

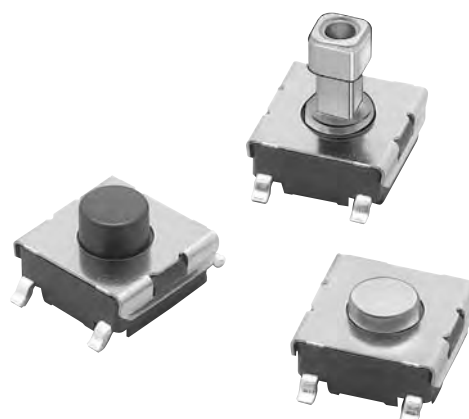
## Tactile Switch (SMT)

## B3FS

**6 × 6-mm Surface-mounting Switches  
for High-density Mounting.  
Available on Embossed Tape**



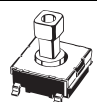
- Provide a sharp click and high durability.
- Tape packing style also available.
- B32-series Key Tops mount to models with projected plungers.

RoHS Compliant



### ■ List of Models

#### 6 × 6 mm Models

| Type             | Contact material | Plunger type  | Height | Operating force (OF) | Plunger color | Bag       |                      | Embossed taping |                      |
|------------------|------------------|---|--------|----------------------|---------------|-----------|----------------------|-----------------|----------------------|
|                  |                  |   |        |                      |               | Model     | Minimum packing unit | Model           | Minimum packing unit |
| B3FS-1000 models | Silver plated    | <br>(Flat type)      | 3.1 mm | 0.98 N {100 gf}      | Black         | B3FS-1000 | 100                  | B3FS-1000P      | 3,000                |
|                  |                  |   |        | 1.47 N {150 gf}      | Ivory         | B3FS-1002 |                      | B3FS-1002P      |                      |
|                  |                  |   |        | 2.55 N {260 gf}      | Blue          | B3FS-1005 |                      | B3FS-1005P      |                      |
|                  |                  | <br>(Flat type)      | 4.3 mm | 0.98 N {100 gf}      | Black         | B3FS-1010 |                      | B3FS-1010P      | 1,000                |
|                  |                  |   |        | 1.47 N {150 gf}      | Ivory         | B3FS-1012 |                      | B3FS-1012P      |                      |
|                  |                  |   |        | 2.55 N {260 gf}      | Blue          | B3FS-1015 |                      | B3FS-1015P      |                      |
|                  |                  | <br>(Projected type) | 7.3 mm | 0.98 N {100 gf}      | Black         | B3FS-1050 |                      | B3FS-1050P      |                      |
|                  |                  |   |        | 1.47 N {150 gf}      | Yellow        | B3FS-1052 |                      | B3FS-1052P      |                      |
|                  |                  |   |        |                      |               |           |                      |                 |                      |

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

## ■ 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°C to +70°C at 60%RH max. (with no icing or condensation)   |
| Ambient operating humidity                | 35% to 85% (at +5 to +35°C)  |
| Contact form                              | SPST-NO  |
| Contact resistance (initial value)        | 100 m $\Omega$ max.  |
| Insulation resistance                     | 100 M $\Omega$ min. (at 100 VDC with insulation tester)  |
| 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> {approx. 100G} max.<br>Malfunction: 100 m/s <sup>2</sup> {approx. 10G} max.  |
| Durability                                | Standard models (OF: 0.98 N {100 gf}): 1,000,000 operations min.<br>High-force models (OF: 1.47 N {150 gf}): 300,000 operations min.<br>High-force models (OF: 2.55 N {260 gf}): 100,000 operations min. |
| Weight                                    | Approx. 0.2 g  |
| Degree of protection                      | IEC IP00   |
| Washing                                   | Not possible   |

## ■ Operating Characteristics

### 6 × 6 mm Models

| Item                 | Type                 | B3FS-1000                                 |                            |                            |
|----------------------|----------------------|---|----------------------------|----------------------------|
|                      | Operating force (OF) | 0.98 N                                    | 1.47 N                     | 2.55 N                     |
|                      | Model                | B3FS-10□0□                                | B3FS-10□2□                 | B3FS-10□5□                 |
| Operating force (OF) |                      | 0.98±0.29 N<br>{100±30 gf}                | 1.47±0.49 N<br>{150±50 gf} | 2.55±0.69 N<br>{260±70 gf} |
| Releasing force (RF) |                      | 0.2 N {20 gf} min.                        | 0.49 N {50 gf} min.        | 0.49 N {50 gf} min.        |
| Pretravel (PT)       |                      | 0.25 <sup>+0.2</sup> / <sub>-0.1</sub> mm |                            |                            |

## ■ Dimensions (Unit: mm)

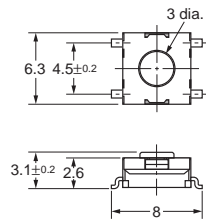
**Note:** The numbers used for terminals in the following graphics are indicated in the "Bottom View" diagram below. In this diagram, the Switch is rotated so that the terminals are on the right and left-hand sides, and the OMRON logo appears the right way up.



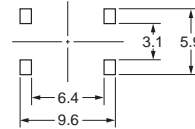
### 6 6 mm Models

#### Flat Type

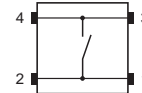
B3FS-1000  
B3FS-1002  
B3FS-1005  
B3FS-1000P  
B3FS-1002P  
B3FS-1005P



#### PCB Pad (Top View) (PCB t= 1.6)

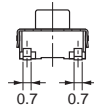
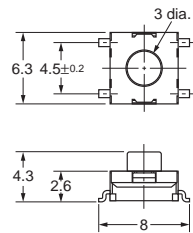


#### Terminal Arrangement/ Internal Connection (Top View)

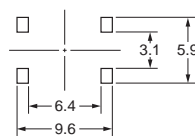


#### Flat Type

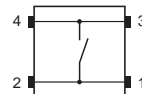
B3FS-1010  
B3FS-1012  
B3FS-1015  
B3FS-1010P  
B3FS-1012P  
B3FS-1015P



#### PCB Pad (Top View) (PCB t= 1.6)

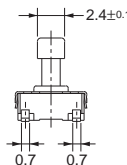
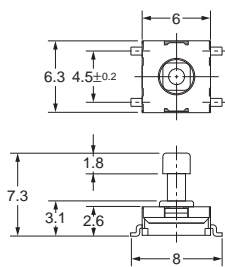
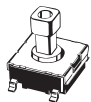


#### Terminal Arrangement/ Internal Connection (Top View)

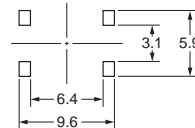


#### Projected Type

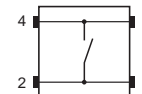
B3FS-1050  
B3FS-1052  
B3FS-1050P  
B3FS-1052P



#### PCB Pad (Top View) (PCB t= 1.6)



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



**Note:** Unless otherwise specified, a tolerance of  $\pm 0.4$  mm applies to all dimensions. No terminal numbers are indicated on the Switches.

## ■ 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.

- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

**Note: Do not use this document to operate the Unit.**

**OMRON Corporation**

Electronic and Mechanical Components Company

Contact: [www.omron.com/ecb](http://www.omron.com/ecb)

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