

# SMD Tactile Switch

## B3FS-4

### 12 × 12-mm Surface-mounting Switches for High-density Mounting



- Surface-mounting device of B3F-4000 series.
- Distinctive snapping action and extended mechanical/electrical durability.
- Available in embossed tapping packages for automatic mounting.
- B32-series Key Tops mount to models with projected plungers.



### Ordering Information

#### List of Models

#### 12 × 12 mm Models

| Type             | Contact material | Plunger type  | Height | Operating force (OF) | Plunger color | Embossed tapping |                      |
|------------------|------------------|---|--------|----------------------|---------------|------------------|----------------------|
|                  |                  |   |        |                      |               | Model            | Minimum packing unit |
| B3FS-4000 Series | Silver plated    |    | 4.3 mm | 1.47 N               | Black         | B3FS-4002P       | 1,000                |
|                  |                  |   |        | 2.55 N               |               | B3FS-4005P       |                      |
|                  |                  |  | 7.3 mm | 1.47 N               |               | B3FS-4052P       | 500                  |
|                  |                  |   |        | 2.55 N               |               | B3FS-4055P       |                      |

Note: Order in multiples of the minimum order unit. Switches are not sold individually.

### Specifications

#### Ratings/Characteristics

|   |   |
|---|---|
| Rating (resistive load)                   | 1 to 50 mA, 3 to 24 VDC   |
| Minimum applicable load (reference value) | 10 $\mu$ A at 1 VDC (resistive load)  |
| Ambient operating temperature             | -25 to +70 degC at 60%RH max. (with no icing or condensation)   |
| Ambient operating humidity                | 35 to 85%RH (at +5 to +35 degC)   |
| Contact configuration                     | SPST-NO   |
| Contact resistance (initial value)        | 100 m $\Omega$ max.   |
| Insulation resistance                     | 100 M $\Omega$ (at 250 VDC with insulation tester)  |
| Dielectric strength                       | 500 VAC 50/60 Hz for 1 min  |
| Vibration resistance                      | Malfunction: 10 to 55 Hz, 1.5-mm double amplitude   |
| Shock resistance                          | Destruction: 1,000 m/s <sup>2</sup> {approx. 100 G} max.<br>Malfunction: 100 m/s <sup>2</sup> {approx. 10 G} max. |
| Durability                                | 3,000,000 operations min. (OF: 1.47 N {150 gf})<br>1,000,000 operations min. (OF: 2.55 N {260 gf})                |
| Weight                                    | Approx. 1 g   |
| Degree of protection                      | IEC IP00  |
| Washing                                   | Not possible  |

#### Operating Characteristics

| Item                 | Type  | B3FS-4000 Series        |                         |
|----------------------|-------|-------------------------|-------------------------|
|                      |       | Operating force (OF)    | Model                   |
| Operating force (OF) | Model | 1.47 N                  | B3FS-40□2P              |
|                      |       | 2.55 N                  | B3FS-40□5P              |
| Operating force (OF) |       | 1.47±0.49 N {150±50 gf} | 2.55±0.69 N {260±70 gf} |
| Releasing force (RF) |       | 0.15 N {15 gf} min.     | 0.29 N {30 gf} min.     |
| Pretravel (PT)       |       | 0.25±0.15 mm            | 0.25±0.15 mm            |

■ Dimensions

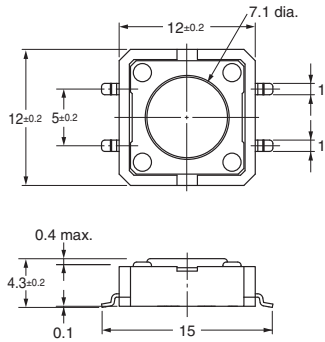
**Note: 1.** All units are in millimeters unless otherwise indicated. Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions.

**Note: 2.** The numbers used for terminals in the following graphics are indicated in the "Bottom View" diagram in the right. 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.

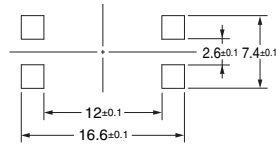


● Flat type

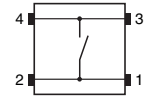
**B3FS-4002P**  
**B3FS-4005P**



**PCB Pad (Example)**  
**(TOP VIEW)**  
**(PCB t= 1.6)**

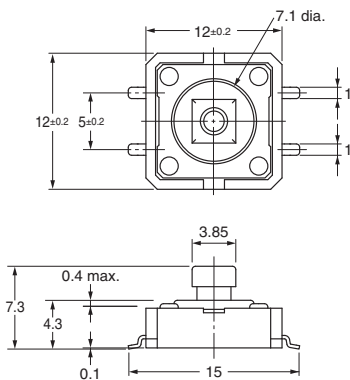


**Terminal Arrangement/**  
**Internal Connection**  
**(Top View)**

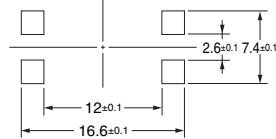


● Projected type

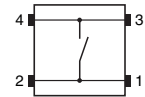
**B3FS-4052P**  
**B3FS-4055P**



**PCB Pad (Example)**  
**(TOP VIEW)**  
**(PCB t= 1.6)**



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



■ Key Tops

B32-series Key Tops are available for projected plungers. Refer to the Datasheet of B32 for details.

■ Precautions

Be sure to read the safety precautions common to all Tactile Switches for correct use.

Please check each region's Terms & Conditions by region website.

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