

Designed as Surface-mounting Device (SMD) Meeting High-density Mounting Requirements

- SMD Tactile Switch ideal for high-density mounting.
- Compact and more than 1 mm thinner than conventional tactile switches.
- Available with ground terminals for protection against static electricity.
- Sealed construction conforming to IP64 (IEC-529) provides high reliability in dusty or humid environments.



Ordering Information

Model Number Legend:

B3SN-□□□□□
 1 2 3 4 5

- | | |
|---|---|
| <p>1. Height
3: 3.1 mm</p> <p>2. Ground terminal
0: Without ground terminal
1: With ground terminal</p> <p>3. Sealing
1: IP64 (IEC529)</p> | <p>4. Operating force (OF)
2: 1.57 N {160 gf}</p> <p>5. Shipment package
None: Bag
P: Embossed tape</p> |
|---|---|

■ List of Models

Type	Bags	Embossed tape (see note)
Without ground terminal	B3SN-3012	B3SN-3012P
With ground terminal	B3SN-3112	B3SN-3112P

Note: Switches on embossed tape must be ordered in units of 3,000 pieces.
 For details on packing, refer to *Switch Pacing* on page 17.

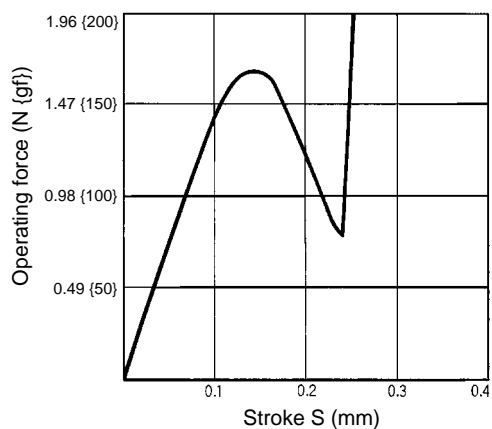
Specifications

■ Ratings/Characteristics

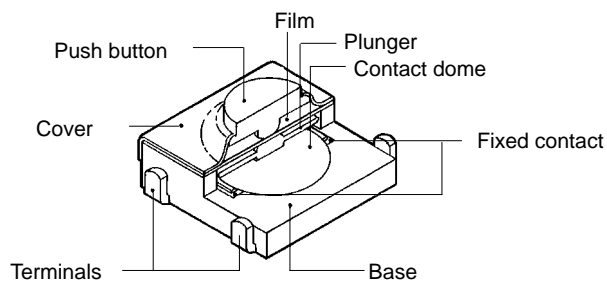
Switching capacity	1 to 30 mA, 5 to 24 VDC (resistive load)
Contact configuration	SPST-NO
Contact resistance	100 mΩ max. (initial value) (rated: 1 mA, 5 VDC)
Insulation resistance	100 MΩ min. (at 250 VDC)
Dielectric strength	250 VAC, 50/60 Hz for 1 min
Bounce time	5 ms max.
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 1,000 m/s ² {approx. 100G} max.
Life expectancy	100,000 operations min.
Ambient temperature	Operating: -25°C to 70°C (with no icing)
Ambient humidity	Operating: 35% to 85%
Weight	Approx. 0.2 g

Engineering Data

Operating Force vs. Stroke (Typical)



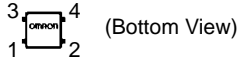
Nomenclature



Dimensions

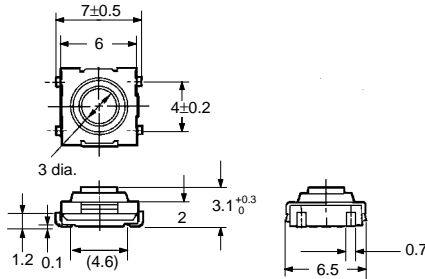
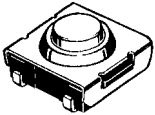
Note: 1. All units are in millimeters unless otherwise indicated.

2. No terminal numbers are indicated on the Switches. The numbers used for terminals in the following graphics are indicated in the "Bottom View" diagram below. In this diagram, the Switch is rotated so that the terminals are on the right and left-hand sides, and the OMRON logo appears the right way up.

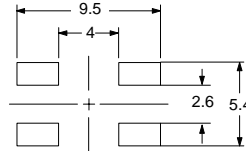


Without Ground Terminal

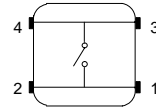
B3SN-3012
B3SN-3012P



PCB Mounting (Top View)

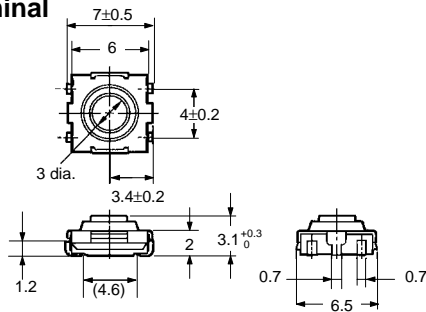
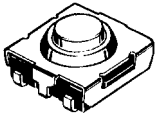


Terminal Arrangement / Internal Connections (Top View)

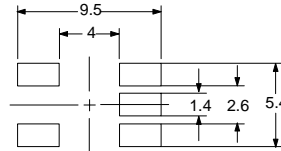


With Ground Terminal

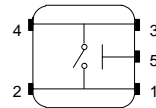
B3SN-3112
B3SN-3112P



PCB Mounting (Top View)



Terminal Arrangement / Internal Connections (Top View)



Operating Characteristics

Operating force (OF)	1.57±0.49 N {160±50 gf} max.
Releasing force (RF)	0.29 N {30 gf} min.
Pretravel (PT)	0.25±0.15 mm

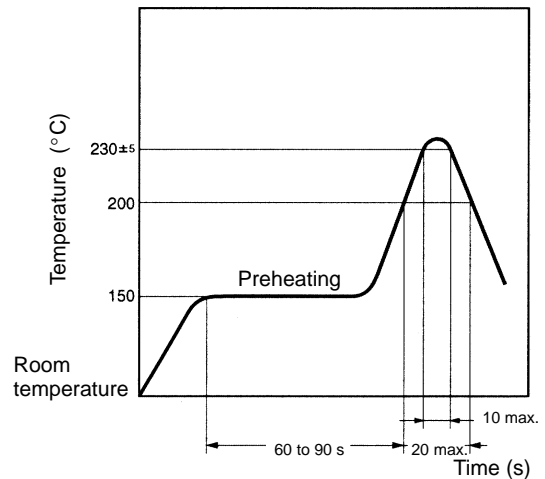
Precautions

Soldering

Do not apply flow soldering, otherwise fragments of solder and flux may have a bad influence on the operation of the pushbutton.

Apply reflow soldering according to the optimum heating curve shown below. Reflow soldering equipment may have a high peak value. Be sure to conduct a test before use.

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



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

Do not apply additional force to the plunger once it has stopped moving.

Do not repeatedly press the plunger off-center or from an acute angle.

Cleaning

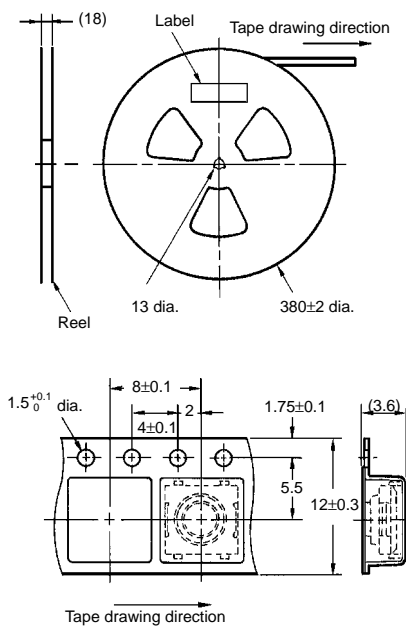
B3SN Switches are designed to allow submersed cleaning after soldering. When cleaning, follow the guidelines given as follows:

1. Clean with alcohol solvents. Do not use chlorine solvents or water.

2. When using ultrasonic cleaning in two- or three-tank systems, do not clean for more than one minute at a time or for more than three minutes total.
3. Do not apply external force to the Switch while cleaning.
4. Do not clean immediately after soldering. Allow components to stand for at least three minutes before cleaning if possible.
5. The Switch cannot be used where subject to direct contact with water.

Switch Packing

Switches are packed on tape as shown below.



Package	3,000 Switches
Heat resistance	50°C for 24 hours (not to be deformed)

Note: The ground terminals of the Switches are on the guide hole side of the package.

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