

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.

RoHS Compliant



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 μA 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 mΩ max.
Insulation resistance	100 MΩ (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 ² {approx. 100 G} max. Malfunction: 100 m/s ² {approx. 10 G} max.
Durability	3,000,000 operations min. (OF: 1.47 N {150 gf}) 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

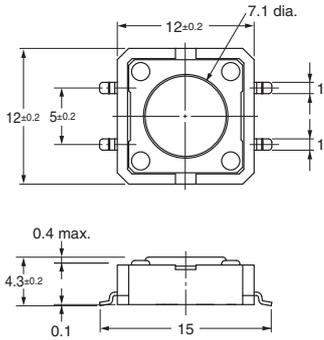
Note: 1. All units are in millimeters unless otherwise indicated. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.

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.

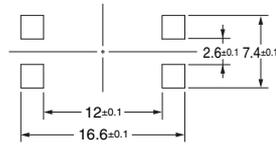


● Flat type

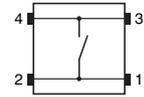
B3FS-4002P
B3FS-4005P



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

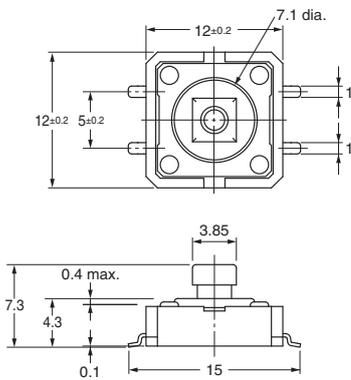


Terminal Arrangement/
Internal Connection
(Top View)

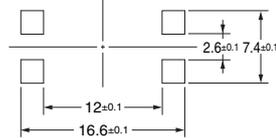


● Projected type

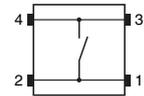
B3FS-4052P
B3FS-4055P



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.

- 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.