

B3B Mechanical Key Switch (Ultra-low Profile)

B3B

Ultra-low Profile Mechanical Key Switch with a Thickness of Only 0.47 mm

- Surface-mounting model with dimensions of 4.7 x 4.7 x 0.47 mm allows high-density mounting.
- Contributes to making devices with this Mechanical Key Switch more compact, slim, and lightweight.
- Available on embossed tape that enables automatic mounting.
- Dust-sealed construction provides high reliability.
- Available for reflow soldering.



Ordering Information

■ Model Number Legend:

B3B-□□□□□
1 2 3 4 5

- 1. Size**
1: 4.7 mm x 4.7 mm
- 2. Ground Terminal**
0: None
- 3. Plunger**
0: None
- 4. Operating Force (OF)**
2: 1.58 N
- 5. Shipment Package**
P: Embossed tape

■ List of Models

| Item | Model |
|---|-----------|
| Embossed tape packing (unit: 10,000 pcs.) | B3B-1002P |

Note: The Switches are available in units of 10,000 pieces. Orders must be made in units of 10,000 pieces; no partial units can be shipped.

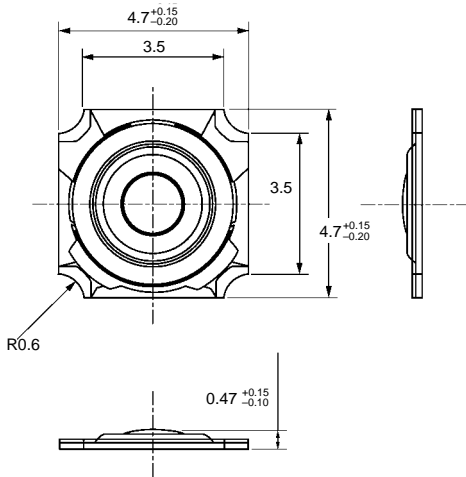
Specifications

■ Ratings/Characteristics

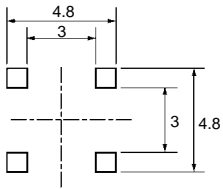
| | |
|-----------------------|---|
| Switching capacity | 1 to 20 mA, 5 to 15 VDC, (resistive load) |
| Insulation voltage | 30 VDC |
| Contact configuration | SPST-NO |
| Contact material | Silver plating |
| Contact resistance | 10 Ω max. (initial value) (rated: 1 mA, 5 VDC) |
| Insulation resistance | 100 MΩ min. (at 100 VDC) |
| Dielectric strength | 250 VAC, 50/60 Hz for 1 min |
| Bounce time | 10 ms max. |
| Vibration resistance | Malfunction: 10 to 55 Hz, 1.5-mm double amplitude |
| Shock resistance | Destruction: 735 m/s ² min. {approx. 75G min.} |
| Life expectancy | 50,000 operations min. |
| Ambient temperature | Operating: -25°C to 70°C (with no icing) |
| Ambient humidity | Operating: 25% to 85% |
| Weight | Approx. 0.1 g max. |

Dimensions

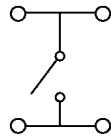
Note: All units are in millimeters unless otherwise indicated.



**PCB Mounting
(Top View)**



**Terminal Arrangement
/Internal Connections
(Top View)**



Operating Characteristics

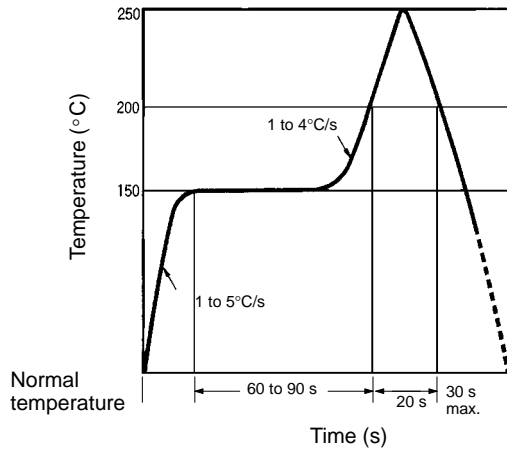
| Item | Standard value |
|----------------------|-------------------------|
| Operating force (OF) | 1.58±0.49 N {160±50 gf} |
| Releasing force (RF) | 0.29 N {30 gf} min. |
| Pretravel (PT) | 0.2±0.1 mm |

Precautions

Soldering

Soldering Conditions for Reflow Soldering

Carry out soldering within the temperature curve shown in the following illustration.



Note: The above heating curve will apply if the thickness of the circuit board is 1.6 mm.

Since the peak value may vary depending on the reflow soldering device, be sure to conduct a verification test in advance.

Soldering Conditions for Manual Soldering

Soldering temperature: $300 \pm 5^\circ\text{C}$ at the soldering iron tip

Soldering time: 3 seconds max.

Soldering operations must be performed no more than twice including touch-up soldering. Allow at least 5 minutes between the first and second soldering.

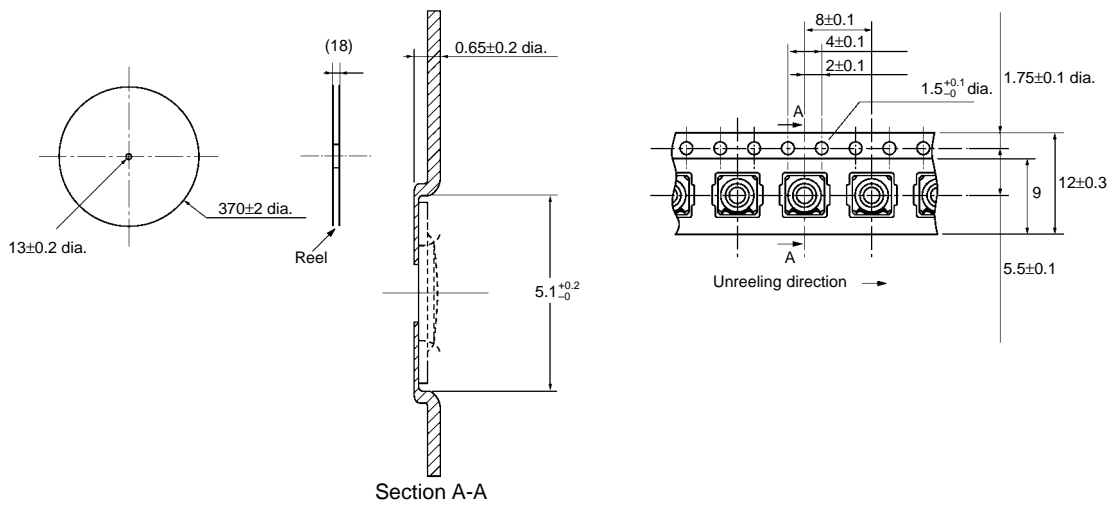
Do not apply flow soldering.

Washing

No washing is allowed after soldering to prevent detergent or flux from entering into the Switch. Doing so may cause malfunction.

Tape Packing Specifications

| Standard | Quantity |
|---------------------------|---------------|
| Conforms to EIAJ Standard | 10,000 pieces |



ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.
