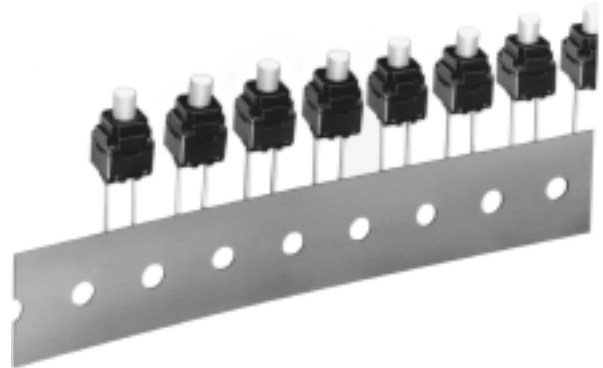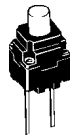# OMRON ®

| Mechanical Key Switch | **B3WN** |

Double-sealing Construction Assures Water-tight/Dust-tight Protection

- ■ 8 x 8 mm compact size
- ■ Allows the use of radial-taping part insertion machines
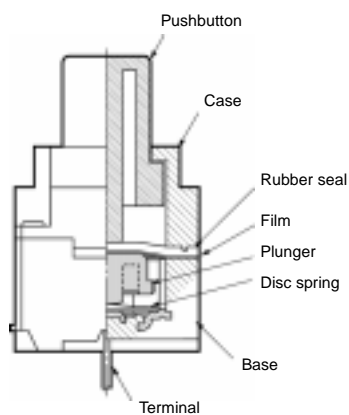- ■ Conforms to IEC529 IP67

Ordering Information

Size	Height x pitch	Operating force (OF)	Part Number
8 x 8 mm	13 x 5 mm	200 gf	**B3WN-6002**

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

■ CONSTRUCTION

Pushbutton

Case

Rubber seal

Film

Plunger

Disc spring

Base

Terminal

Characteristics ————————————————————————————

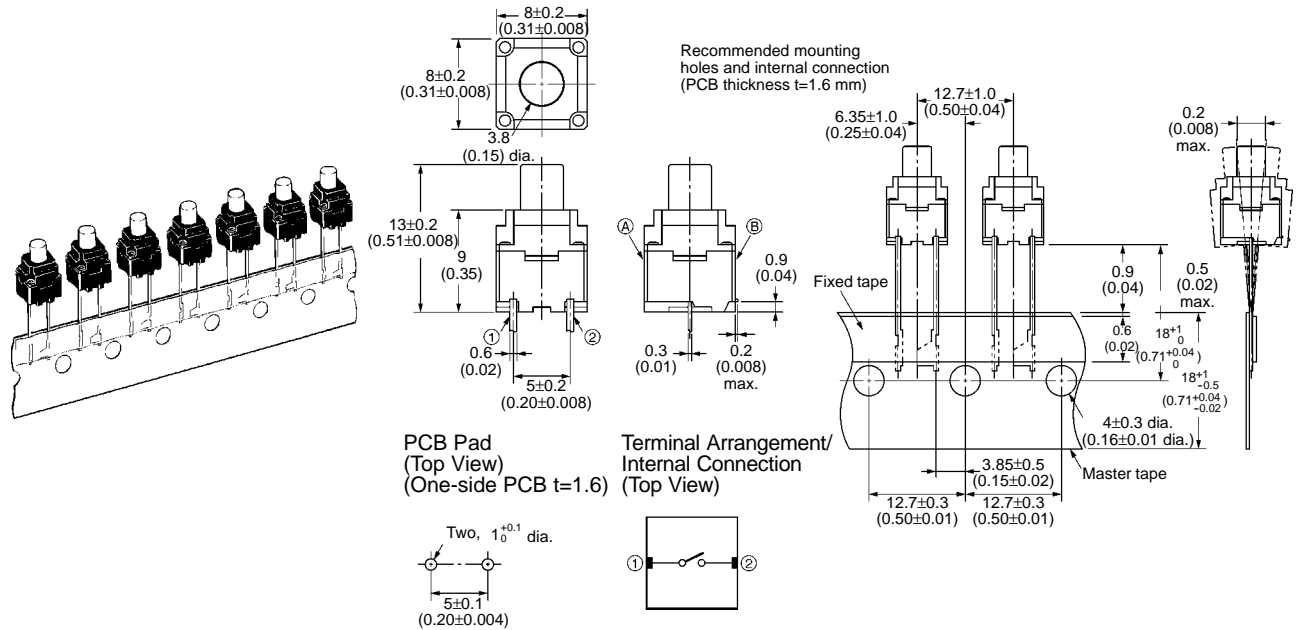|	
Switching capacity	50 mA, 12 VDC (resistive load)
Insulation voltage	30 VDC
Contact configuration	SPST-NO
Contact material	Silver plating
Contact resistance	100 mΩ max. (initial value) (rated: 1 mA, 5 VDC)
Insulation resistance	100 MΩ min. (at 100 VDC)
Dielectric strength	250 VAC, 50/60Hz for 1 min
Bounce time	10 ms max.
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 784 m/s^2 min. {approx. 80G min.} Malfunction: 100 m/s^2 min. {approx. 10G min.}
Life expectancy	100,000 operations min.
Ambient temperature	Operating	−25°C to 85°C (−13°F to 185°F) with no icing
Ambient humidity	Operating	35% to 85%
Weight	Approx. 0.7 g

■ CHARACTERISTIC DATA
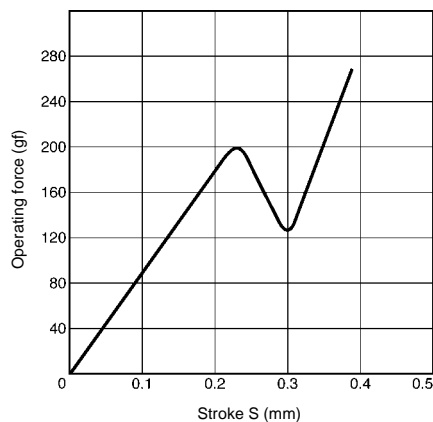
■ OPERATING CHARACTERISTICS

	B3WN-6002
Operating force (OF)	200±70 gf
Releasing force (RF)	50 gf min.
Pretravel (PT)	$0.3^{+0.2}_{-0.1}$ mm

Dimensions

Unit: mm (inch)

B3WN-6002

8±0.2
(0.31±0.008)

8±0.2
(0.31±0.008)

3.8
(0.15) dia.

Recommended mounting
holes and internal connection
(PCB thickness t=1.6 mm)

13±0.2
(0.51±0.008)

9
(0.35)

0.9
(0.04)

① ②

0.6
(0.02)

5±0.2
(0.20±0.008)

Ⓐ Ⓑ

0.3
(0.01)

0.2
(0.008)
max.

12.7±1.0
(0.50±0.04)

6.35±1.0
(0.25±0.04)

Fixed tape

0.9
(0.04)

0.6
(0.02)

3.85±0.5
(0.15±0.02)

12.7±0.3
(0.50±0.01)

12.7±0.3
(0.50±0.01)

Master tape

0.2
(0.008)
max.

0.5
(0.02)
max.

18^{+1}_{0}
$(0.71^{+0.04}_{0})$

$18^{+1}_{-0.5}$
$(0.71^{+0.04}_{-0.02})$

4±0.3 dia.
(0.16±0.01 dia.)

PCB Pad
(Top View)
(One-side PCB t=1.6)

Terminal Arrangement/
Internal Connection
(Top View)

Two, $1^{+0.1}_{0}$ dia.

5±0.1
(0.20±0.004)

① ②

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.
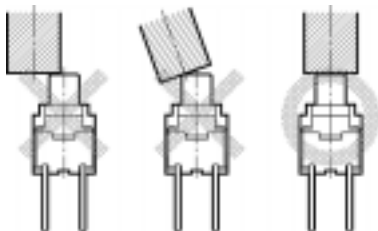
■ PCB

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.

B3WN Switches on tape

Package

Stored zigzag

350

326

53
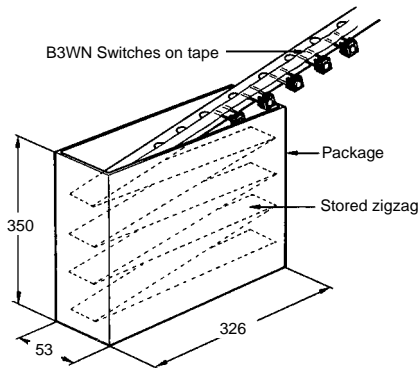
Do not press strongly, vibrate, or drop the package, otherwise the terminals of the Switches may deform.

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 switch first, then completely cover the terminals with coating in order to prevent current leakage from terminals.

Do not use coating materials that contain toluene or xylene.

NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

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