## 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



## Ordering Information

- List of Models

| Type | Plunger type | Height | Operating force (OF) | Plunger color | Bag |  | Embossed taping |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Model |  | Model | $\begin{gathered} \text { Quantity } \\ \text { per } \\ \text { package } \end{gathered}$ |
| $\begin{array}{\|l\|} \hline 6 \times 6 \mathrm{~mm} \\ \text { B3FS-1000 } \\ \text { models } \end{array}$ |  | 3.1 mm | 0.98 N \{100 gft | 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 |  |
|  |  | 4.3 mm | 0.98 N \{100 gft | 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 |  |
|  |  | 7.3 mm | $0.98 \mathrm{~N}\{100 \mathrm{gf}\}$ | 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.

## Specifications

## ■ Ratings/Characteristics

| Switching capacity | 1 to $50 \mathrm{~mA}, 5$ to 24 VDC (resistive load) |
| :--- | :--- |
| Ambient operating temperature | $-25^{\circ} \mathrm{C}$ to $+70^{\circ} \mathrm{C}$ at $60 \% \mathrm{RH}$ max. (with no icing or condensation) |
| Ambient operating humidity | $35 \%$ to $85 \%$ (at +5 to $+35^{\circ} \mathrm{C}$ ) |
| Contact configuration | SPST-NO |
| Contact resistance | $100 \mathrm{~m} \Omega$ max. (initial value) (rated: $1 \mathrm{~mA}, 5 \mathrm{VDC}$ ) |
| Insulation resistance | $100 \mathrm{M} \Omega$ min. (at 100 VDC ) |
| Dielectric strength | $250 \mathrm{VAC}, 50 / 60 \mathrm{~Hz}$ for 1 min |
| Bounce time | 5 ms max. |
| Vibration resistance | Malfunction: 10 to $55 \mathrm{~Hz}, 1.5-\mathrm{mm}$ double amplitude |
| Shock resistance | Destruction: $1,000 \mathrm{~m} / \mathrm{s}^{2}\{$ approx. 100 G$\}$ max. <br> Malfunction: $100 \mathrm{~m} / \mathrm{s}^{2}\{$ approx. 10 G$\}$ max.. |
| Durability | Standard models $(0.98 \mathrm{~N}\{100 \mathrm{gf}\}): 1,000,000$ operations min. <br> High-force models $(1.47 \mathrm{~N}\{150 \mathrm{gf}\}): 300,000$ operations min. <br> High-force models (2.55 $\mathrm{N}\{260 \mathrm{gf}\}): 100,000$ operations min. |
| Weight | B3FS-1000: Approx. 0.2 g |

## ■ Operating Characteristics

| Item | B3FS-1000 |  |  |
| :---: | :---: | :---: | :---: |
|  | 0.98 N | 1.47 N | 2.55 N |
| Operating force (OF) | $\begin{aligned} & 0.98 \pm 0.29 \mathrm{~N} \\ & \{100 \pm 30 \mathrm{gf}\} \end{aligned}$ | $\begin{aligned} & 1.47 \pm 0.49 \mathrm{~N} \\ & \{150 \pm 50 \mathrm{gf}\} \end{aligned}$ | $\begin{aligned} & 2.55 \pm 0.69 \mathrm{~N} \\ & \{260 \pm 70 \mathrm{gf}\} \end{aligned}$ |
| Releasing force (RF) | $0.2 \mathrm{~N}\{20 \mathrm{gf}\} \mathrm{min}$. | $0.49 \mathrm{~N}\{50 \mathrm{gf}\} \mathrm{min}$. | $0.49 \mathrm{~N}\{50 \mathrm{gf}\} \mathrm{min}$. |
| Pretravel (PT) | $0.25{ }^{+0.2}{ }_{-0.1} \mathrm{~mm}$ |  |  |

## Dimensions

Note: 1. All units are in millimeters unless otherwise indicated. Unless otherwise specified, a tolerance of $\pm 0.4 \mathrm{~mm}$ applies to all dimensions.
2. 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.

## Flat Type

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



## PCB Pad

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


PCB Pad
(Top View)
(One-side PCB $\mathrm{t}=1.6$ )


Terminal Arrangement/ Internal Connection (Top View)


Terminal Arrangement/ Internal Connection (Top View)


Terminal Arrangement/ Internal Connection (Top View)


## Key Tops

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

## Precautions

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

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

