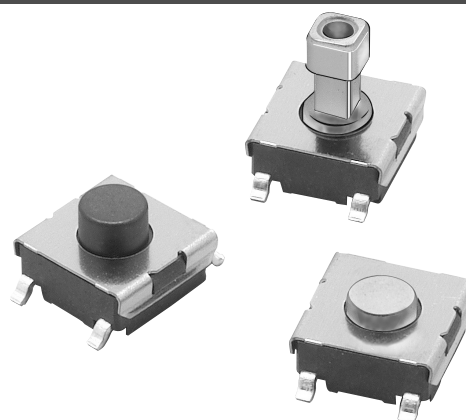


# Tactile Switch (SMD)

## B3FS

### Surface-mounting Switches Ideal for High-density Mounting

- Tape packing style also available
- Allows reflow soldering
- 3 actuator heights for design flexibility; Projected plunger versions allow installation of B32-series keytops
- RoHS Compliant



## Ordering Information

| Item                 |                                                                                                  |        |                         | Model         |                      |                         |       |
|----------------------|--------------------------------------------------------------------------------------------------|--------|-------------------------|---------------|----------------------|-------------------------|-------|
| Type                 | Plunger                                                                                          | Height | Operating force (OF)    | Bag packaging |                      | Embossed tape packaging |       |
| Standard<br>6 x 6 mm | Flat<br>       | 3.1 mm | General-purpose: 100 gf | B3FS-1000     | (qty/bag)<br><br>100 | B3FS-1000P              | 3,000 |
|                      |                                                                                                  |        | High-force: 150 gf      | B3FS-1002     |                      | B3FS-1002P              |       |
|                      | Flat<br>      | 4.3 mm | General-purpose: 100 gf | B3FS-1010     |                      | B3FS-1010P              | 1,000 |
|                      |                                                                                                  |        | High-force: 150 gf      | B3FS-1012     |                      | B3FS-1012P              |       |
|                      | Projected<br> | 7.3 mm | General-purpose: 100 gf | B3FS-1050     |                      | B3FS-1050P              |       |
|                      |                                                                                                  |        | High-force: 150 gf      | B3FS-1052     |                      | B3FS-1052P              |       |

**Note:** Order in multiples of the quantities given for each package

**Important Note:** Switches cannot be water-washed.

## Specifications

### ■ Characteristics

|                               |                 |                                                                                                                           |
|-------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------|
| Contact form                  |                 | SPST-NO                                                                                                                   |
| Switching capacity            |                 | 50 mA, 24 VDC (resistive load)                                                                                            |
| Contact resistance            |                 | 100 mΩ max. (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                   |                 | 5 ms max.                                                                                                                 |
| Vibration resistance          |                 | Malfunction: 10 to 55 Hz, 1.5-mm double amplitude                                                                         |
| Shock resistance              |                 | Destruction: 1,000 m/s <sup>2</sup> max. (approx. 100G max.)<br>Malfunction: 100 m/s <sup>2</sup> max. (approx. 10G max.) |
| Life expectancy               | General-purpose | 1,000,000 operations min.                                                                                                 |
|                               | High-force type | 300,000 operations min.                                                                                                   |
| Ambient operating temperature |                 | -25°C to +70°C (at 60% RH max.) with no icing or condensation                                                             |
| Ambient operating humidity    |                 | 35% to 85% (at 5 to 35°C)                                                                                                 |
| Weight                        |                 | Approx. 0.2 g                                                                                                             |

**Note:** Data shown are of initial value

# Engineering Data

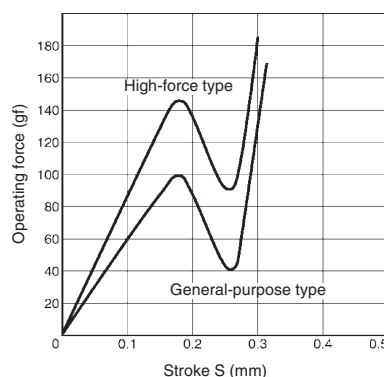
## ■ Operating Characteristics

| Characteristics      | B3FS-1000 series                          |             |
|----------------------|-------------------------------------------|-------------|
|                      | General-purpose                           | High-force  |
| Operating force (OF) | 100 ± 30 gf                               | 150 ± 50 gf |
| Releasing force (RF) | 20 gf                                     | 50 gf       |
| Pretravel (PT)       | 0.25 <sup>+0.2</sup> / <sub>-0.1</sub> mm |             |

## ■ Accessories

See "B32" Tactile Switch Key Top data sheet for keycaps that fit projected plunger B3FS models.

## ■ Operating Force vs Stroke (Typical Example)



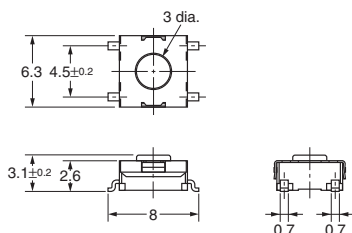
## Dimensions

**Note:** 1. Unless otherwise specified, all units are in millimeters and a tolerance of ± 0.4 mm applies to all dimensions.

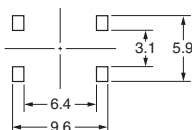
2. Terminal numbers are not indicated on this switch. With the switch turned over so that the logo mark "OMRON" is visible on the upper part of the rear side of the switch base, the terminal on the right of the logo mark is numbered "1" and that on the bottom right is "3." Accordingly, two terminals on the left side are numbered "2" and "4" respectively.

### Flat Type

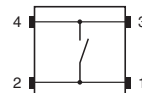
B3FS-1000  
B3FS-1002  
B3FS-1000P  
B3FS-1002P



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

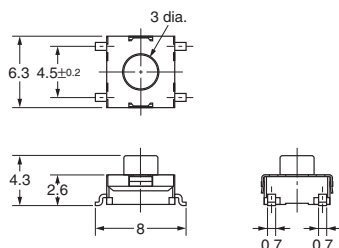


Terminal Arrangement/  
Internal Connection  
(Top View)

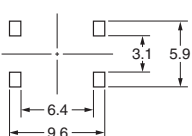


### Flat Type

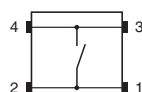
B3FS-1010  
B3FS-1012  
B3FS-1010P  
B3FS-1012P



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

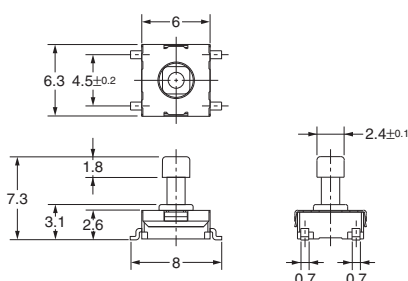


Terminal Arrangement/  
Internal Connection  
(Top View)

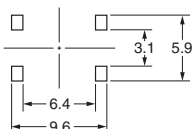


### Projected Type

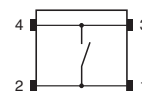
B3FS-1050  
B3FS-1052  
B3FS-1050P  
B3FS-1052P



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

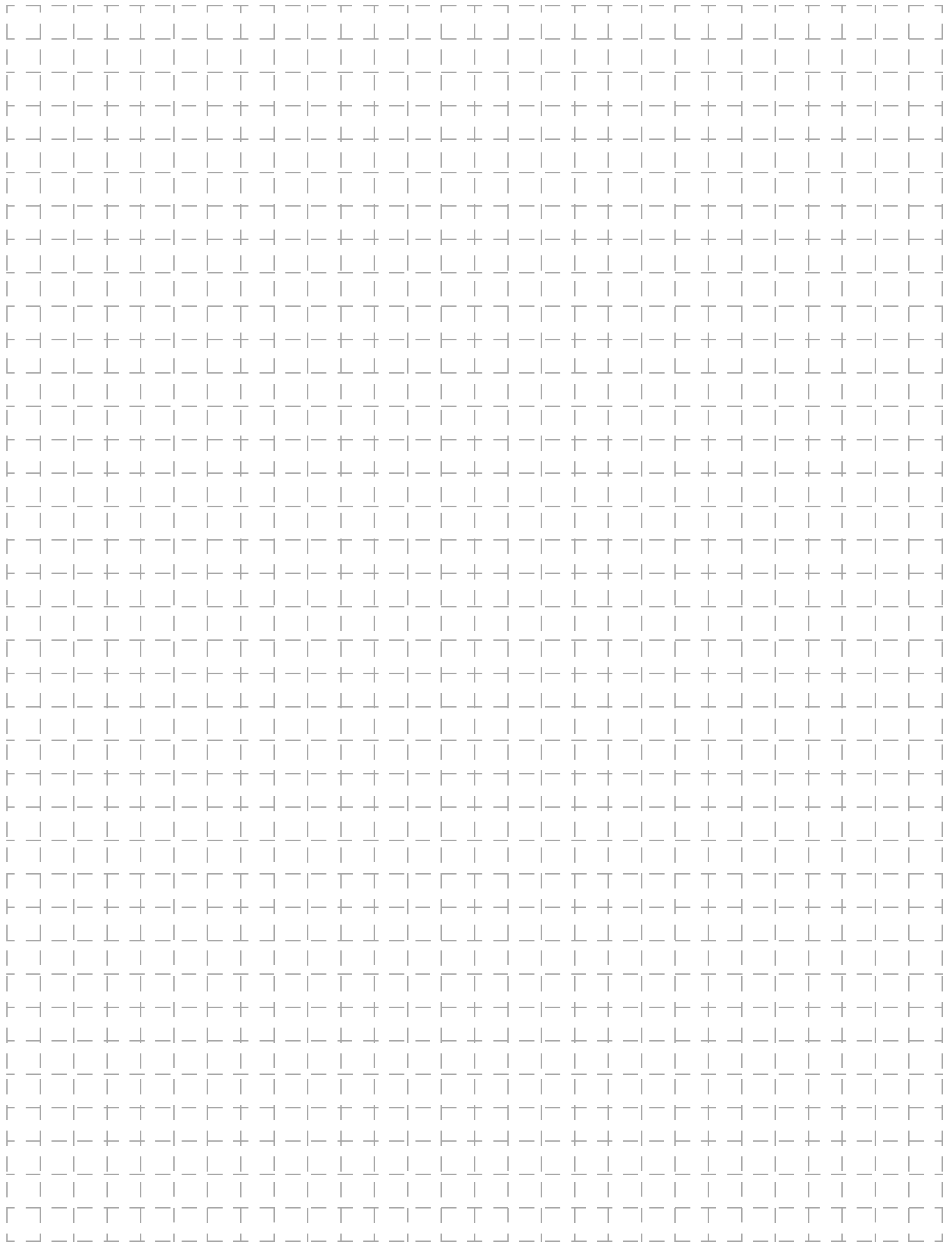


Terminal Arrangement/  
Internal Connection  
(Top View)



## Precautions

Be sure to read the precautions common to all Tactile Switches, contained in the Technical User's Guide, "Tactile Switches, Technical Information" for correct use.



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**ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.**

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

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11/10

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