

## Mechanical Key Switch (Watertight)

## B3WN

### Double-sealing Construction Ensures Watertight and Dust-tight Performance

- Conforms to IEC529 IP67.
- Allows the use of radial-taping part insertion machines.
- Compact with approx. 70% the size of conventional models.



## Ordering Information


### ■ Model Number Legend

B3WN-□□□□  
1 2 3 4

1. **Appearance**  
6: Radial taping
2. **Ground Terminal**  
0: None

3. **Height**  
0: 13 mm
4. **Operating Force (OF)**  
2: 200 gf

### ■ List of Models

Model	Height x pitch	Operating force (OF)	Model without ground terminal
B3WN 	13 x 5 mm	1.96 N {200 gf}	B3WN-6002

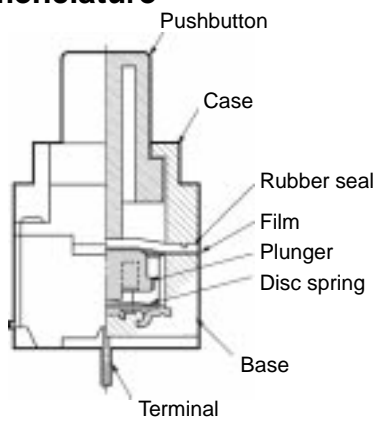
**Note:** Orders must be made in units of 1,000 pieces.

# Specifications

## ■ Ratings/Characteristics

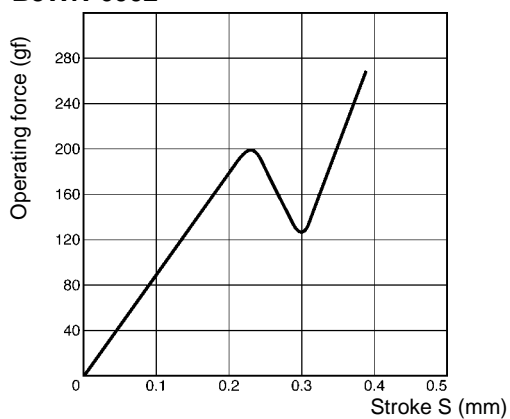
Switching capacity	50 mA, 12 VDC (resistive load)
Insulation voltage	30 VDC
Contact configuration	SPST-NO
Contact material	Silver plating
Contact resistance	100 mΩ max. (initial value) (rated: 1 mA, 5 VDC)
Insulation resistance	100 MΩ min. (at 100 VDC)
Dielectric strength	250 VAC, 50/60Hz for 1 min
Bounce time	10 ms max.
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 784 m/s <sup>2</sup> min. {approx. 80G min.} Malfunction: 100 m/s <sup>2</sup> min. {approx. 10G min.}
Life expectancy	100,000 operations min.
Ambient temperature	Operating: -25°C to 85°C (with no icing)
Ambient humidity	Operating: 35% to 85%
Weight	Approx. 0.7 g

## ■ Nomenclature



# Engineering Data

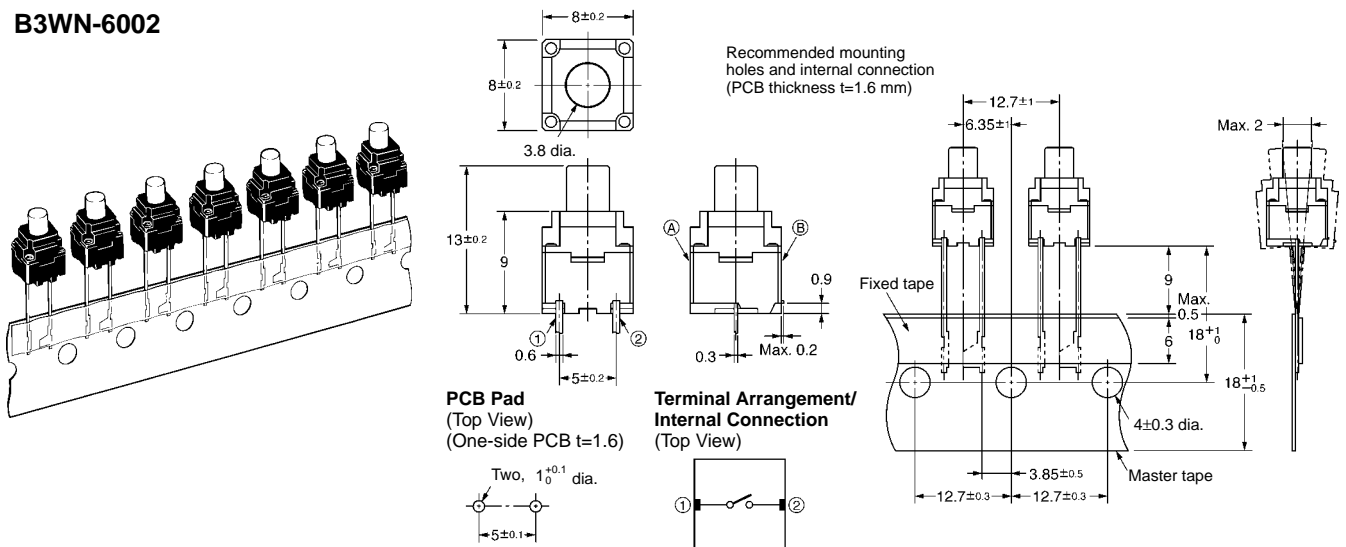
## Operating Force vs. Stroke Characteristics B3WN-6002



# Dimensions

**Note:** All units are in millimeters unless otherwise indicated. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

## B3WN-6002



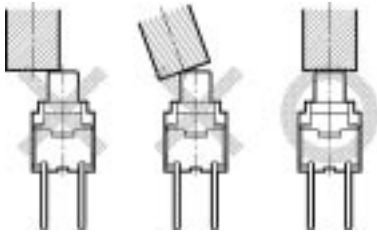
- Note:**
1. In accordance with EIAJ RC-1008, unless otherwise specified.
  2. Switch fixing direction (A and B) on the tape may change.

## Precautions

### Operation

Do not repeatedly operate the Switch with high force, apply additional force to the pushbutton once it has stopped moving, or operate the Switch with excessive force, otherwise the disc spring of the Switch may deform and the Switch may malfunction.

Be sure to set the Switch so that the pushbutton will be pressed straight. A decrease in the life of the Switch may result if the pushbutton is pressed off-center or from an acute angle.



### PCB

The Switch is designed for a 1.6-mm-thick, single-sided PCB as a standard PCB. The Switch may not be mounted to any other type of PCB, such as a double-sided, through-hole PCB, or any other one that is different in thickness. Furthermore, the Switch may not operate properly or withstand the soldering heat if it is mounted to such a PCB. Be sure to test the PCB before use.

### Soldering

The Switch can be soldered automatically or manually.

The automatic soldering of the Switch on a 1.6-mm-thick, single-sided PCB must be completed within five seconds at a soldering temperature of 260°C maximum.

The manual soldering of the Switch on a 1.6-mm-thick, single-sided PCB must be completed within three seconds at a soldering iron tip temperature of 350°C maximum.

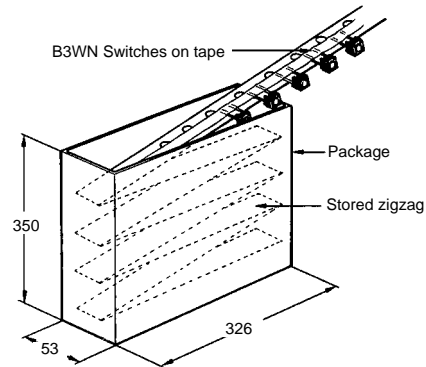
When using a multi-layer PCB, test the PCB in advance because the Switch mounted to the PCB may be deformed by heat if the pattern or land design is improper.

Soldering may be repeated only once at a minimum interval of five minutes if the Switch is not soldered properly.

Make sure that no flux will rise on the mounting surface of the PCB.

### Package

B3WN Switches are packed on tape as shown below.



Do not press strongly, vibrate, or drop the package, otherwise the terminals of the Switches may deform.

Pull out the tape slowly. Make sure that the tape is not entangled while pulling it out, otherwise the terminals of the Switches may deform.

Do not store the package in locations with high temperature or high humidity. Use the Switches as soon as possible. The package made of paper is not tightly sealed. Storing the package in locations with high temperature or high humidity for a long time may result in the discoloration of the Switch terminals.

### Other Precautions

When using the Switch in a very humid environment or where condensation may occur, mount the Switch and then apply coating to the terminals until they are completely covered with coating in order to prevent current leakage from terminals.

Do not use coating materials that contain toluene or xylene.

**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. A112-E1-1 **In the interest of product improvement, specifications are subject to change without notice.**

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