 12.2 | 25 | 6.8 | 5.45 | 6.4 | |
| Soldering | Manual soldering | ● | ● | RKJXF is wired with a connector. For more information, see P.308 (outline drawing). | ● | ● | ● | |
| | Dip soldering | ● | ● | | ● | ● | ● | |
| | Reflow soldering | — | | | — | | | |
| Lead-free※1 | | — | — | — | ○ | ○ | ○ | |
| Minimum packing unit (pcs.)※2 | | — | | | | | | |
| Page | | 305 | | 307 | 311 | 313 | 315 | |

Power

Push

Slide

Rotary

Encoders

Jog Shuttle

Telephone-hook

Detector

Vibration/Tilt Sensors

Dual-in-line Package Type

Multi Control Devices

TACT

Variable Resistor Type

Switch Type

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- Variable Resistor Type Multi Control Devices Caution310
- Products Specifications for Switch Type Multi Control Devices321
- Switch Type Multi Control Devices Caution323

Notes

1. ※1. ○ mark : This series meet Pb-free restrictions ELV and RoHS directives.
ELV : End-of-Life Vehicle
RoHS : Restriction of the use of certain Hazardous Substances in electrical and electronic equipment
2. ※2. Place your purchase order in N minimum package units (N: integer).
3. Ask us for the export packaging unit.

For specifications for the taping package, see P.322

Index for Function

| Type | | Switch type | | | | |
|--|-------------------------------|----------------------------------|------|----------------|------|-----------|
| Series | SKRH | SKQU | SLLB | SLLB Thin type | SLLQ | |
| Power | | | | | | |
| Push | | | | | | |
| Slide | | | | | | |
| Rotary | | | | | | |
| Encoders | | | | | | |
| Function | | 4-direction switch + center push | | Lever + Push | | |
| Outlined specifications Jog Shuttle Telephone-hook Detector Vibration/Tilt Sensors Dual-in-line Package Type Multi Control Devices TACT | Number of operating shafts | Single-shaft | | | | |
| | Shaft material | Resin | | | | |
| | Directional resolution | 4-direction | | 2-direction | | |
| | Directional operating feeling | With | | Without | | |
| | Lever return mechanism | With | | | | |
| | Center push switch | With / Without | | | With | |
| | Encoder | Without | | | | |
| External size (typical value) (mm) | W | 7.35 | 10 | 11.8 | | 6.5 |
| | D | 7.5 | 10 | 11.4 | | 12.7 |
| | H | 5 | 7.1 | 3 | 2.3 | 3.5 |
| Soldering Type | Manual soldering | ● | ● | — | | |
| | Dip soldering | — | ● | — | | |
| | Reflow soldering | ● | ● | ● | ● | ● |
| Lead-free※1 | | ● | ● | ● | ● | ● |
| ※2 Minimum packing unit (pcs.) | | — | | 1,350 | | 900 / 400 |
| Page | | 368 | 370 | 316 | | 319 |

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- Lever and Push Operation Type Switches Soldering Condition322
- Lever and Push Operation Type Switches Taping Specifications.....322
- Switch Type Multi Control Devices Caution323

Notes

1. ※1. ● mark : This product series do not contain any lead in all materials and parts.
2. ※2. Place your purchase order in N minimum package units (N: integer).
3. Ask us for the export packaging unit.

Products Specifications

| Items | | RKJXK | RKJXP | RKJXF | |
|-----------------------------|-----------------------------|--|--|--------------------------|---------------|
| Operating temperature range | | -10°C to +60°C | | | |
| Electrical performance | Rated power | 0.0125W | | 0.05W | |
| | Directional resolution | Contiguity | | | |
| | Insulation resistance | 250V DC 100MΩ min. | | | |
| | Voltage proof | 250V AC For 1min. | | | |
| Mechanical performance | Direction application force | 8mN·m max. Without Lever return type 6±4mN·m Lever reset type | 17±10mN·m | 5±4.5mN·m | |
| | Push application force | 5.2±2.6N | 6.4 ^{+3.4} _{-2.6} N | ————— | |
| | Solderability | 230±5°C、3±0.5s | | ————— | |
| | Solder heat resistance | Manual soldering | 300°C or less, or within 3s | | ————— |
| Flow soldering | | 260±5°C、5±1s | | ————— | |
| Slider noise | | 300mV max. by JIS method | | 100mV max. by JIS method | |
| Lever stopper strength | | 0.3N·m | ————— | 0.3N·m | |
| Lever play | | 5°max. | | | |
| Lever strength | | 50N min. (Push / Pull) | | 30N min. (Push / Pull) | |
| Endurance | 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 | | |
| | Operating life | Directions | 100,000 cycles | 2,000,000 cycles | 50,000 cycles |
| | | Center detent | 1,000,000 cycles | | ————— |
| Environmental test | Cold | | -10±2°C for 96h | | |
| | Long-term heat resistance | | 70±2°C for 96h | | |
| | Moisture resistance | | 40±2°C, 90 to 95%RH for 96h | | |

Power

Push

Slide

Rotary

Encoders

Jog Shuttle

Telephone-hook

Detector

Vibration/Tilt Sensors

Dual-in-line Package Type

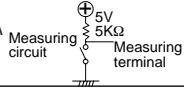
Multi Control Devices

TACT

Variable Resistor Type

Switch Type

Products Specifications

| Items | | RKJXT | RKJXM | RKJXL | SLLB | SLLQ | |
|---|-----------------------------|--|--|----------------|---|---|-----|
| Operating temperature range | | -30°C to +70°C | | | -10°C to +60°C | -40°C to +85°C | |
| Rating (max.) (Resistive load) | | 10mA 5V DC | | | | | |
| Electrical performance | Output voltage | ————— | | | 1V max. at 5V DC 1mA (Resistive load) |  | |
| | Directional resolution | 8-directional | | | ————— | | |
| | Insulation resistance | 250V DC 100MΩ min. | | | 100MΩ min., 100V DC | | |
| | Voltage proof | 300V AC for 1min. | | | 100V AC for 1 min. | | |
| Mechanical characteristics | Operating force | ————— | | | Refer to the dimensions. | | |
| | Direction application force | 40±25mN·m | Direction A, B, C, D 30±20mN·m Direction AB, BC, CD, DA 25±20mN·m | 10±7mN·m | ————— | | |
| | Push application force | 4.5±2N | 3±1.5N | 4.5±1N | ————— | | |
| | Encoders Detent torque | 15±8mN·m | 12±8mN·m | ————— | | | |
| | Robustness of terminal | ————— | | | 3N for 1 min. | | |
| | Robustness of actuator | Pushing direction | ————— | | | 50N | 30N |
| | | Operating direction | ————— | | | 10N | |
| | Solderability | 230±5°C、3±0.5s | | | | | |
| | Solder heat resistance | Manual soldering | 300°C or less, or within 3s | | | 350±5°C 3s max. | |
| | | Dip soldering | 260±5°C, 5±1s | | | ————— | |
| Reflow soldering | | ————— | | | Please see P.322 | | |
| Endurance | Vibration | 8.3 to 200 to 8.3Hz、 4.4G fixed (for 15 minutes/1 cycle), 3 angles each 2 hours | | | 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 | | |
| | Operating life | Directions | 50,000 cycles | 100,000 cycles | | ————— | |
| | | Center detent | ————— | | | ————— | |
| | | Encoder | 15,000 cycles | | ————— | ————— | |
| | Operating life without load | ————— | | | 100,000 cycles | | |
| Operating life with load (Load : As rating) | ————— | | | 100,000 cycles | | | |
| Environmental test | Cold | -40±2°C for 500h | | | -20±2°C for 96h | -40±2°C for 96h | |
| | Long-term heat resistance | 85±2°C for 500h | | | 85±2°C for 96h | | |
| | Moisture resistance | 60±2°C, 90 to 95%RH for 500h | | | 40±2°C, 90 to 95%RH for 96h | | |

Power

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Type

Note

Shall be in accordance with individual specifications.