


|  |                                   |                      |                |
|--|-----------------------------------|----------------------|----------------|
| Part number                            | <b>SKRHABE010</b>                 |                      |                |
| Type                                   | Surface mount                     |                      |                |
| Operating force                        | 4-direction                       | 1.23N                |                |
|  | Center push                       | 2.35N                |                |
| Travel                                 | 4-direction                       | 0.25mm               |                |
|  | Center push                       | 0.15mm               |                |
| Operating life<br>(5mA 5V DC)          | 200,000 cycles for each direction |                      |                |
| Initial contact resistance             | 500mΩ max.                        |                      |                |
| Stem color                             | Black                             |                      |                |
| Guide bosses                           | With                              |                      |                |
| Operating temperature range            | -40°C to +85°C                    |                      |                |
| Ratings (max.)/(min.) (Resistive load) | 50mA 12V DC/10μA 1V DC            |                      |                |
| Electrical performance                 | Directional resolution            | 4-direction          |                |
|  | Insulation resistance             | 100MΩ min. 100V DC   |                |
|  | Voltage proof                     | 100V AC for 1 minute |                |
| Mechanical performance                 | Directional operating force       | 1.23±0.69N           |                |
|  | Push operating force              | 2.35±0.69N           |                |
|  | Actuator strength                 | Operating direction  | 29.4N          |
| Durability                             | Operating life                    | Center push          | 200,000 cycles |

|                           |           |                             |
|---------------------------|-----------|-----------------------------|
| Environmental performance | Cold      | -40±2°C for 96h             |
|                           | Dry heat  | 90±2°C for 96h              |
|                           | Damp heat | 60±2°C, 90 to 95%RH for 96h |

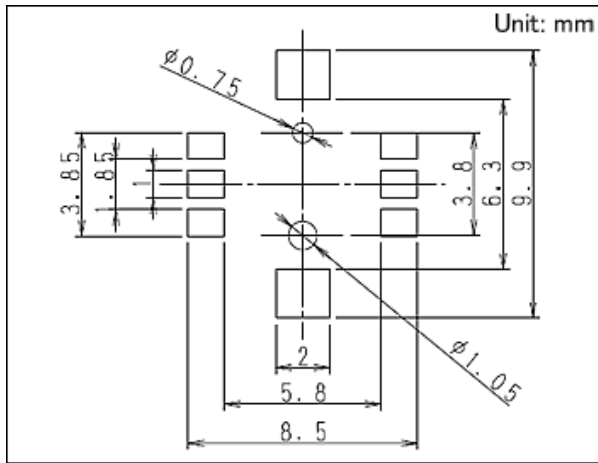
|                           |        |       |
|---------------------------|--------|-------|
| Minimum order unit (pcs.) | Japan  | 1,300 |
|                           | Export | 1,300 |

3D CAD (STEP) 

Certificate of Compliance to RoHS regulations 

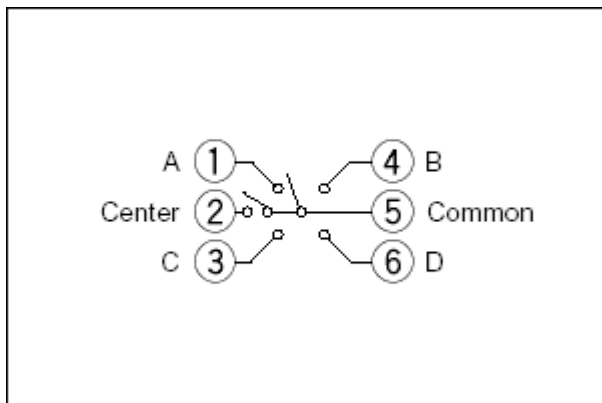


## Land Dimensions



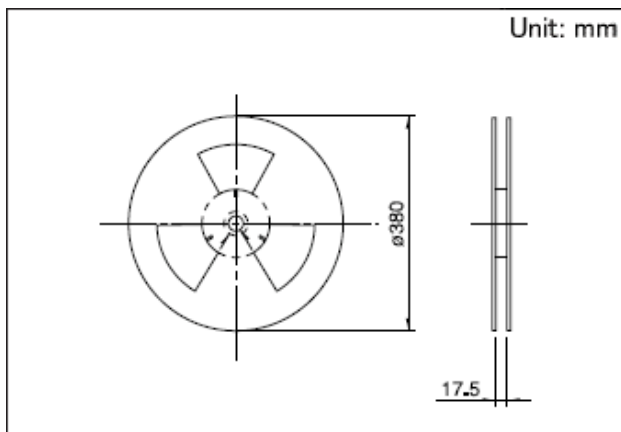
Viewed from mounting face

## Circuit Diagram



## Packing Specifications

### Taping



|                                  |             |
|----------------------------------|-------------|
| Number of packages 1 reel (pcs.) | 1,300       |
| 1 case / Japan                   | 10,400      |
| 1 case / export packing          | 10,400      |
| Tape width (mm)                  | 16          |
| Export package measurements (mm) | 401×401×214 |

## Soldering Condition

### Example of Reflow Soldering Condition

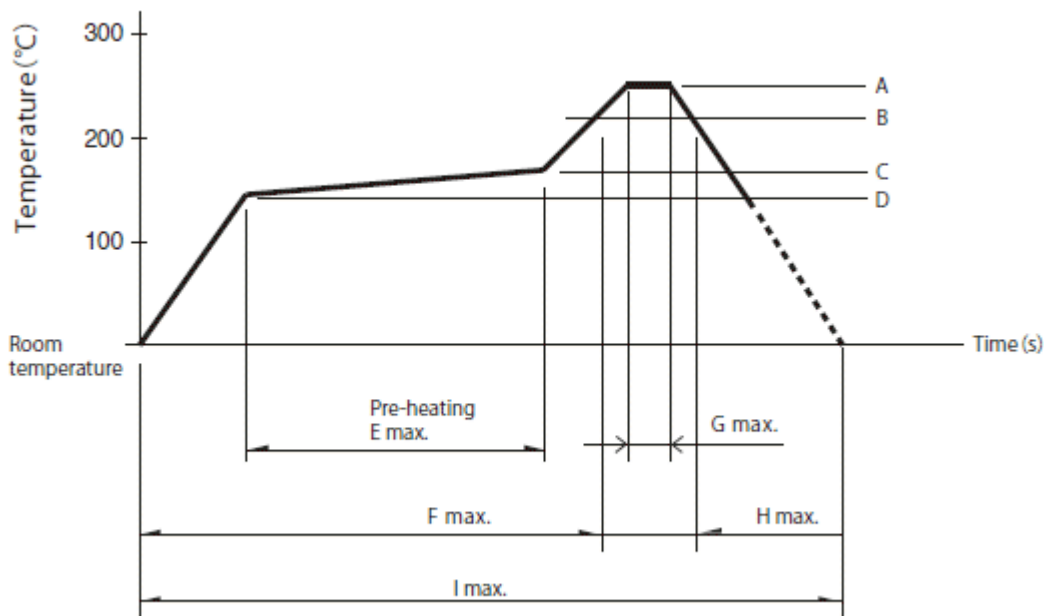
1. Heating method:

Double heating method with infrared heater.

2. Temperature measurement:

Thermocouple 0.1 to 0.2  $\Phi$  CA (K) or CC (T) at solder joints (copper foil surface). A heat resisting tape should be used to fix thermocouple.

3. Temperature profile



| A     | B     | C     | D     | E      | F | G | H   | I | No. of reflows |
|-------|-------|-------|-------|--------|---|---|-----|---|----------------|
| 260°C | 230°C | 180°C | 150°C | 2 min. | - | - | 40s | - | 1 time         |

(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

|                 |         |
|-----------------|---------|
| Tip temperature | 350±5°C |
| Soldering time  | 3s max. |
| No. of solders  | 1 time  |