





Miniature, Space-Saving Tactile Switch Provides Long Service Life and Easy Mounting

- Extended mechanical/electrical service life:
10 x 10⁶ operations for 12 x 12 mm type and
1 x 10⁶ operations for the 6 x 6 mm type
- Ideal for applications such as audio, office and communications equipment, measuring instruments, TVs, VCRs, etc.
- Taped radial type, vertical type, high force type, and gold-plated contact type are available as series versions
- Flux-tight base structure allows automatic soldering of the tactile switches onto a PC board



Ordering Information

- **B3F-1□□□, B3F-3□□□**
6 x 6 mm type







Type	Plunger	Switch height x pitch	Operating Force	Part number			
				Without ground terminal		With ground terminal	
				Bags	Sticks*	Bags	Sticks*
Standard	Flat 	4.3 x 6.5 mm	General-purpose: 100 g	B3F-1000	B3F-1000S	B3F-1100	B3F-1100S
			150 g	B3F-1002	B3F-1002S	B3F-1102	B3F-1102S
			High-force: 260 g	B3F-1005	B3F-1005S	B3F-1105	B3F-1105S
		5.0 x 6.5 mm	General-purpose: 100 g	B3F-1020	B3F-1020S	B3F-1120	B3F-1120S
			150 g	B3F-1022	B3F-1022S	B3F-1122	B3F-1122S
			High-force: 260 g	B3F-1025	B3F-1025S	B3F-1125	B3F-1125S
	5.0 x 7.5 mm	General-purpose: 100 g	—	—	B3F-1110	—	
	Projected 	7.3 x 6.5 mm	General-purpose: 100 g	B3F-1050	B3F-1050S	B3F-1150	B3F-1150S
			150 g	B3F-1052	B3F-1052S	B3F-1152	B3F-1152S
High-force: 260 g			B3F-1055	B3F-1055S	B3F-1155	B3F-1155S	
Vertical	Flat 	3.15 mm	General-purpose: 100 g	—	—	B3F-3100	—
			150 g	—	—	B3F-3102	—
			High-force: 260 g	—	—	B3F-3105	—
		3.85 mm	General-purpose: 100 g	—	—	B3F-3120	—
			150 g	—	—	B3F-3122	—
			High-force: 260 g	—	—	B3F-3125	—
	Projected 	6.15 mm	General-purpose: 100 g	—	—	B3F-3150	—
			150 g	—	—	B3F-3152	—
			High-force: 260 g	—	—	B3F-3155	—

* Number of switches per stick: Without ground terminal 90/stick
With ground terminal 75/stick

Important note: Switches cannot be water-washed.

■ B3F-4□□□, B3F-5□□□

12 x 12 mm type

Type	Plunger	Switch height x pitch	Operating Force	Part number			
				Without ground terminal		With ground terminal	
				Bags	Sticks*	Bags	Sticks*
Standard	Flat 	4.3 x 12.5 mm	General-purpose: 130 g	B3F-4000	B3F-4000S	B3F-4100	B3F-4100S
			High-force: 260 g	B3F-4005	B3F-4005S	B3F-4105	B3F-4105S
	Projected 	7.3 x 12.5 mm	General-purpose: 130 g	B3F-4050	B3F-4050S	B3F-4150	B3F-4150S
			High-force: 260 g	B3F-4055	B3F-4055S	B3F-4155	B3F-4155S
Long service life	Flat 	4.3 x 12.5 mm	General-purpose: 130 g	B3F-5000	B3F-5000S	B3F-5100	B3F-5100S
			General-purpose: 130 g	B3F-5001	B3F-5001S	B3F-5101	B3F-5101S
	Projected 	7.3 x 12.5 mm	General-purpose: 130 g	B3F-5050	B3F-5050S	B3F-5150	B3F-5150S
			General-purpose: 130 g	B3F-5051	B3F-5051S	B3F-5151	B3F-5151S
High reliability gold-plated contact	Flat 	4.3 x 12.5 mm	General-purpose: 130 g	B3F-5001	B3F-5001S	B3F-5101	B3F-5101S
	Projected 	7.3 x 12.5 mm	General-purpose: 130 g	B3F-5051	B3F-5051S	B3F-5151	B3F-5151S



* Number of switches per stick: Without ground terminal 45/stick
With ground terminal 40/stick

Important note: Switches cannot be water-washed.

■ B3F-6□□□

Taped Radial (Auto Insertion)

6 x 6 mm type

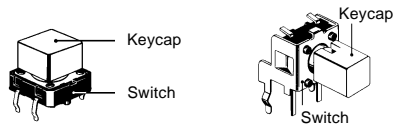
Type	Plunger	Switch height x pitch	Operating Force	Part number	
				Without ground terminal	With ground terminal
B3F-6000	Flat 	4.3 x 6.5 mm	General-purpose: 100 g	B3F-6000	B3F-6100
			High-force: 150 g	B3F-6002	B3F-6102
		5.0 x 6.5 mm	General-purpose: 100 g	B3F-6020	B3F-6120
			High-force: 150 g	B3F-6022	B3F-6122
	Projected 	7.3 x 6.5 mm	General-purpose: 100 g	B3F-6050	B3F-6150
			High-force: 150 g	B3F-6052	B3F-6152

Note: The above switches must be ordered in units of 1,000.

Important note: Switches cannot be water-washed.

■ ACCESSORIES

Keycaps



Keycap color	Applicable type: Size:	Part number		
		6 x 6 mm	12 x 12 mm	
Light gray	4 x 4 mm	B32-1000	B32-1200	B32-1300
Black		B32-1010	B32-1210	B32-1310
Orange		B32-1020	B32-1220	B32-1320
Yellow		B32-1030	B32-1230	B32-1330
Blue		B32-1040	B32-1240	B32-1340
Green		B32-1050	B32-1250	B32-1350
White		B32-1060	B32-1260	B32-1360
Light green		B32-1070	B32-1270	B32-1370
Red		B32-1080	B32-1280	B32-1380

Note: Keycaps are available in different sizes and colors for exclusive use of the 6 x 6 mm and 12 x 12 mm projected plunger versions of Model B3F.

■ PLUNGER IDENTIFICATION TABLE

Use this table to determine tactile switch type by plunger color.

Plunger color	Operating force	Type
Light gray	100 g	B3F-1000, 1150, 3100, 6000, 6050
White	100 g	B3F-1050, 1100, 3150, 4000, 4050, 4100
Black	100 g	B3F-1020, 1110, 1120, 3120, 6020, 6120
Blue	130 g	B3F-5000 Series
Yellow	150 g	B3F-1002, 1052, 1102, 3102, 3152, 4005, 4055, 4105, 4155, 6002, 6052
Medium gray	150 g	B3F-1022, 1122, 3122, 6022
Orange	260 g	B3F-1005, 1055, 1105, 3105, 6005, 6055
Pink	260 g	B3F-1025, 1125, 3125, 6025

Specifications

■ CHARACTERISTICS

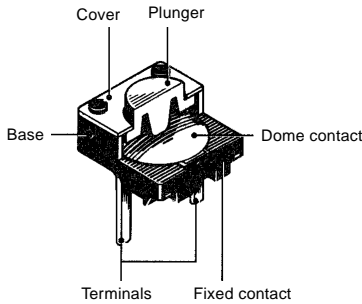
	Part number			
	B3F-1□□□ B3F-3□□□	B3F-4□□□	B3F-5□□□	B3F-6□□□
Service life (see note 1) [mechanical/electrical]	1,000,000 operations minimum	3,000,000 operations minimum	10,000,000 operations minimum	1,000,000 (300,000) operations min.
Weight (see note 2)	Approx. 0.25 g	Approx. 0.85 g		Approx. 0.25 g
Contact form	SPST-NO			
Switching capacity	50 mA 24 VDC (resistive load)			5-24 VDC, 1-50 mA
Permissible load	1 mA 5 VDC min. (resistive load)			—
Contact resistance	100 MΩ max.			
Insulation resistance	100 MΩ min. (at 250 VDC)			
Dielectric strength	500 VAC, 50/60 Hz for 1 minute			
Bounce time	5 ms max.			
Vibration	Malfunction durability: 10 to 55 Hz, 1.5 mm double amplitude			
Shock	Mechanical durability: 1,000 m/s ² (approx. 100 G) Malfunction durability: 100 m/s ² (approx. 10 G)			
Ambient temperature	-25° to 70°C (with no icing)			
Humidity	35% to 85% RH			

Note: 1. Figure in parentheses denotes the service life of high force type.
2. Denotes the weight of standard type.
3. Data shown are of initial value.

OPERATING CHARACTERISTICS

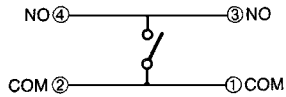
Characteristics	Part number					
	B3F-1□□□ / -3□□□		B3F-4□□□ / -5□□□		B3F-6□□□	
	General purpose type	High force type	General purpose type	High force type	General purpose type	High force type
Operating force (OF)	100 ± 30 g	150 ± 50 g	130 ± 50 g	260 ± 70 g	100 ± 30 g	150 ± 50 g
Release force (RF) min.	20 g	50 g	30 g	50 g	20 g	50 g
Pretravel (PT) max.	0.25 ^{+0.2} / _{-0.1} mm	0.25 ^{+0.2} / _{-0.1} mm	0.3 ^{+0.2} / _{-0.1} mm	0.3 ^{+0.2} / _{-0.1} mm	0.25 ^{+0.2} / _{-0.1} mm	0.25 ^{+0.2} / _{-0.1} mm

CONSTRUCTION

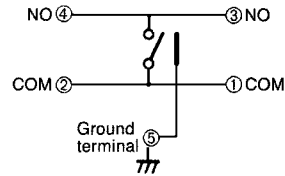


CONTACT FORM

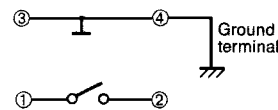
B3F-10□□
-40□□
-50□□



B3F-11□□
-41□□
-51□□



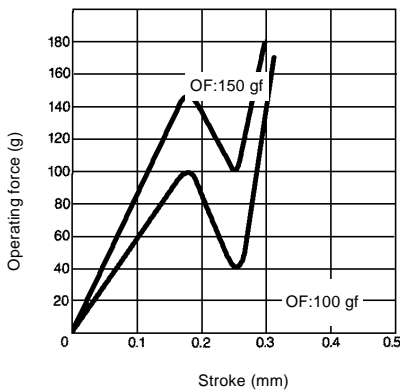
B3F-3□□□



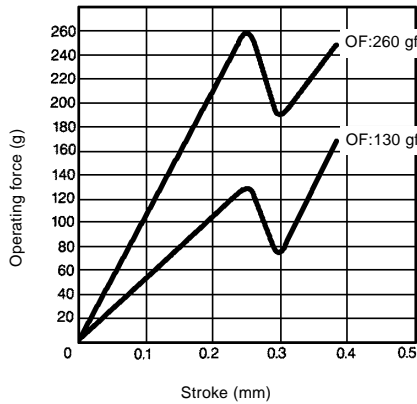
Engineering Data

OPERATING FORCE VS STROKE (TYPICAL EXAMPLE)

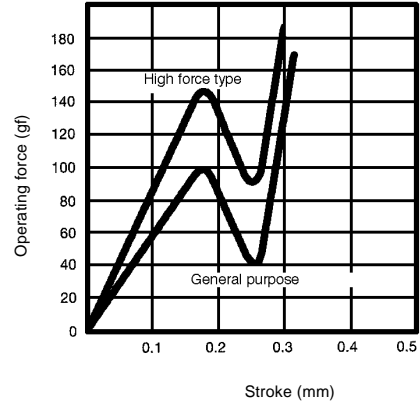
B3F-1□□□ / -3□□□



B3F-4□□□ / -5□□□



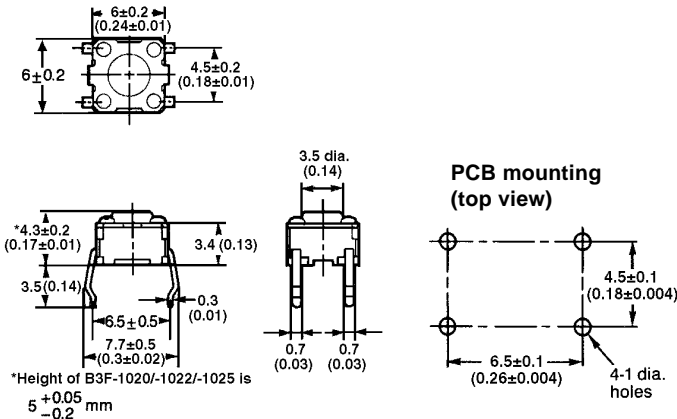
B3F-6□□□



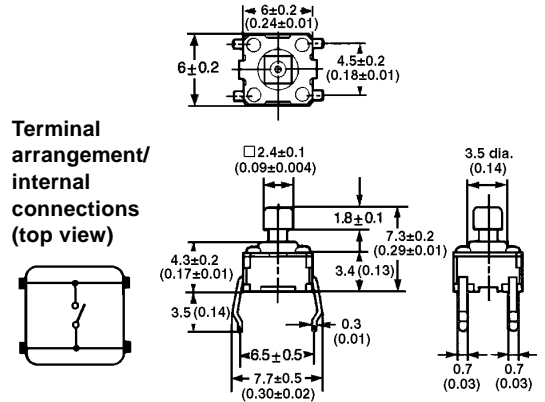
Dimensions

Unit: mm (inch)

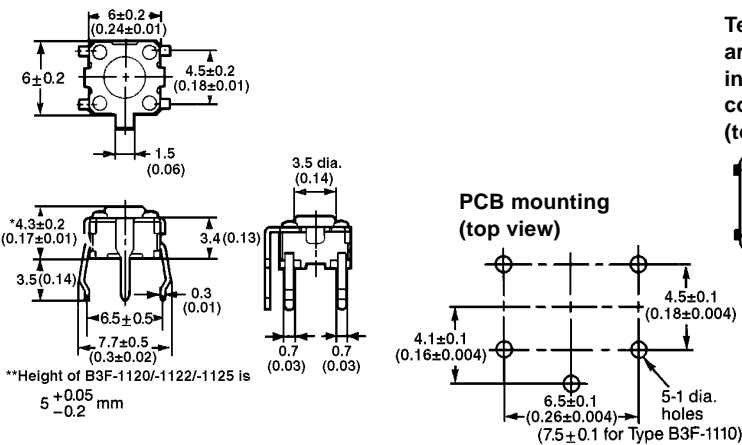
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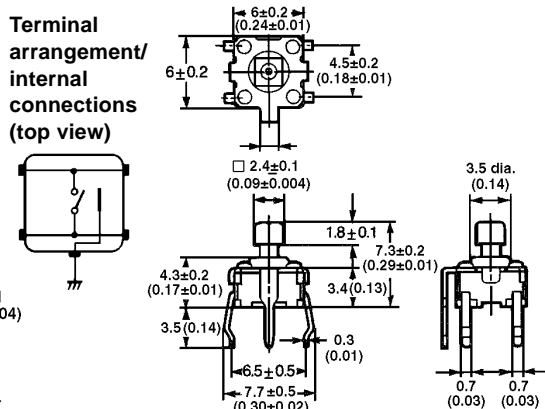
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■ B3F-1100/-1102/-1105/-1120**/-1122**/-1125**



■ B3F-1150/-1152/-1155

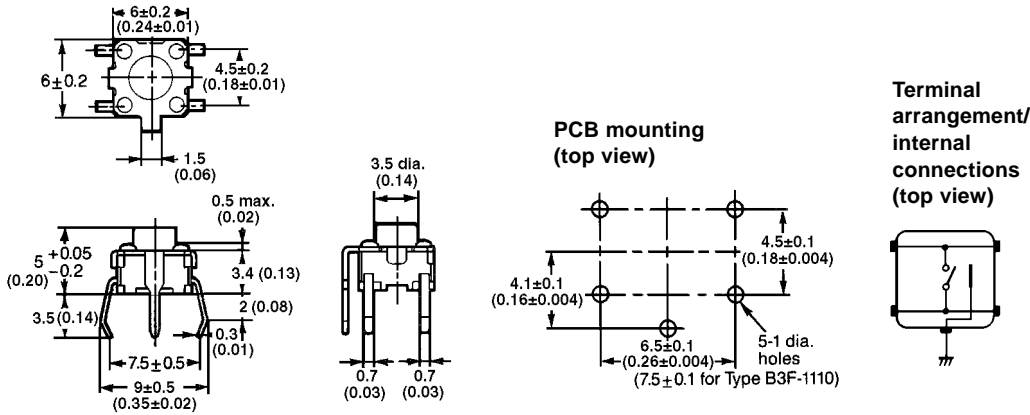


Note: Terminal numbers are not indicated on this switch. With the switch turned over so that the logo mark "OMRON" is visible on the upper part of the rear side of the switch base, the terminal on the right of the logo mark is numbered "1" and that on the bottom right is "3." Accordingly, two terminals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

Note: Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.

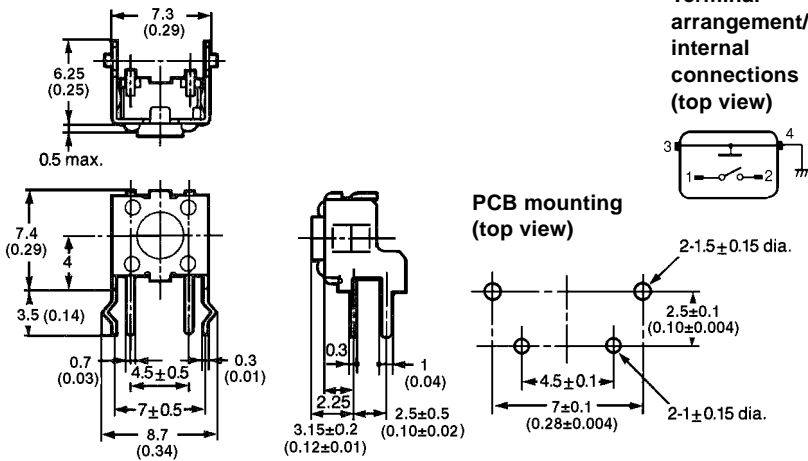
Unit: mm (inch)

■ B3F-1110

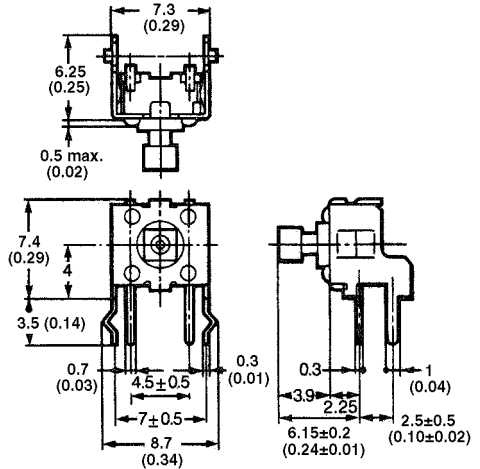


Note: Terminal numbers are not indicated on this switch. With the switch turned over so that the logo mark "OMRON" is visible on the upper part of the rear side of the switch base, the terminal on the right of the logo mark is numbered "1" and that on the bottom right is "3." Accordingly, two terminals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

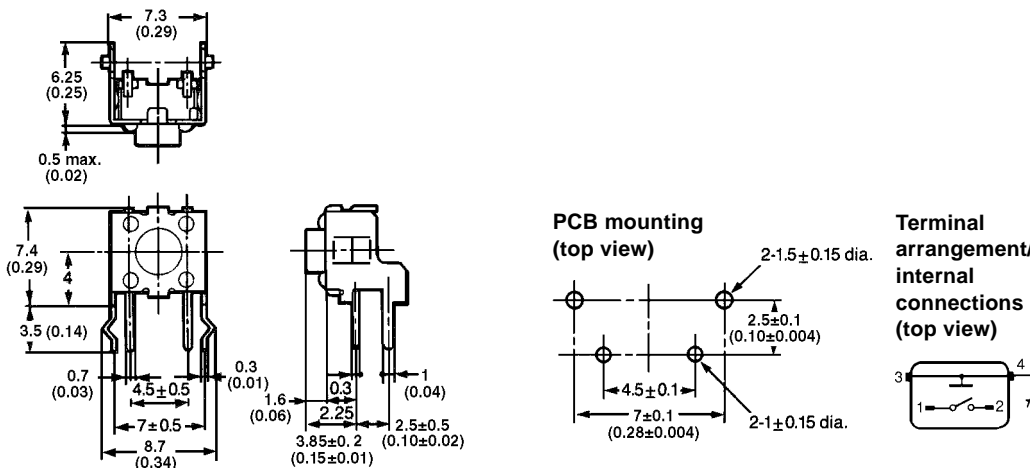
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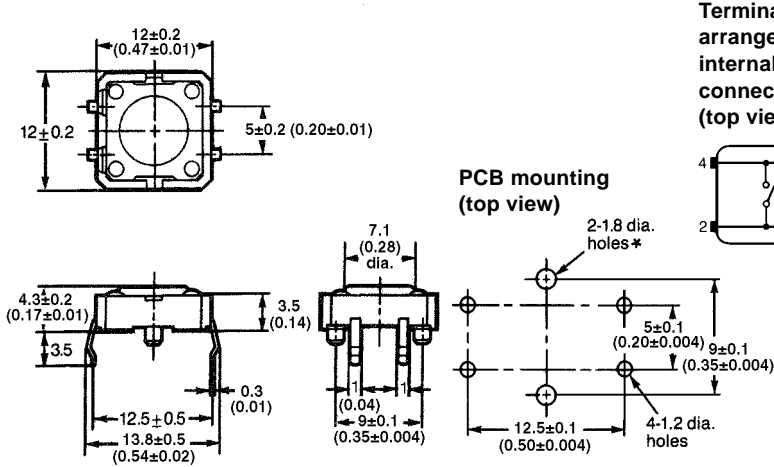
■ B3F-3150/-3152/-3155



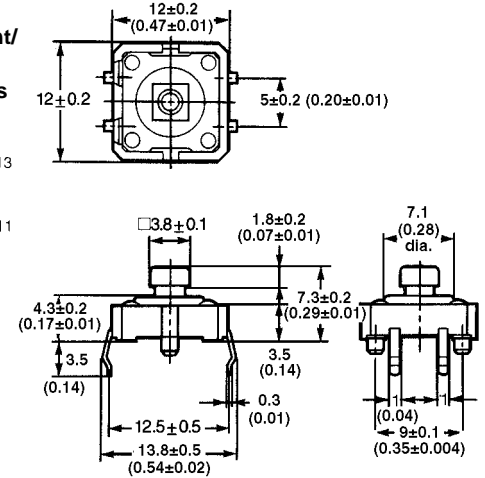
■ B3F-3120/-3122/-3125



■ B3F-4000/-5000/-4005/-5001

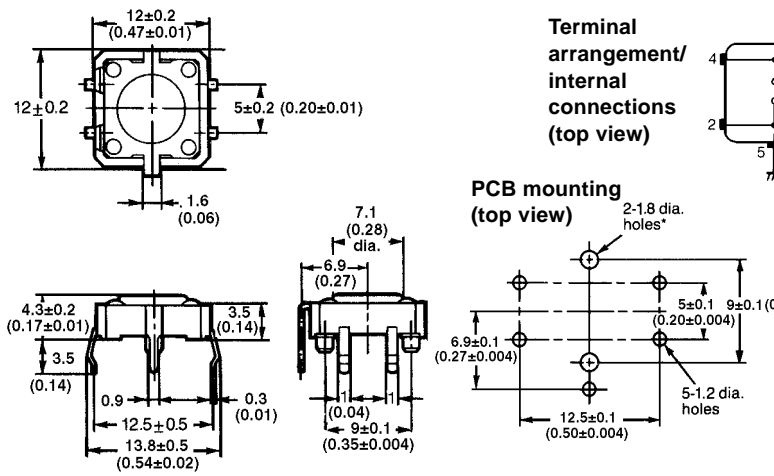


■ B3F-4050/-5050/-4055/-5051

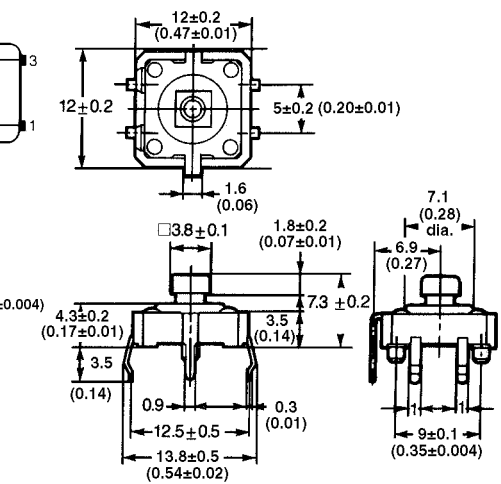


* Fit the projection of the switch into this hole to secure the switch.

■ B3F-4101/-5100/-4105/-5101

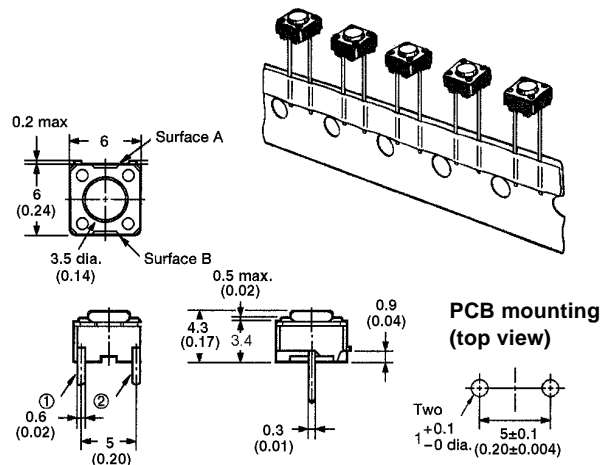


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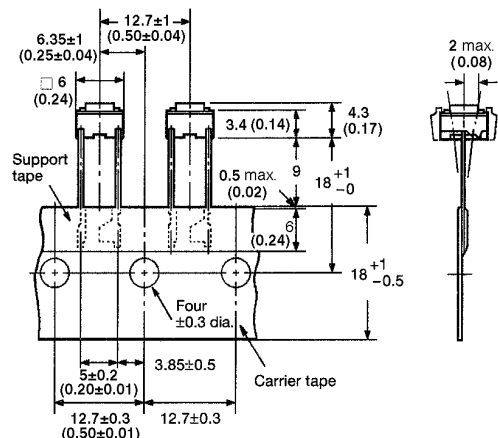


* Fit the projection of the switch into this hole to secure the switch.

■ B3F-6000/-6002



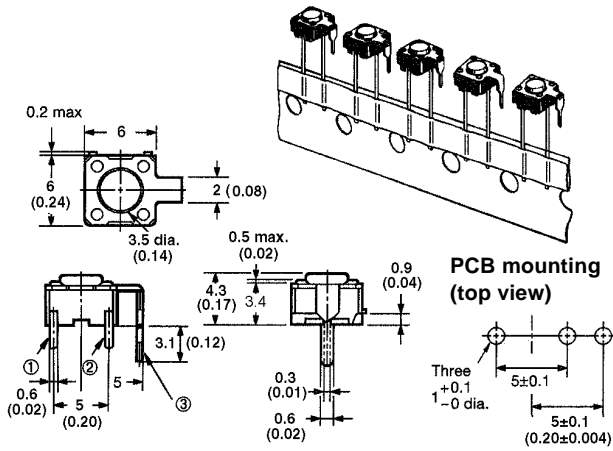
■ TAPE-PACKAGING DIMENSIONS



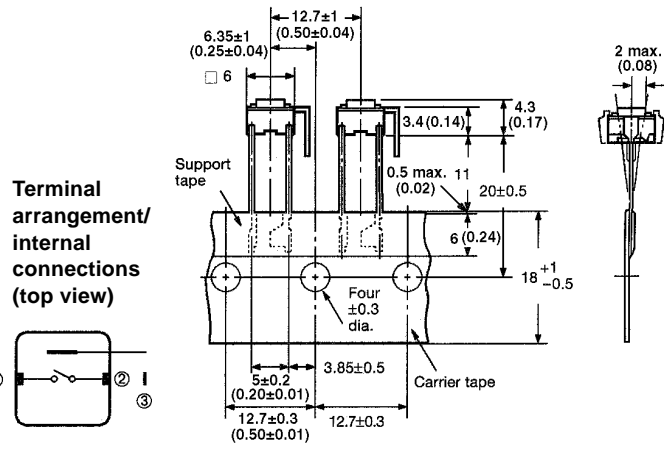
Note: The tape is random between surface A and surface B.

Unit: mm (inch)

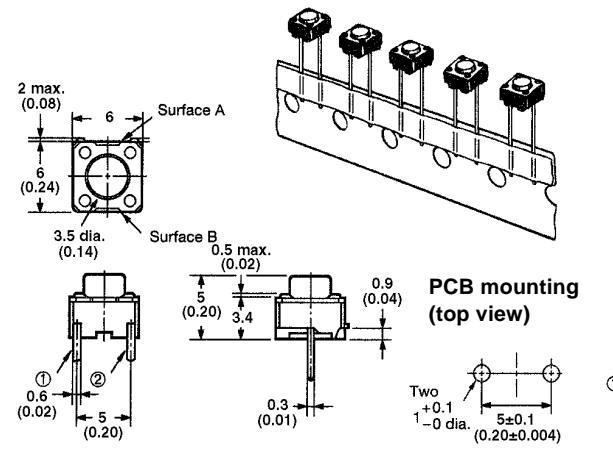
■ B3F-6100/-6102



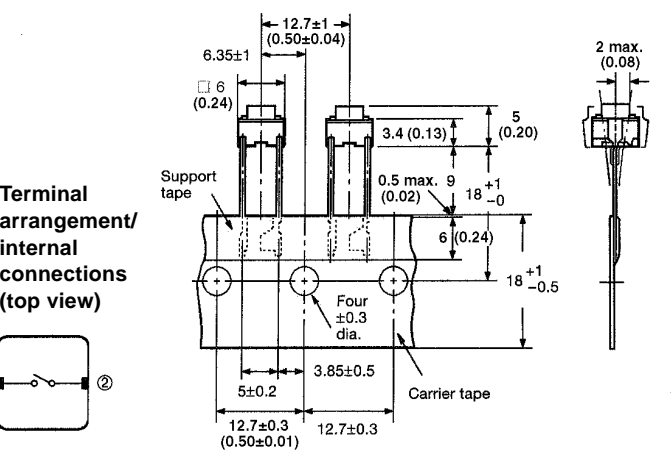
■ TAPE-PACKAGING DIMENSIONS



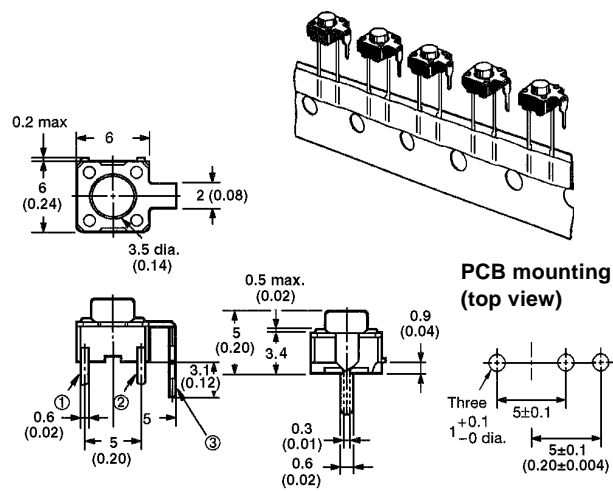
■ B3F-6020/-6022



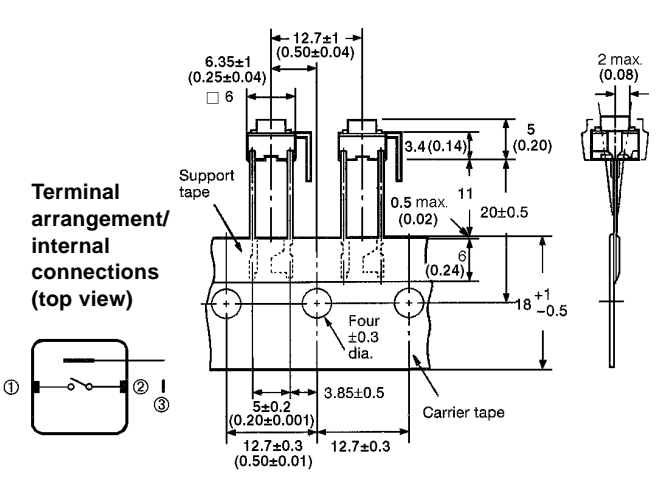
■ TAPE-PACKAGING DIMENSIONS



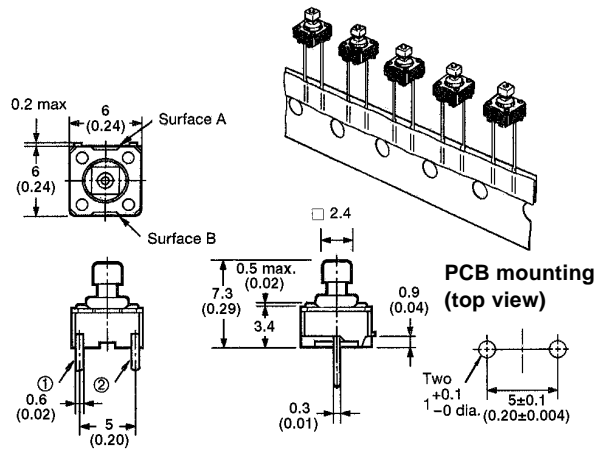
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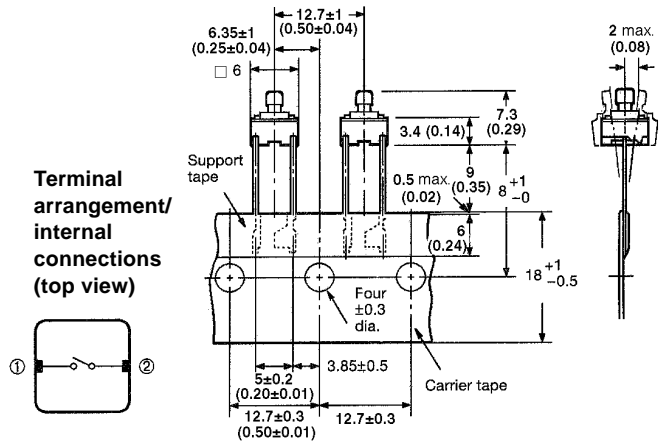
■ TAPE-PACKAGING DIMENSIONS



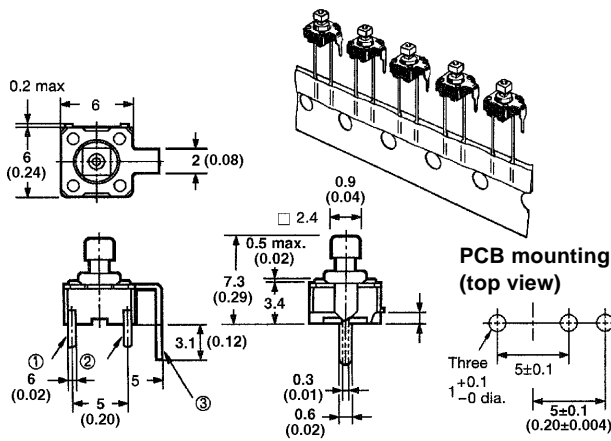
■ B3F-6050/-6052



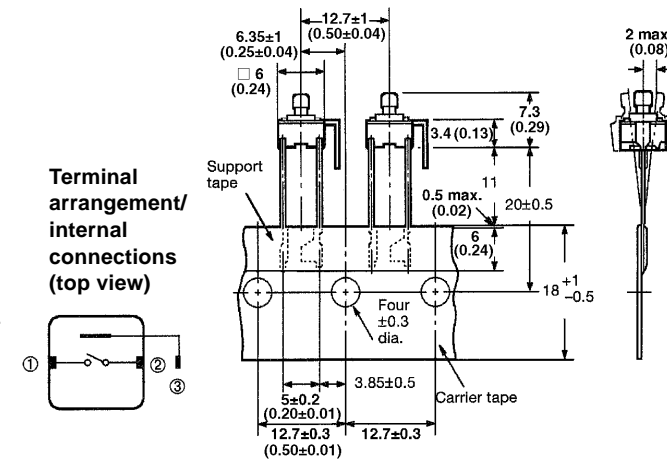
■ TAPE-PACKAGING DIMENSIONS



■ B3F-6150/-6152

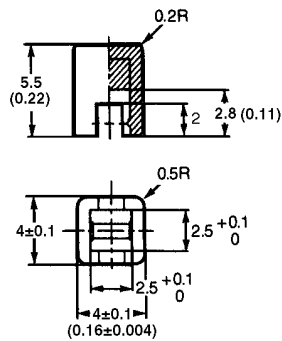


■ TAPE-PACKAGING DIMENSIONS

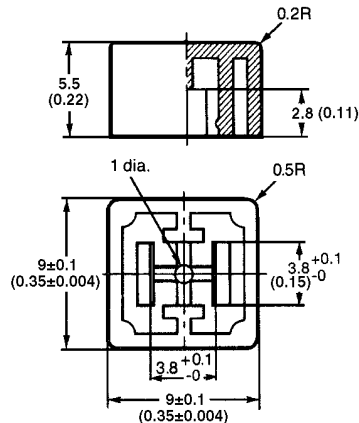


■ KEYCAPS

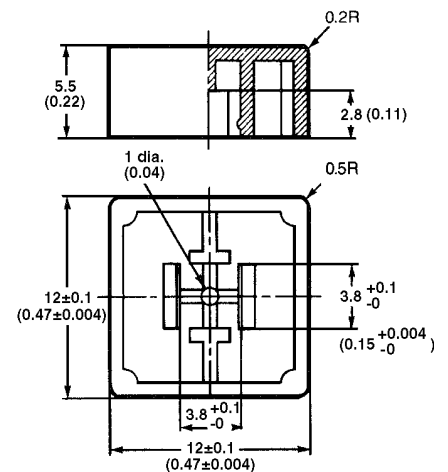
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B32-12□0



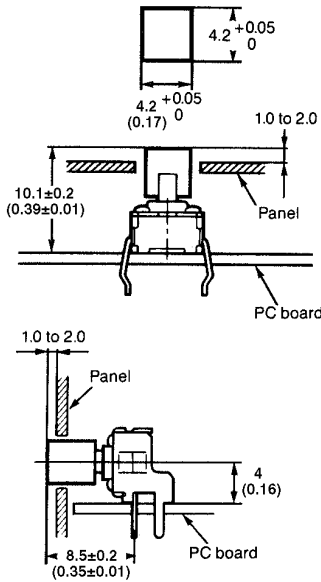
B32-13□0



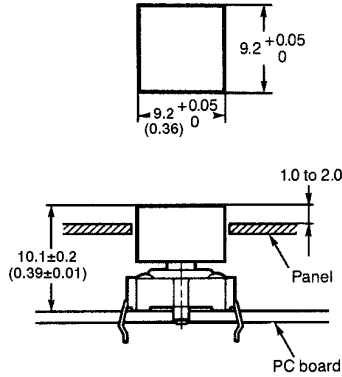
Unit: mm (inch)

■ PANEL CUTOUTS

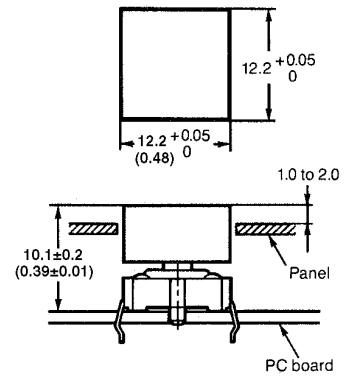
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B32-12□0



B32-13□0

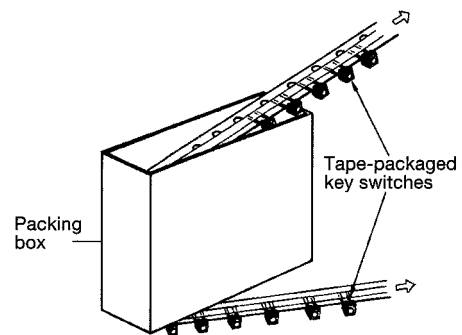
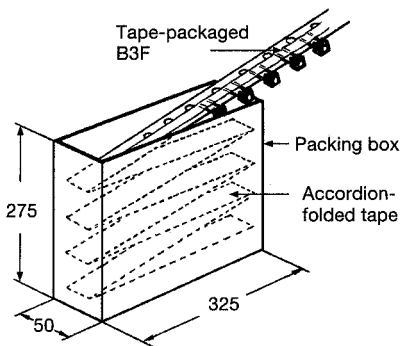


- Note: 1. Unless otherwise specified, a tolerance of ± 0.2 mm applies to all dimensions.
 2. Keycaps are available in different sizes and colors for exclusive use of the 6 x 6 mm and 12 x 12 mm projected plunger versions of model B3F.

Hints on Correct Use

■ TAPED RADIAL (AUTO INSERTION) PACKAGING

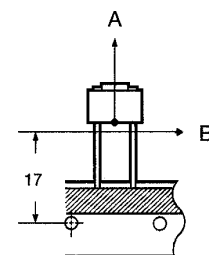
- Tactile switches packed on tape are placed into packing boxes as shown below.
- Number of switches per box: 1,000
- Tape may be drawn from the box either from the top or from the bottom.



■ TAPING STRENGTH

The tactile switches will not release from the tape when pulled in directions A and B at the following forces.

- A: 500 g
- B: 100 g



NOTE: DIMENSIONS ARE SHOWN IN MILLIMETERS. To convert millimeters to inches divide by 25.4.

OMRON**OMRON ELECTRONICS LLC.**

One East Commerce Drive
Schaumburg, IL 60173
1-800-55-OMRON

OMRON ON-LINE

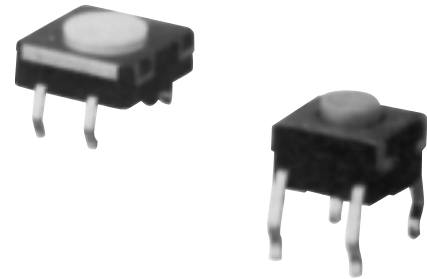
Global - <http://www.omron.com>
USA - <http://www.omron.com/oei>
Canada - <http://www.omron.com/oci>

OMRON CANADA, INC.

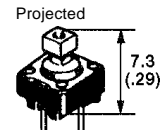
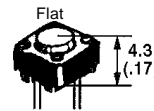
885 Milner Avenue
Scarborough, Ontario M1B 5V8
416-286-6465

Mechanical Keyswitch with Sealed Construction for Automatic Soldering

- Available in two sizes:
6 mm square and 12 mm square
- Snap-action contact mechanism assures short key stroking and a sharp click to confirm input
- Ground terminal available to protect against static electricity
- Ideal for applications such as audio, office and communications equipment, measuring instruments, industrial robots, VCRs, TVs, and vending machines
- Stick (magazine) packaging style available: contact OMRON for details
- Sealed for CFC (Freon) cleaning



Ordering Information



Type	Plunger	Switch height x pitch	Operating Force	Part Number			
				Without ground terminal		With ground terminal	
				Bags	Sticks*	Bags	Sticks*
SPST-NO	Flat	6 x 6 mm	General-purpose: 160 g	B3W-1000	B3W-1000S	B3W-1100	B3W-1100S
			High-force: 230 g	B3W-1002	B3W-1002S	B3W-1102	B3W-1102S
	Projected	6 x 6 mm	General-purpose: 160 g	B3W-1050	B3W-1050S	B3W-1150	B3W-1150S
			High-force: 230 g	B3W-1052	B3W-1052S	B3W-1152	B3W-1152S
	Flat	12 x 12 mm	General-purpose: 200 g	B3W-4000	B3W-4000S	B3W-4100	B3W-4100S
			High-force: 350 g	B3W-4005	B3W-4005S	B3W-4105	B3W-4105S
	Projected	12 x 12 mm	General-purpose: 200 g	B3W-4050	B3W-4050S	B3W-4150	B3W-4150S
			High-force: 350 g	B3W-4055	B3W-4055S	B3W-4155	B3W-4155S

* Number of switches per stick: **6 x 6 mm** Without ground terminal ... 80/stick
 With ground terminal 75/stick
12 x 12 mm Without ground terminal ... 45/stick
 With ground terminal 40/stick

Note: Switches cannot be water-washed.

■ ACCESSORIES

Keycaps

Keycap color	Applicable type: Size:	Part Number		
		6 x 6 mm	12 x 12 mm	
Light gray	4 x 4 mm	B32-1000	B32-1200	B32-1300
Black		B32-1010	B32-1210	B32-1310
Orange		B32-1020	B32-1220	B32-1320
Yellow		B32-1030	B32-1230	B32-1330
Blue		B32-1040	B32-1240	B32-1340
Green		B32-1050	B32-1250	B32-1350
White		B32-1060	B32-1260	B32-1360
Light green		B32-1070	B32-1270	B32-1370
Red		B32-1080	B32-1280	B32-1380

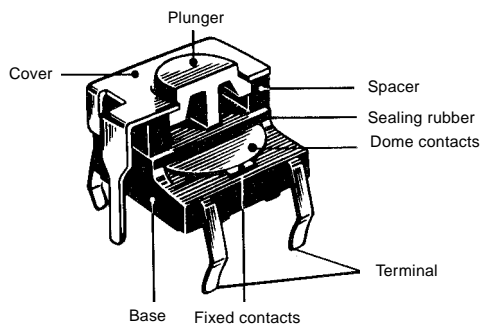
Note: Keycaps are available in different sizes and colors for exclusive use with the 6 x 6 mm and 12 x 12 mm projected plunger version of Model B3W.

Plunger Identification Table

Use this table to determine keyswitch type by plunger color.

Plunger color	Operating force	Type
White	160 g	B3W-1000, 1050, 1100, 1150
White	200 g	B3W-4000, 4050, 4100, 4150
Yellow	230 g	B3W-1002, 1052, 1102, 1152
Yellow	350 g	B3W-4005, 4055, 4105, 4155

■ CONSTRUCTION



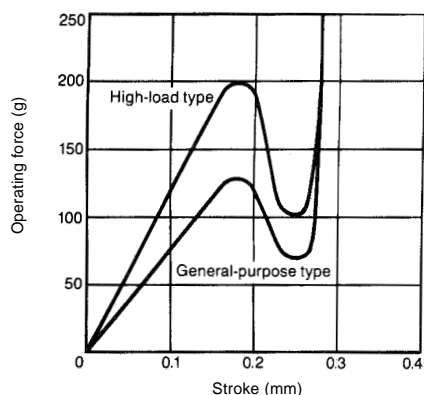
Characteristics

Switching capacity		50 mA 24 VDC (resistive load)	
Permissible load		1 mA 5 VDC min. (resistive load)	
Contact resistance		100 MΩ max.	
Insulation resistance		100 MΩ min. (at 250 VDC)	
Dielectric strength		500 VAC, 50/60 Hz for 1 minute	
Bounce time		5 ms max.	
Vibration	Malfunction durability	10 to 55 Hz, 1.5 mm double amplitude	
Shock	Mechanical durability	1,000 m/s ² (approx. 100 G)	
	Malfunction durability	100 m/s ² (approx. 10 G)	
Ambient temperature	Operating	-25° to 70°C	
Humidity		35% to 85% RH	
Service life [mechanical/electrical]		B3W-1□□□	B3W-4□□□
	General-purpose type	1,000,000 operations min.	3,000,000 operations min.
	High-load type	300,000 operations min.	1,000,000 operations min.
Weight		B3W-1□□□	B3W-4□□□
		Approx. 0.30 g	Approx. 1.00 g

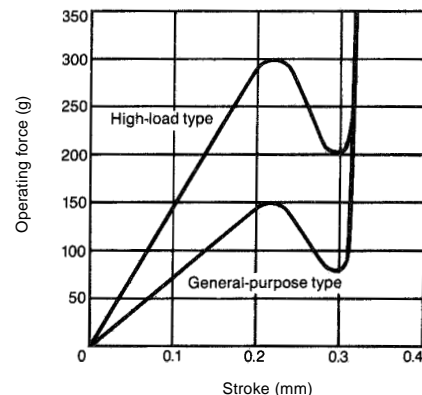
■ CHARACTERISTIC DATA

Opening force vs. stroke
(typical example)

B3W-1□□□ series



B3W-4□□□ series



■ OPERATING CHARACTERISTICS

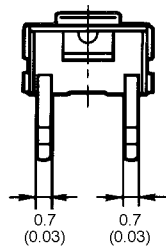
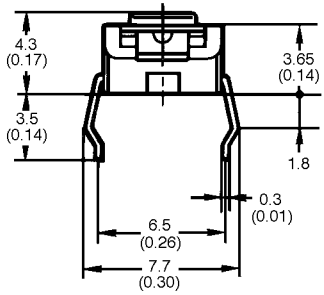
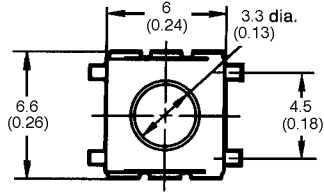
	B3W-1□□□		B3W-4□□□	
	General-purpose	High-force	General-purpose	High-force
Operating force (OF) max.	160 g	230 g	200 g	350 g
Release force (RF) min.	20 g	50 g	30 g	50 g
Pretravel (PT)	0.25 ^{+0.2} / _{-0.1} mm	0.25 ^{+0.2} / _{-0.1} mm	0.3 ^{+0.2} / _{-0.1} mm	0.3 ^{+0.2} / _{-0.1} mm

Dimensions

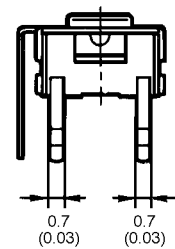
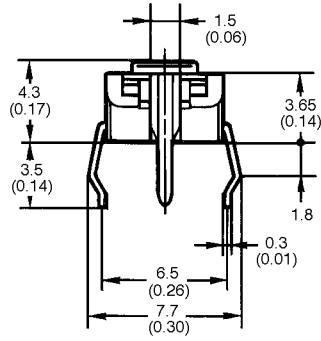
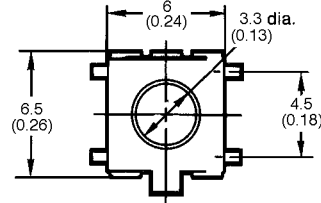
Unit: mm (inch)

■ 6 MM SQUARE TYPES

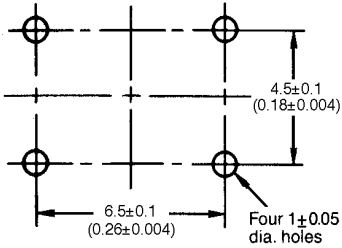
B3W-1000, B3W-1002



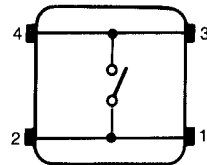
B3W-1100, B3W-1102



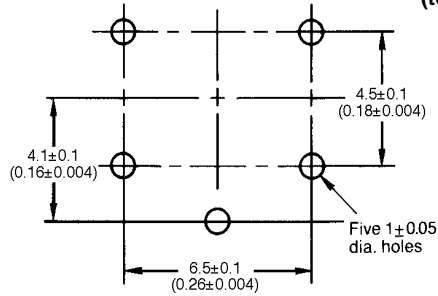
Mounting holes in PCB (top view)



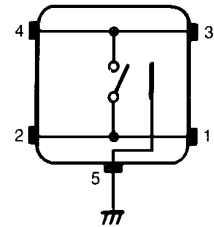
Terminal arrangement/Internal connection (top view)



Mounting holes in PCB (top view)



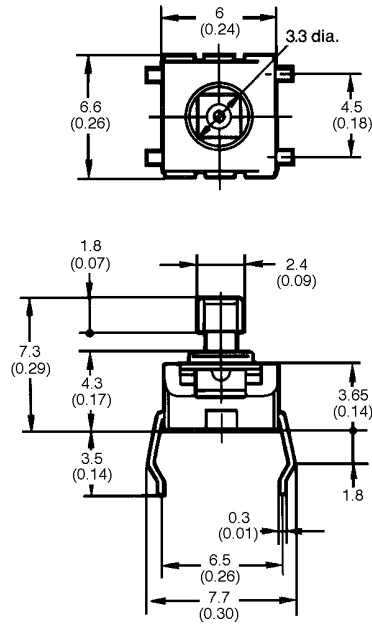
Terminal arrangement/Internal connection (top view)



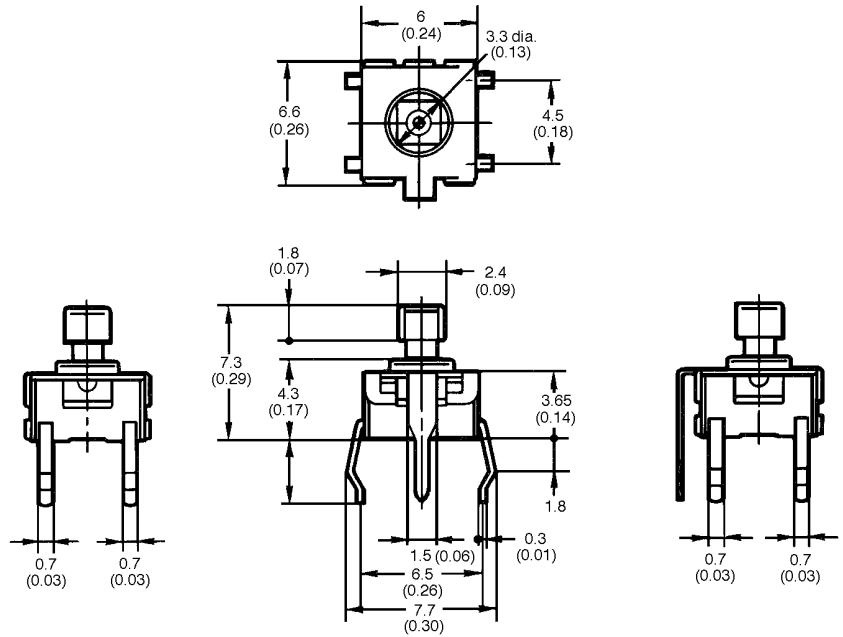
Note: Unless otherwise specified, a tolerance of ± 0.2 mm applies to all dimensions.

■ 6 MM SQUARE TYPES

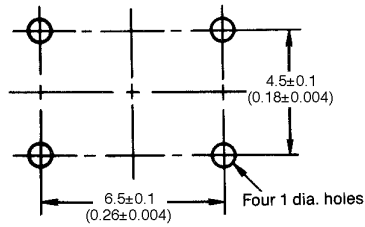
B3W-1050, B3W-1052



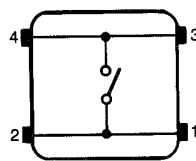
B3W-1150, B3W-1152



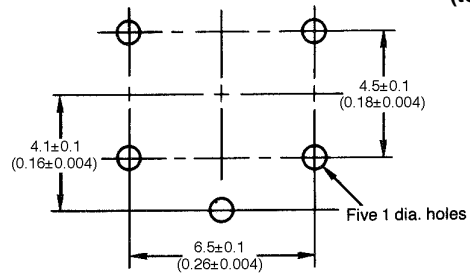
Mounting holes in PCB (top view)



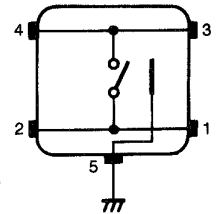
Terminal arrangement/Internal connection (top view)



Mounting holes in PCB (top view)



Terminal arrangement/Internal connection (top view)

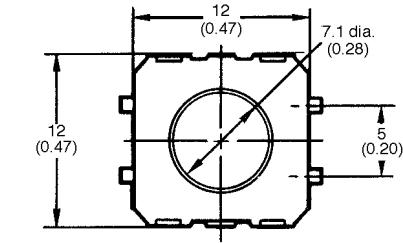


Note: Unless otherwise specified, a tolerance of ± 0.2 mm applies to all dimensions.

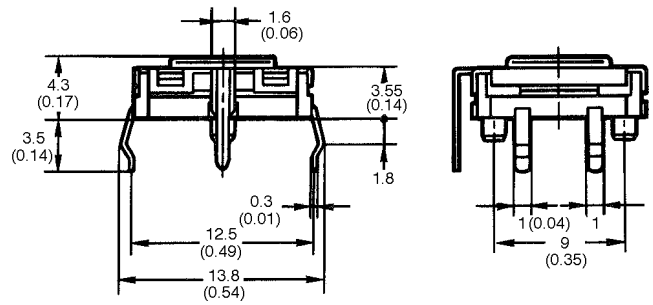
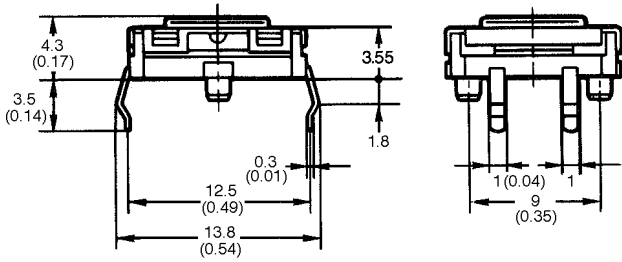
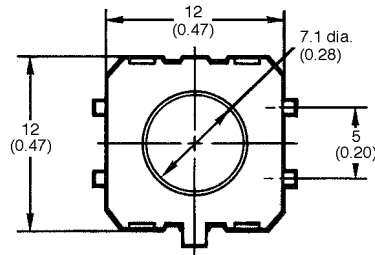
Unit: mm (inch)

■ 12 MM SQUARE TYPES

B3W-4000, B3W-4005

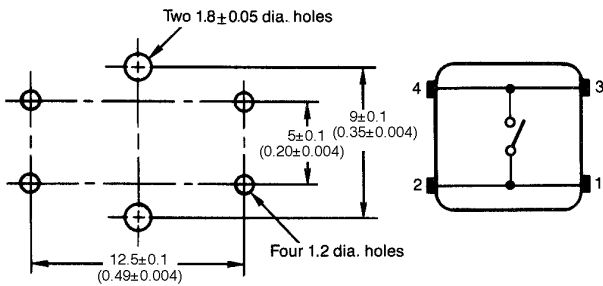


B3W-4100, B3W-4105



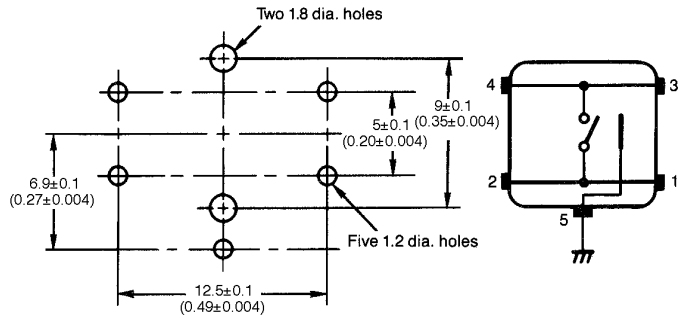
Mounting holes in PCB (top view)

Terminal arrangement/ Internal connection (top view)



Mounting holes in PCB (top view)

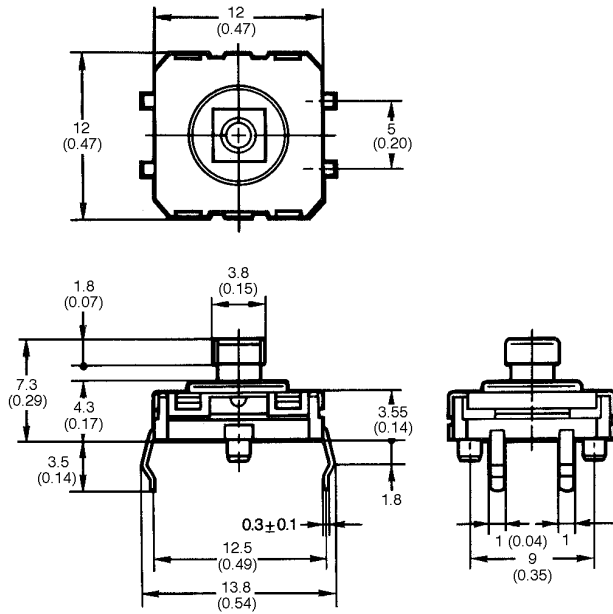
Terminal arrangement/ Internal connection (top view)



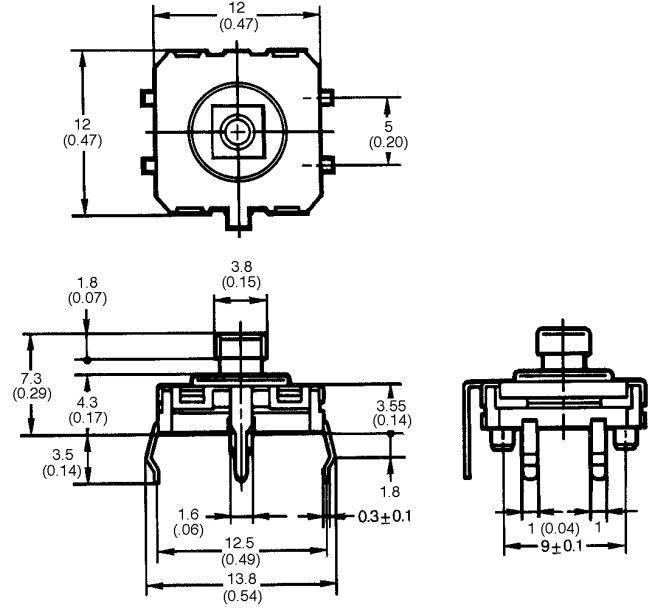
Note: Unless otherwise specified, a tolerance of ± 0.2 mm applies to all dimensions.

■ 12 MM SQUARE TYPES

B3W-4050, B3W-4055

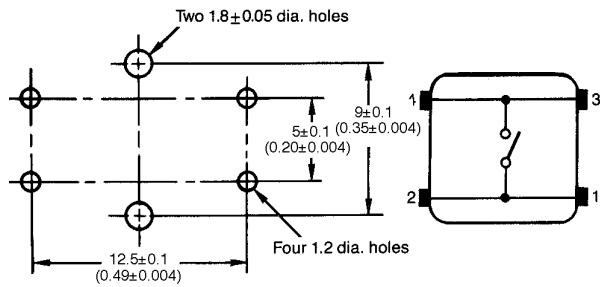


B3W-4150, B3W-4155



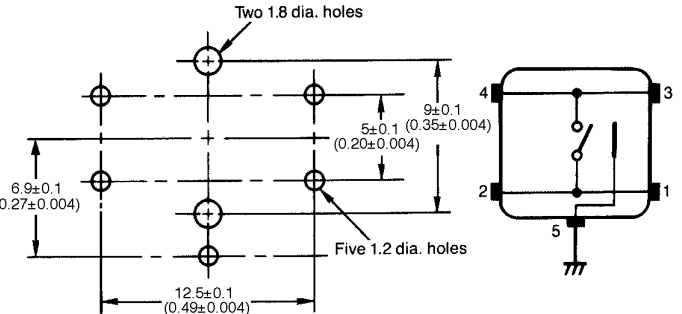
Mounting holes in PCB (top view)

Terminal arrangement/ Internal connection (top view)



Mounting holes in PCB (top view)

Terminal arrangement/ Internal connection (top view)

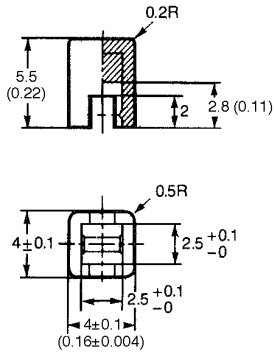


Note: Unless otherwise specified, a tolerance of ± 0.2 mm applies to all dimensions.

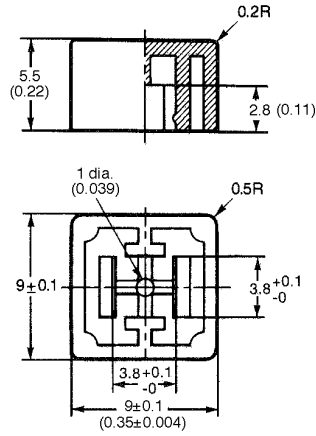
Unit: mm (inch)

■ KEYCAPS

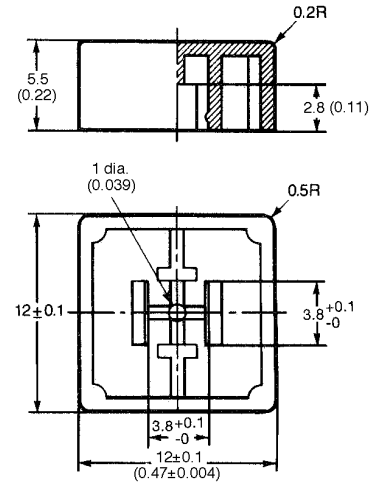
B32-10□0



B32-12□0



B32-13□0



Note: Unless otherwise specified, a tolerance of ± 0.2 mm applies to all dimensions.



OMRON ELECTRONICS, INC.
 One East Commerce Drive
 Schaumburg, IL 60173
1-800-55-OMRON

OMRON CANADA, INC.
 885 Milner Avenue
 Scarborough, Ontario M1B 5V8
416-286-6465

Tactile Switch (SMT)

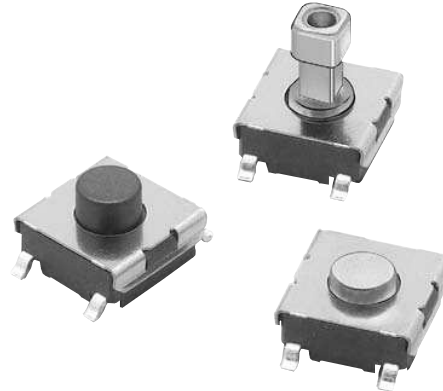
B3FS

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	 (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		
		 (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		
		 (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 μ 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 Ω max.
Insulation resistance	100 M Ω 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 ² {approx. 100G} max. Malfunction: 100 m/s ² {approx. 10G} max.
Durability	Standard models (OF: 0.98 N {100 gf}): 1,000,000 operations min. High-force models (OF: 1.47 N {150 gf}): 300,000 operations min. 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 Operating force (OF) Model	B3FS-1000		
		0.98 N	1.47 N	2.55 N
		B3FS-10□0□	B3FS-10□2□	B3FS-10□5□
Operating force (OF)		0.98±0.29 N {100±30 gf}	1.47±0.49 N {150±50 gf}	2.55±0.69 N {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 ^{+0.2} / _{-0.1} mm		

■ **Dimensions** (Unit: mm)

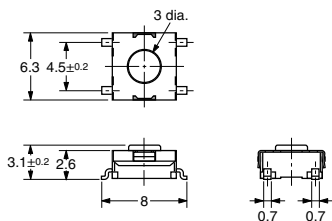
Note: The numbers used for terminals in the following graphics are indicated in the "Bottom View" diagram below. In this diagram, the Switch is rotated so that the terminals are on the right and left-hand sides, and the OMRON logo appears the right way up.



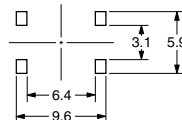
6 6 mm Models

Flat Type

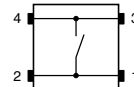
- B3FS-1000
- B3FS-1002
- B3FS-1005
- B3FS-1000P
- B3FS-1002P
- B3FS-1005P



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

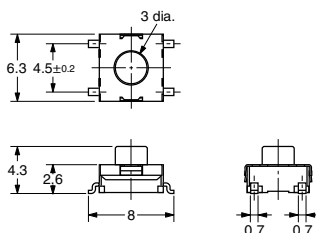


**Terminal Arrangement/
Internal Connection**
(Top View)

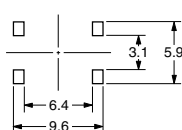


Flat Type

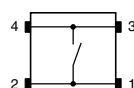
- B3FS-1010
- B3FS-1012
- B3FS-1015
- B3FS-1010P
- B3FS-1012P
- B3FS-1015P



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

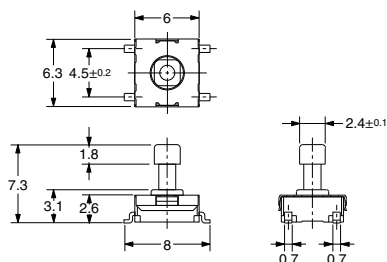


**Terminal Arrangement/
Internal Connection**
(Top View)

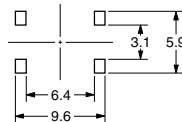


Projected Type

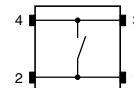
- B3FS-1050
- B3FS-1052
- B3FS-1050P
- B3FS-1052P



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



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



Note: Unless otherwise specified, a tolerance of ± 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

Cat. No. A113-E1-05
1014(0207)(O)

Sealed Surface-mounting Switches Sealed Structure for High Reliability. Available on Embossed Tape

- Sealed construction conforming to IP67 (IEC-60529) provides high reliability in locations exposed to dust or water. (* Excluding the terminal section.)
- Available with ground terminals for protection against static electricity.
- Use of a stainless-steel spring provides a crisp clicking action.
- Gold plated version enables stable contact and insulation over long periods of time.
- Available in embossed taping packages for automatic mounting.



RoHS Compliant

■ List of Models

6 × 6 mm Models

Operation type	Contact material	Height	Operating force (OF)	Plunger color	Without ground terminal				With ground terminal			
					Bags		Embossed taping		Bags		Embossed taping	
					Model	Minimum packing unit	Model	Minimum packing unit	Model	Minimum packing unit	Model	Minimum packing unit
B3SN-3000 Series	Silver plated	3.1 mm	1.57 N {160 gf}	Ivory	B3SN-3012	100 pcs	B3SN-3012P	3,000 pcs	B3SN-3112	100 pcs	B3SN-3112P	3,000 pcs
B3SN-G Series Gold-plated	Gold plated		1.76 N {180 gf}	Black	---	---	B3SN-3012P-G	---	---	---	---	---

Note: Switches in bags must be ordered in units of 100 pieces, and Switches on embossed taping must be ordered in units of 3,000 pieces. Individual Switches are not sold individually.

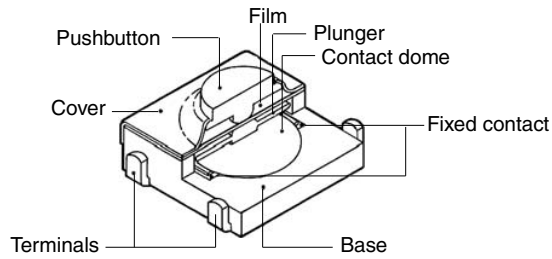
■ Ratings/Characteristics

Rating (resistive load)	1 to 50 mA, 3 to 24 VDC
Minimum applicable load (reference value)	10 μ 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 Ω max.
Insulation resistance	100 M Ω min. (at 250 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 ² (approx. 100G) max.
Durability	100,000 operations min.
Weight	Approx. 0.2 g
Degree of protection	IEC IP67
Washing	Possible

■ Operating Characteristics

Item	Type	B3SN-3000 Series	B3SN-G Series
Operating force (OF)		1.57 \pm 0.49 N {160 \pm 50 gf} max.	1.76 \pm 0.59 N {180 \pm 60 gf} max.
Releasing force (RF)		0.29 N {30 gf} min.	
Pretravel (PT)		0.25 \pm 0.15 mm	

■ Model Structure



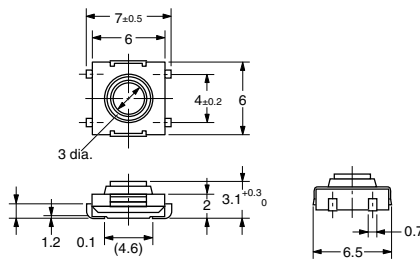
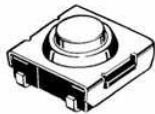
■ Dimensions

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.

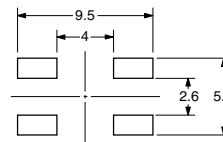


Without Ground Terminal

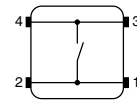
B3SN-3012
B3SN-3012P
B3SN-3012-G



PCB Pad (Top View)

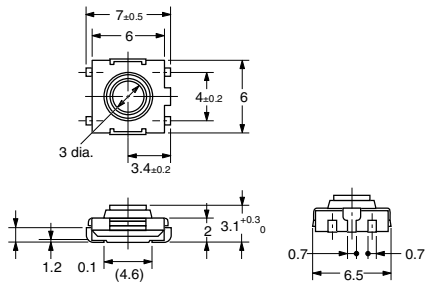
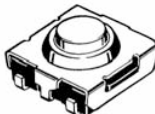


Terminal Arrangement /Internal Connections (Top View)

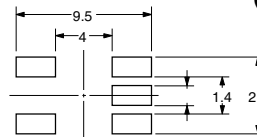


With Ground Terminal

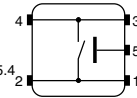
B3SN-3112
B3SN-3112P



PCB Pad (Top View)



Terminal Arrangement /Internal Connections (Top View)



Note: Unless otherwise specified, a tolerance of ± 0.3 mm applies to all dimensions. No terminal numbers are indicated on the Switches.

■ Precautions

Be sure to read the safety precautions common to all Tactile Switches on pages 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

Cat. No. C096-E1-06
1014(0207)(O)

Surface-mounting Switches with a Sealed Structure for High Reliability. Available on Embossed Tape

- Sealed construction conforming to IP67 (IEC-60529) provides high contact reliability in locations exposed to dust or water. (* Excluding the terminal section.)
- Surface-mounting terminals for high-density mounting.
- Ground terminal available to protect against static electricity.
- Available in embossed taping packages for automatic mounting.



RoHS Compliant

List of Models

6 × 6 mm Models

Operation type	Contact material	Height	Operating force (OF)	Plunger color	Without ground terminal				With ground terminal			
					Bags		Embossed taping		Bags		Embossed taping	
					Model	Minimum packing unit	Model	Minimum packing unit	Model	Minimum packing unit	Model	Minimum packing unit
B3S-1000 Series	Silver plated	4.3 mm	1.57 N {160 gf} max.	Ivory	B3S-1000	100 pcs	B3S-1000P	1,000 pcs	B3S-1100	100 pcs	B3S-1100P	1,000 pcs
			2.26 N {230 gf} max.	Yellow	B3S-1002		B3S-1002P		B3S-1102		B3S-1102P	

Note: Switches in bags must be ordered in units of 100 Switches, and Switches on embossed taping must be ordered in units of 1,000 Switches.

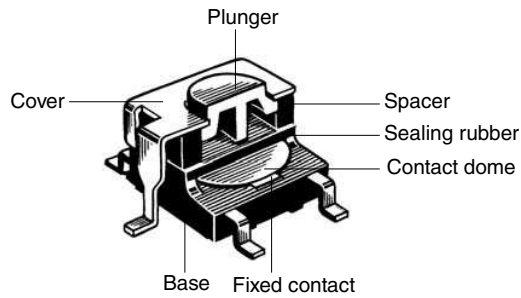
Ratings/Characteristics

Rating (resistive load)	1 to 50 mA, 3 to 24 VDC
Minimum applicable load (reference value)	10 μ 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 Ω max.
Insulation resistance	100 M Ω min. (at 250 VDC with insulation tester)
Dielectric strength	500 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 ² {approx. 100G} max. Malfunction: 100 m/s ² {approx. 10G} max.
Durability	Standard force models (1.57 N {160 gf}): 500,000 operations min. High-force models (2.26 N {230 gf}): 300,000 operations min.
Weight	Approx. 0.3 g
Degree of protection	IEC IP67
Washing	Possible

Operating Characteristics

Item	Type Operating force (OF) Model	B3S Series	
		1.57 N B3S-1□00	2.26 N B3S-1□02
Operating force (OF)		1.57 N {160 gf} max.	2.26 N {230 gf} max.
Releasing force (RF)		0.2 N {20 gf} min.	0.49 N {50 gf} min.
Pretravel (PT)		0.25 ^{+0.2} / _{-0.1} mm	

■ Model Structure



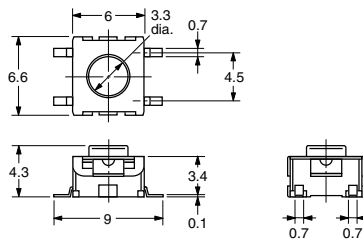
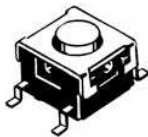
■ Dimensions (Unit: mm)

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.

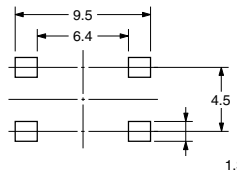


Without Ground Terminal

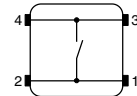
B3S-1000
B3S-1002



PCB Pad (Top View)

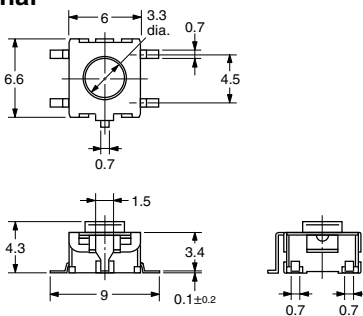
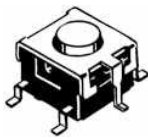


Terminal Arrangement /Internal Connections (Top View)

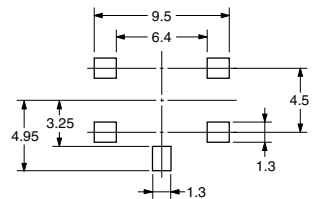


With Ground Terminal

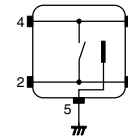
B3S-1100
B3S-1102



PCB Pad (Top View)



Terminal Arrangement /Internal Connections (Top View)



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

■ 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

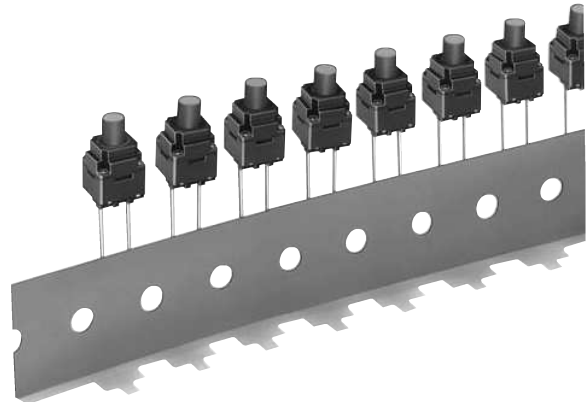
Contact: www.omron.com/ecb

Cat. No. A204-E1-02
1014(0207)(O)

**Through-hole-mounting Switches
with a Double-sealed Structure
for High Resistance to Water and Dust.
Available on Radial Tape**

- Sealed construction conforming to IP67 (IEC-60529) provides high reliability in dusty or humid environments. (* Excluding the terminal section)
- As compact as 8 mm × 8 mm.
- Allows the use of radial-taping part insertion machines.

RoHS Compliant



■ List of Models

8 × 8 mm Models

Type	Contact material	Height	Operating force (OF)	Plunger color	Taped Radial	
					Model without ground terminal	Minimum packing unit
B3WN	Silver plated	13 mm	1.96 N {200 gf}	Black	B3WN-6002(S)	1,000 pcs
			2.55 N {260 gf}		B3WN-6005	

Note: The switches are tape packaged in units of 1,000 per package. Order in multiples of the package size. Switches are not sold individually.

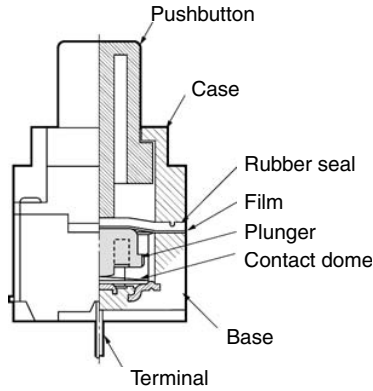
■ Ratings/Characteristics

Rating (resistive load)	1 to 50 mA, 3 to 12 VDC
Minimum applicable load (reference value)	10 μA at 1 VDC (resistive load)
Ambient operating temperature	-25°C to +85°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 mΩ max.
Insulation resistance	100 MΩ min. (at 100 VDC with insulation tester)
Dielectric strength	250 VAC, 50/60Hz for 1 min
Bounce time	10 ms max.
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 784 m/s ² {approx. 80G} max. Malfunction: 100 m/s ² {approx. 10G} max.
Durability	100,000 operations min.
Weight	Approx. 0.7 g
Degree of protection	IEC IP67
Washing	Possible

■ Operating Characteristics

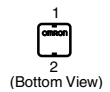
Item	B3WN-6002(S)	B3WN-6005
Operating force (OF)	1.96±0.69 N {200±70 gf}	2.55±0.69 N {260 gf±70 gf}
Releasing force (RF)	0.49 N {50 gf} min.	
Pretravel (PT)	0.3 ^{+0.2} _{-0.1} mm	

■ Model Structure

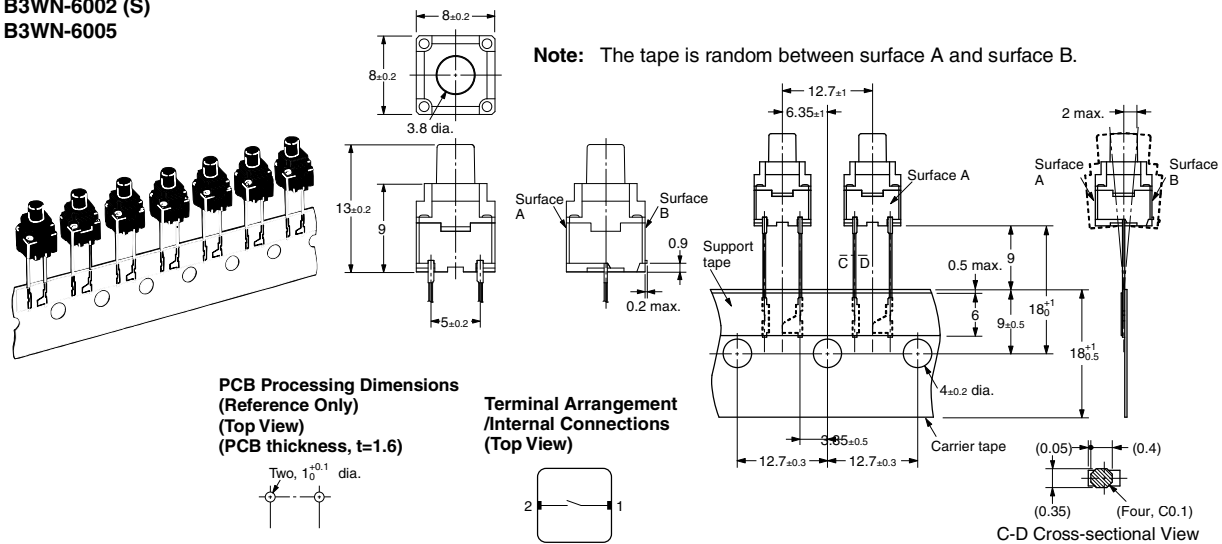


■ Dimensions (Unit: mm)

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.



B3WN-6002 (S)
B3WN-6005



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

■ Precautions

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

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- 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.

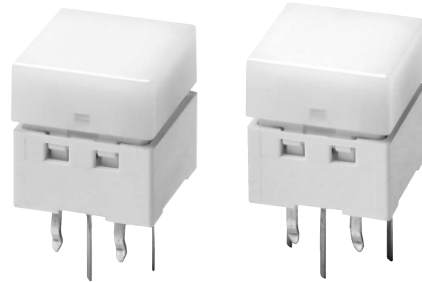
OMRON Corporation
Electronic and Mechanical Components Company

Contact: www.omron.com/ecb

Cat. No. A112-E1-05
1014(0207)(O)

Compact Illuminated Through-hole-mounting Switches with Two LEDs

- Compact construction 10 × 10 × 11 mm (W × D × H) and 12 × 12 × 11 mm (W × D × H) with bright and uniform illumination.
- Three-color illumination (red LED + green LED = orange).
- Standard force (1.57 N) and high-force (2.26 N) models.



RoHS Compliant

■ List of Models

10 × 10 mm Models

Operation type	Contact material	Height	Operating force (OF)	LED color	No. of LEDs	Cap color	Box	
							Model	Minimum packing unit
B3W-9000 Series: Standard force	Silver plated	11 mm	1.57 N {160 gf} max.	Blue	1	Blue	B3W-9000-B1B	300 pcs
					1	Transparent	B3W-9000-B1C	
					1	Milky white	B3W-9000-B1N	
					2	Blue	B3W-9000-B2B	
					2	Transparent	B3W-9000-B2C	
					2	Milky white	B3W-9000-B2N	
				Green	1	Transparent	B3W-9000-G1C	
					1	Green	B3W-9000-G1G	
					1	Milky white	B3W-9000-G1N	
					2	Transparent	B3W-9000-G2C	
					2	Green	B3W-9000-G2G	
					2	Milky white	B3W-9000-G2N	
				Green (high brightness)	1	Transparent	B3W-9000-HG1C	
					1	Green	B3W-9000-HG1G	
					1	Milky white	B3W-9000-HG1N	
					2	Transparent	B3W-9000-HG2C	
					2	Green	B3W-9000-HG2G	
					2	Milky white	B3W-9000-HG2N	
				Red	1	Transparent	B3W-9000-R1C	
					1	Milky white	B3W-9000-R1N	
					1	Red	B3W-9000-R1R	
					2	Transparent	B3W-9000-R2C	
					2	Milky white	B3W-9000-R2N	
					2	Red	B3W-9000-R2R	
				Red + Green	2	Transparent	B3W-9000-RG2C	
					2	Milky white	B3W-9000-RG2N	
				Red + High bright green	2	Transparent	B3W-9000-RHG2C	
				Red + Blue	2	Transparent	B3W-9000-RB2C	
				Yellow	1	Transparent	B3W-9000-Y1C	
					1	Milky white	B3W-9000-Y1N	
					1	Yellow	B3W-9000-Y1Y	
					2	Transparent	B3W-9000-Y2C	
2	Milky white	B3W-9000-Y2N						
2	Yellow	B3W-9000-Y2Y						

Operation type	Contact material	Height	Operating force (OF)	LED color	No. of LEDs	Cap color	Box	
							Model	Minimum packing unit
B3W-9002 Series: High force	Silver plated	11 mm	2.26 N {230 gf} max.	Blue	1	Blue	B3W-9002-B1B	300 pcs
					1	Transparent	B3W-9002-B1C	
					1	Milky white	B3W-9002-B1N	
					2	Blue	B3W-9002-B2B	
					2	Transparent	B3W-9002-B2C	
					2	Milky white	B3W-9002-B2N	
				Green	1	Transparent	B3W-9002-G1C	
					1	Green	B3W-9002-G1G	
					1	Milky white	B3W-9002-G1N	
					2	Transparent	B3W-9002-G2C	
					2	Green	B3W-9002-G2G	
					2	Milky white	B3W-9002-G2N	
				Green (high bright- ness)	1	Transparent	B3W-9002-HG1C	
					1	Green	B3W-9002-HG1G	
					1	Milky white	B3W-9002-HG1N	
					2	Transparent	B3W-9002-HG2C	
					2	Green	B3W-9002-HG2G	
					2	Milky white	B3W-9002-HG2N	
				Red	1	Transparent	B3W-9002-R1C	
					1	Milky white	B3W-9002-R1N	
					1	Red	B3W-9002-R1R	
					2	Transparent	B3W-9002-R2C	
					2	Milky white	B3W-9002-R2N	
					2	Red	B3W-9002-R2R	
				Red + Green	2	Transparent	B3W-9002-RG2C	
					2	Milky white	B3W-9002-RG2N	
				Red + High bright green	2	Transparent	B3W-9002-RHG2C	
				Red + Blue	2	Transparent	B3W-9002-RB2C	
				Yellow	1	Transparent	B3W-9002-Y1C	
					1	Milky white	B3W-9002-Y1N	
1	Yellow	B3W-9002-Y1Y						
2	Transparent	B3W-9002-Y2C						
2	Milky white	B3W-9002-Y2N						
2	Yellow	B3W-9002-Y2Y						

12 × 12 mm Models

Operation type	Contact material	Height	Operating force (OF)	LED color	No. of LEDs	Cap color	Box	
							Model	Minimum packing unit
B3W-9010 Series: Standard force	Silver plated	11 mm	1.57 N {160 gf} max.	Blue (high brightness)	1	Blue	B3W-9010-B1B	300 pcs
					1	Milky white	B3W-9010-B1N	
					2	Blue	B3W-9010-B2B	
					2	Milky white	B3W-9010-B2N	
				Green	1	Green	B3W-9010-G1G	
					1	Milky white	B3W-9010-G1N	
					2	Green	B3W-9010-G2G	
					2	Milky white	B3W-9010-G2N	
				Green (high brightness)	1	Green	B3W-9010-HG1G	
					1	Milky white	B3W-9010-HG1N	
					2	Green	B3W-9010-HG2G	
					2	Milky white	B3W-9010-HG2N	
				Red	1	Red	B3W-9010-R1R	
					1	Milky white	B3W-9010-R1N	
					2	Red	B3W-9010-R2R	
					2	Milky white	B3W-9010-R2N	
				Red + Green	2	Milky white	B3W-9010-RG2N	
				Red + High bright green	2	Milky white	B3W-9010-RHG2N	
				Red + Blue	2	Milky white	B3W-9010-RB2N	
				Yellow	1	Yellow	B3W-9010-Y1Y	
1	Milky white	B3W-9010-Y1N						
2	Yellow	B3W-9010-Y2Y						
2	Milky white	B3W-9010-Y2N						
B3W-9012 Series: High-force	Silver plated	11 mm	2.26 N {230 gf} max.	Blue	1	Blue	B3W-9012-B1B	300 pcs
					1	Milky white	B3W-9012-B1N	
					2	Blue	B3W-9012-B2B	
					2	Milky white	B3W-9012-B2N	
				Green	1	Green	B3W-9012-G1G	
					1	Milky white	B3W-9012-G1N	
					2	Green	B3W-9012-G2G	
					2	Milky white	B3W-9012-G2N	
				Green (high brightness)	1	Green	B3W-9012-HG1G	
					1	Milky white	B3W-9012-HG1N	
					2	Green	B3W-9012-HG2G	
					2	Milky white	B3W-9012-HG2N	
				Red	1	Red	B3W-9012-R1R	
					1	Milky white	B3W-9012-R1N	
					2	Red	B3W-9012-R2R	
					2	Milky white	B3W-9012-R2N	
				Red + Green	2	Milky white	B3W-9012-RG2N	
				Red + High bright green	2	Milky white	B3W-9012-RHG2N	
				Red + Blue	2	Milky white	B3W-9012-RB2N	
				Yellow	1	Yellow	B3W-9012-Y1Y	
1	Milky white	B3W-9012-Y1N						
2	Yellow	B3W-9012-Y2Y						
2	Milky white	B3W-9012-Y2N						

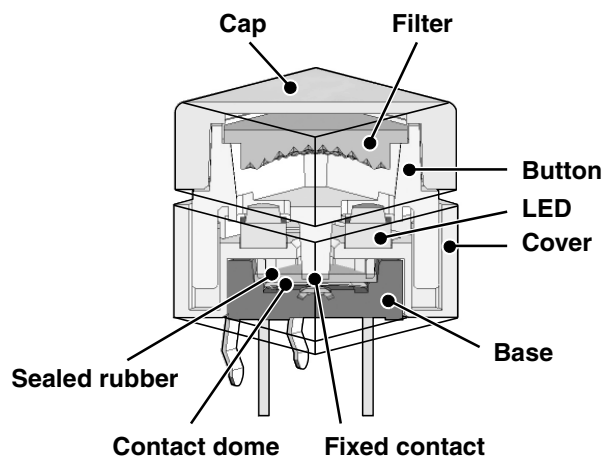
■ Ratings/Characteristics (Same for Both Standard and High-force Switches)

Rating (resistive load)	1 to 50 mA, 3 to 24 VDC
Minimum applicable load (reference value)	10 μ A at 1 VDC (resistive load)
Ambient operating temperature	-25°C to +70°C at 60% max. humidity (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 Ω max.
Insulation resistance	100 M Ω min. (at 250 VDC with insulation tester)
Dielectric strength	500 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 ² {approx. 100 G} max. Malfunction: 100 m/s ² {approx. 10 G} max.
Durability	Switch sec- tion 1.57 N (standard force):1,000,000 operations min. 2.26 N (high-force):300,000 operations min.
Degree of protection	IEC IP00
Washing	Not possible

■ Operating Characteristics

Item	Standard-force Switches (B3W-90□0)	High-force Switches (B3W-90□2)
Operating force (OF)	1.57 N {160 gf} max.	2.26 N {230 gf} max.
Releasing force (RF)	0.2 N {20 gf} min.	0.49 N {50 gf} min.
Pretravel (PT)	0.25 ^{+0.2} / _{-0.1} mm	

■ Model Structure



■ LED Specifications

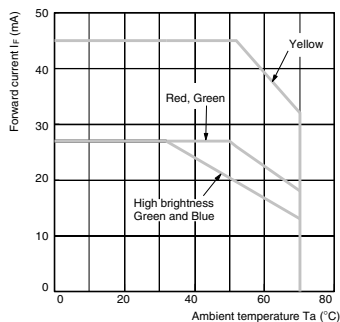
(Ambient temperature Ta = 25°C)

LED color	Red	Green	Green (high brightness)	Yellow	Blue
Maximum operating current I _{FM}	27 mA	27 mA	27 mA	45 mA	27 mA
Recommended operating current I _F	20 mA	10 mA	20 mA	20 mA	20 mA
Forward voltage (standard value) V _F	1.8 V	2.1 V	3.7 V	2 V	3.7 V
Maximum reverse voltage V _R	5 V	5 V	5 V	5 V	5 V
Ambient operating temperature	-25°C to 70°C				

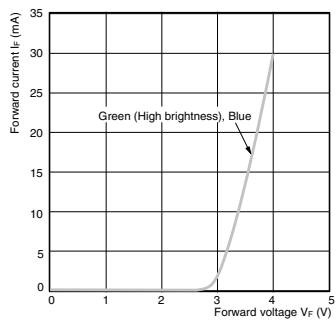
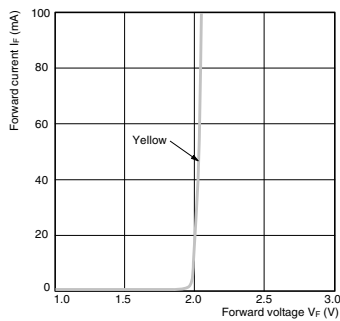
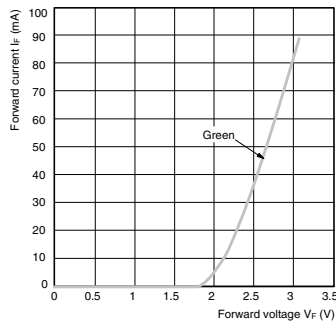
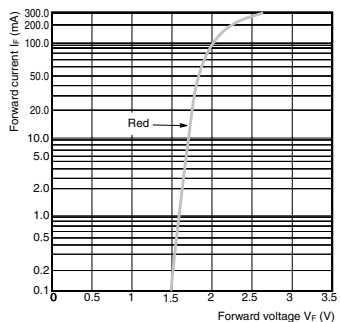
Note: For Switches with two LEDs, red and green, the recommended operating current is 12 mA for the red and 20 mA for the green LED for application with three-color illumination.

■ LEDs

● Forward current reduction curve

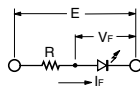


● Forward current and forward voltage curves



- Note:**
1. Make sure that the polarity of the LEDs is correct. The polarity is not indicated on the Switch, but the positive pole is located on the back surface of the Switch on the side with the OMRON mark.
 2. Connect limiting resistors to the LEDs. The Switch does not have built-in limiting resistors, so satisfy the LED characteristics by obtaining the limiting resistance according to the following formula based on the voltage to be used.

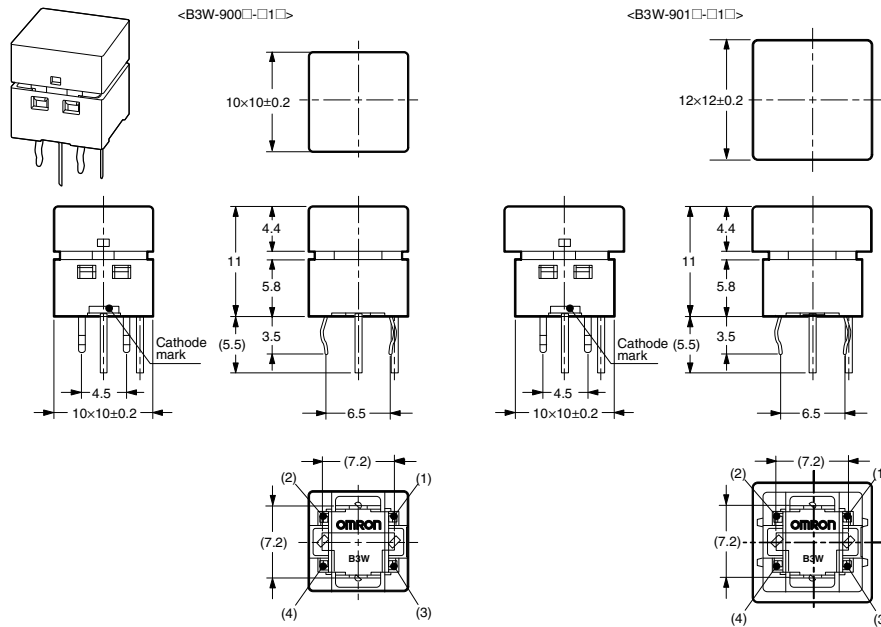
$$\text{Limiting resistance (R)} = \frac{(\text{Voltage used (E)} - \text{LED forward voltage (VF)})}{\text{LED forward current (IF)}} (\Omega)$$



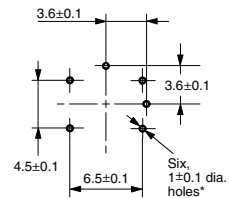
■ Dimensions (Unit: mm)

1 LED Types

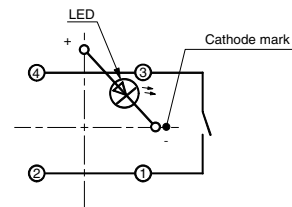
B3W-900□-□1□
B3W-901□-□1□



PCB Processing Dimensions (Reference Only) (Top View)



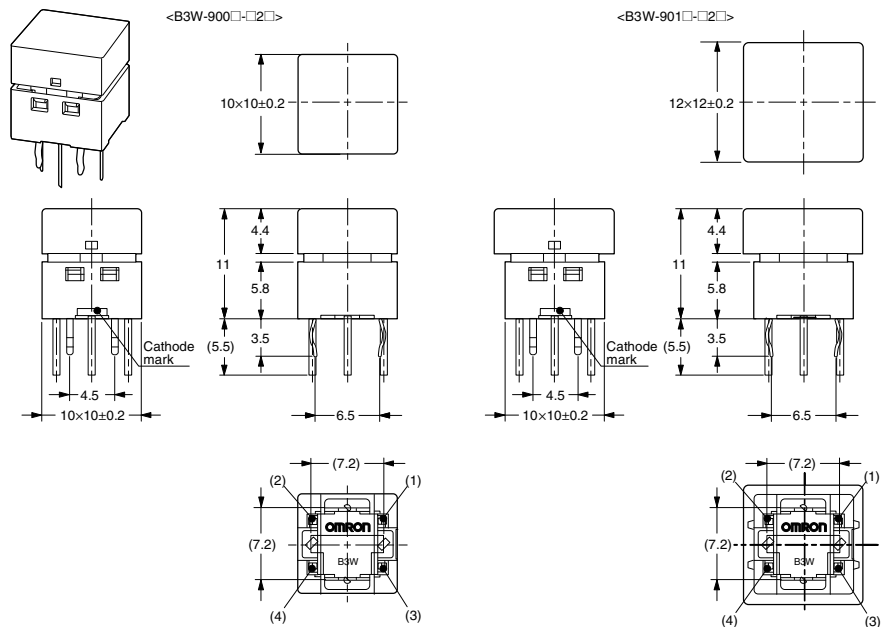
Terminal Arrangement/ Internal Connections (Top View)



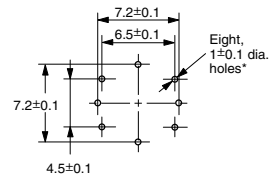
Note: If the poles of the LED are set incorrectly, it may result in malfunction.

2 LED Types

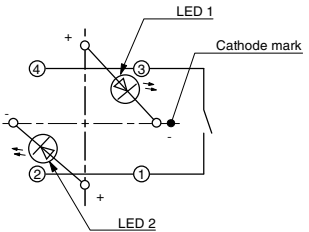
B3W-900□-□2□
B3W-901□-□2□



PCB Processing Dimensions (Reference Only) (Top View)



Terminal Arrangement/ Internal Connections (Top View)



Note 1: If the poles of the LED are set incorrectly, it may result in malfunction.
2: For models with two-color LEDs, the color of LED 1 is at position LED 1. The color of LED 2 is at the position LED 2.
B3W-90□-□G2□
LED 2 color
LED 1 color

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

■ Accessories

B3W-9□□-F□

Text Combination Films

Text Combination Films for B3W-9 Illuminated Tactile Switches

- Display two different labels in combination with a 2-LED B3W-9 Switch.
- Color combinations: Red/Green or Red/Blue



■ Model Number Legend

B3W-9□□-F□

1 2 3

1. Color

R: Red

2. Color

B: Blue

G: Green

3. Color and text combination

F1: Red OFF
Blue or green ON

F2: Red 切 (OFF)
Blue or green 入 (ON)

F3: Red 閉 (CLOSE)
Blue or green 開 (OPEN)

F4: Red ×
Blue or green ○

F5: Red ▼
Blue or green ▲

Note: 1. Five text combinations are available.

2. Films can also be customized with other text for 50 sheets (1,250 films) per lot. Delivery time is approximately five weeks. (Ask your OMRON representative for details.)

Text Combinations	LED colors	Model
"OFF" and "ON"	Red/Blue	B3W-9RB-F1
	Red/Green	B3W-9RG-F1
"切" and "入" (OFF) (ON)	Red/Blue	B3W-9RB-F2
	Red/Green	B3W-9RG-F2
"閉" and "開" (CLOSE)(OPEN)	Red/Blue	B3W-9RB-F3
	Red/Green	B3W-9RG-F3
"×" and "○"	Red/Blue	B3W-9RB-F4
	Red/Green	B3W-9RG-F4
"▼" and "▲"	Red/Blue	B3W-9RB-F5
	Red/Green	B3W-9RG-F5

■ Recommended B3W-9 Switches

Operating force	2-LED Switches	Red/Blue	Red/Bright green
Standard-force Switches		B3W-9000-RB2C	B3W-9000-RHG2C
High-force Switches		B3W-9002-RB2C	B3W-9002-RHG2C

■ Minimum Order

25 films/sheet

B3W-9 Films are sold in units of 25 films. Orders must be made in multiples of 25 (the quantity per sheet).

Note: Text Combination Films are sold without the Switches. Order one of the above models of B3W-9 Illuminated Tactile Switches separately.

■ Safety Precautions

Note: Refer to *Safety Precautions in Tactile Switches* (Cat. No. X037) for details on general safety precautions.

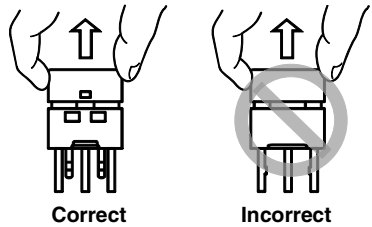
■ Precautions for Correct Use

LEDs

Switches with high-brightness green (HG) or blue (B) LEDs are susceptible to static electricity. Be careful when handling a Switch with these LEDs as it may cause the Switch to breakdown.

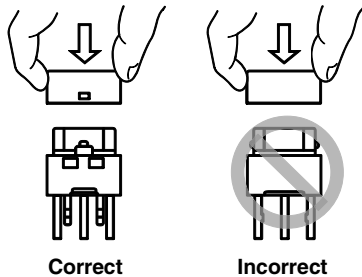
Removing the Cap

1. Hold the cap at the side away from the mating section. Pull straight up.
2. Do not remove the cap while the Switch is mounted. Doing so will apply force to the soldered section and LEDs, resulting in malfunction.



Placing the Cap on the Switch

Hold the Cap at the side away from the mating section. Push straight down until the mating section meets.

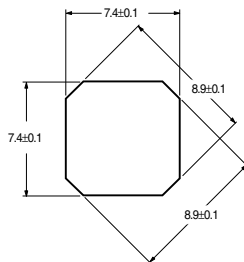


Removing the Cap

The Cap can be removed up to two times. Excessively removing the Cap will cause the mating section to become weak, resulting in the operating section not mating completely or the Cap may fall off.

Film Dimensions

Dimensions of the film are shown below. The thickness is 0.2 mm.



- 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.

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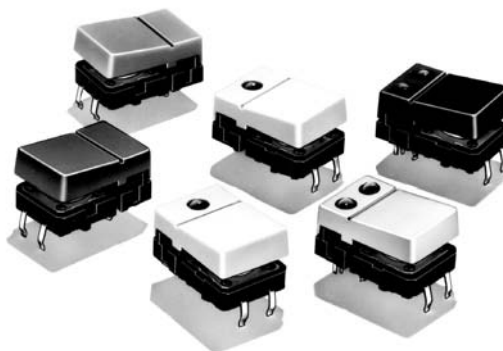
Cat. No. A167-E1-08
0915(0207)(O)

Hinged Tactile Switch

B3J

Through-hole-mounting Switches with Hinges for a Sharp Snap Action

- Quick, superior snap action through hook-type hinge construction.
- Available with 1 or 2 LEDs or without LEDs.
- The hinge button is available in a wide variety of colors (five standard colors).



RoHS Compliant

■ List of Models

Operation type	Contact material	Operating force (OF)	Color of hinged button	Box	
				Model	Minimum packing unit
Non-lighted: B3J-1000 Series	Silver plated	1.27 N {130 gf}	Ivory	B3J-1000	300 pcs
			Black	B3J-1100	
			Orange	B3J-1200	
			Yellow	B3J-1300	
			Blue	B3J-1400	

Operation type	Contact material	Operating force (OF)	Color of hinged button	Box			Minimum packing unit
				LED color			
				Red	Yellow	Green	
One LED: B3J-2000 Series B3J-3000 Series B3J-4000 Series	Silver plated	1.27 N {130 gf}	Ivory	B3J-2000	B3J-3000	B3J-4000	300 pcs
			Black	B3J-2100	B3J-3100	B3J-4100	
			Orange	B3J-2200	B3J-3200	B3J-4200	
			Yellow	B3J-2300	B3J-3300	B3J-4300	
			Blue	B3J-2400	B3J-3400	B3J-4400	

Operation type	Contact material	Operating force (OF)	Color of hinged button	Box			Minimum packing unit
				LED color			
				Red/Yellow	Red/Green	Yellow/Green	
Two LEDs: B3J-5000 Series B3J-6000 Series B3J-7000 Series	Silver plated	1.27 N {130 gf}	Ivory	B3J-5000	B3J-6000	B3J-7000	300 pcs
			Black	B3J-5100	B3J-6100	B3J-7100	
			Orange	B3J-5200	B3J-6200	B3J-7200	
			Yellow	B3J-5300	B3J-6300	B3J-7300	
			Blue	B3J-5400	B3J-6400	B3J-7400	

■ Ratings/Characteristics

Rating (resistive load)	1 to 50 mA, 3 to 24 VDC
Minimum applicable load (reference value)	10 μ 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 Ω max.
Insulation resistance	100 M Ω min. (at 250 VDC with insulation tester)
Dielectric strength	500 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 ² {approx. 100G} max. Malfunction: 100 m/s ² {approx. 10G} max.
Durability	3,000,000 operations min.
Weight	Approx. 1.5 to 1.7 g
Degree of protection	IEC IP00
Washing	Not possible

■ Operating Characteristics

Operating force (OF)	1.27 \pm 0.49 N {130 \pm 50 gf}
Releasing force (RF)	0.29 N {30 gf} min.
Pretravel (PT)	0.3 ^{+0.2} / _{-0.1} mm

■ LED Specifications

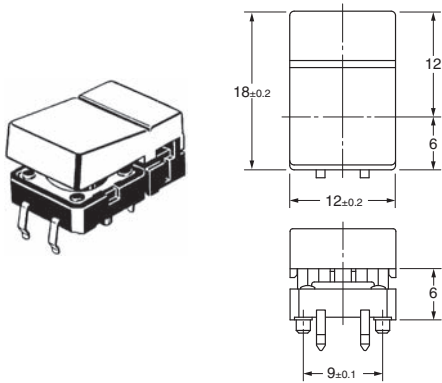
Item		Red	Yellow	Green
Forward voltage VF	Standard value (V)	2.0	2.0	2.1
Forward current IF	Standard value (mA)	20	20	20
Permissible loss P	Absolute maximum value (mW)	84	84	84
Reverse voltage VR	Absolute maximum value (V)	5	5	5

Note: Since the built-in LED does not contain any limiting resistors, externally connect limiting resistors within the limits shown in the above table.

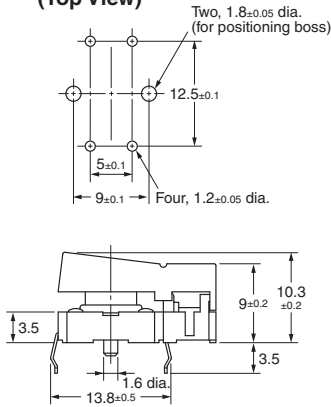
■ Dimensions (Unit: mm)

Types with no LED

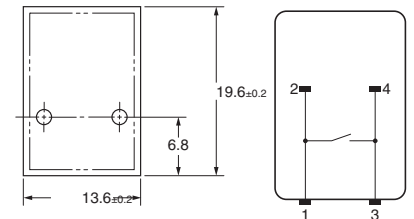
B3J-1□00



PCB Processing Dimensions (Reference Only) (Top View)



Panel Cutout Terminal Arrangement /Internal Connections (Top View)

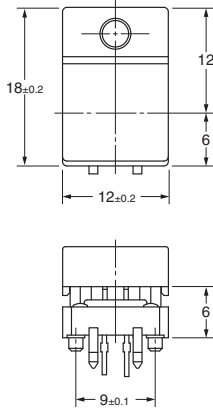
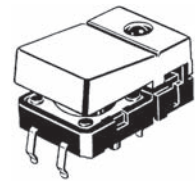


1 LED Types

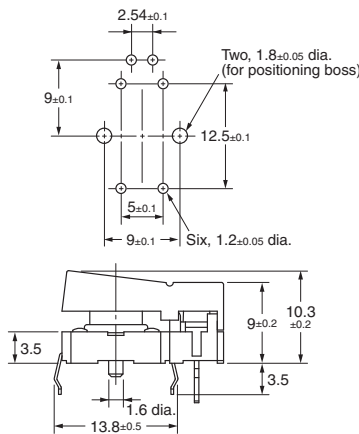
B3J-2□00

B3J-3□00

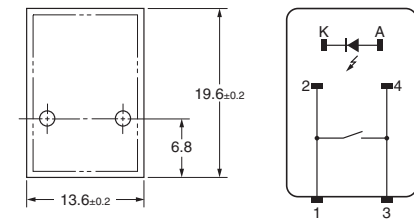
B3J-4□00



PCB Processing Dimensions (Reference Only) (Top View)



Panel Cutout Terminal Arrangement /Internal Connections (Top View)

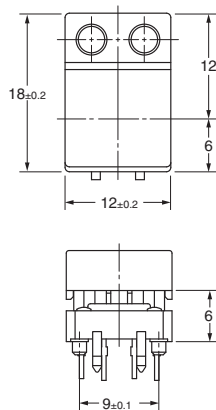
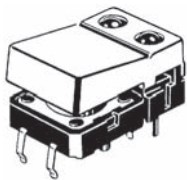


2 LED Types

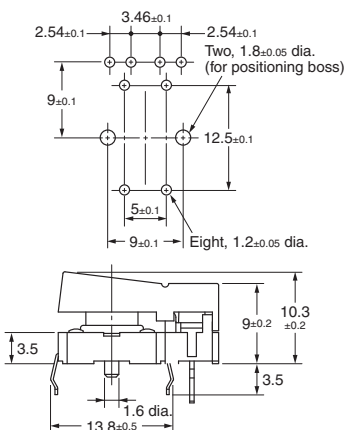
B3J-5□00

B3J-6□00

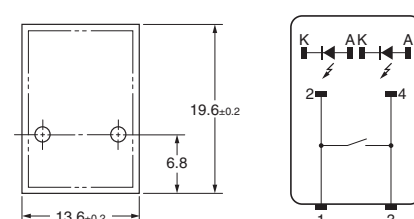
B3J-7□00



PCB Processing Dimensions (Reference Only) (Top View)



Panel Cutout Terminal Arrangement /Internal Connections (Top View)



Note: Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.

■ 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.

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Contact: www.omron.com/ecb

Cat. No. A071-E1-07
1014(0207)(O)

Long-stroke Tactile Switch (SMT)

B3AL

Long-stroke Tactile Switches with High Operating Forces and Long Life.

- High operating force also providing long life.
(Reference values: OF = 5 N {510 gf}, Durability = 500,000 operations)
- Long stroke achieved by using a rubber plunger.

RoHS Compliant



■ Model Number Legend

B3AL-100□□-□
1 2 3

1. Operating Force (OF)

Symbol	Meaning
0	1.96 N {200 gf}
1	2.45 N {250 gf}
2	3.00 N {306 gf}
3	3.50 N {357 gf}
4	5.00 N {510 gf}
5	4.50 N {459 gf}
6	4.00 N {408 gf}

2. Packaging

Symbol	Meaning
P	Embossed tape

3. Special Specification

Symbol	Meaning
MS	Switch with middle stroke

■ List of Models / Operating Characteristics

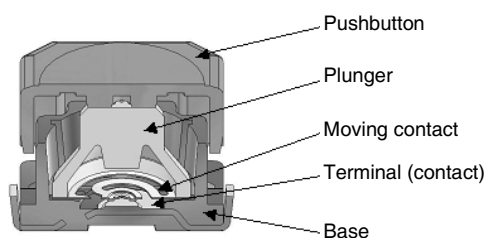
Color of pushbutton			Red	Green	Black	White (Milky-white)	Brown
Operating force (OF)			1.96±0.59 N {200±60 gf}	2.45±0.69 N {250±70 gf}	3.00±0.90 N {306±92 gf}	3.50±1.05 N {357±107 gf}	4.00±1.20 N {408±122 gf}
Releasing force (RF)			0.24 N {24 gf} min.	0.49 N {50 gf} min.	0.60 N {61 gf} min.	0.70 N {71 gf} min.	0.70 N {71 gf} min.
Pretravel (PT)			1.3 ^{+0.2} _{-0.3} mm				
Packaging	Embossed tape	Model	B3AL-1000P	B3AL-1001P	B3AL-1002P	B3AL-1003P	B3AL-1006P
		Minimum packing unit	1,400 pcs				

Color of pushbutton			Pink	Blue	Gray	Yellow
Operating force (OF)			4.50±1.35 N {459±138 gf}	5.00±1.50 N {510±153 gf}	3.00±0.90 N {306±92 gf}	3.50±1.05 N {357±107 gf}
Releasing force (RF)			0.70 N {71 gf} min.	1.00 N {102 gf} min.	0.60 N {61 gf} min.	0.70 N {71 gf} min.
Pretravel (PT)			1.3 ^{+0.2} _{-0.3} mm		1.0±0.25mm	
Packaging	Embossed tape	Model	B3AL-1005P	B3AL-1004P	B3AL-1002P-MS	B3AL-1003P-MS
		Minimum packing unit	1,400 pcs			

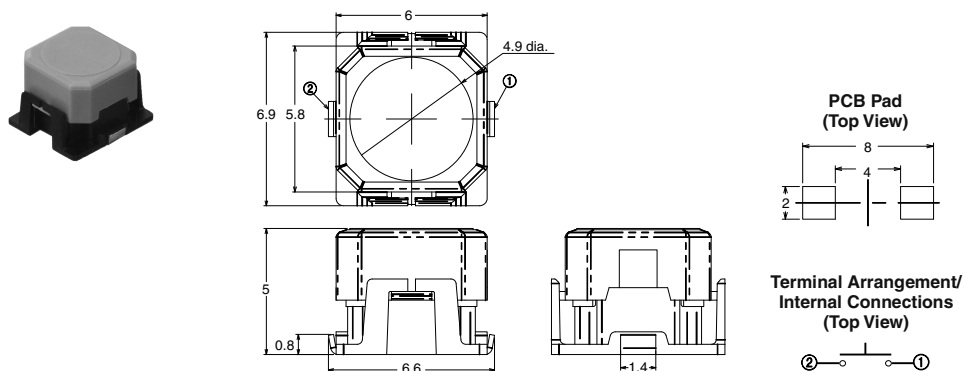
■ Ratings / Characteristics

Rating (resistive load)	1 to 50 mA at 5 to 16 VDC
Ambient operating temperature	-40°C to +90°C at 60%RH max. (with no icing or condensation)
Ambient operating humidity	35% to 85% (at +5 to +35 °C)
Contact configuration	SPST-NO
Contact resistance	100 mΩ max.
Insulation resistance	100 MΩ min. (at 500 VDC with insulation tester)
Dielectric strength	250 VAC, 50/60 Hz for 1 min
Bounce time	5 ms max. (The center of the plunger is pressed at a speed of 3 or 4 times per second.)
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 1,000 m/s ² max. Malfunction: 100 m/s ² max.
Durability	B3AL-1000P : 1,000,000 operations min. B3AL-1001P : 1,000,000 operations min. B3AL-1002P : 1,000,000 operations min. B3AL-1003P : 1,000,000 operations min. B3AL-1004P : 500,000 operations min. B3AL-1005P : 1,000,000 operations min. B3AL-1006P : 1,000,000 operations min. B3AL-1002P-MS : 1,000,000 operations min. B3AL-1003P-MS : 1,000,000 operations min.
Weight	Approx. 0.18 g

■ Model Structure



■ Dimensions (Unit: mm)



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

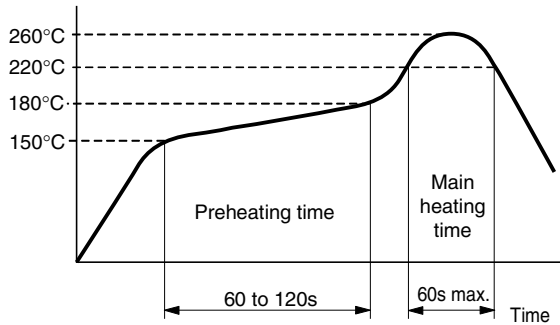
■ Precautions

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

■ Precautions for Correct Use

soldering

Do not exceed the following terminal temperature profile during soldering in a reflow oven.

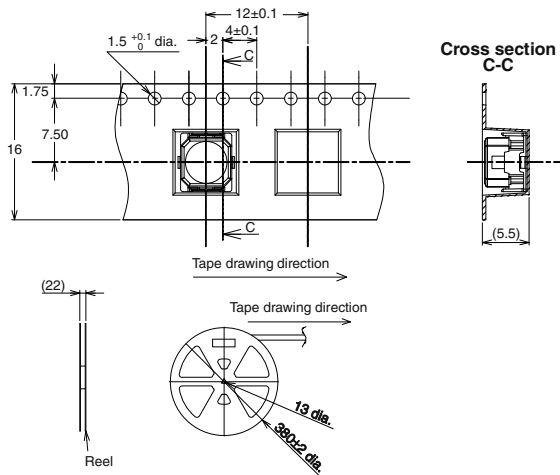


Washing

The Switches are not sealed, and cannot be washed. Doing so will cause the washing agent, together with flux or dust particles on the PCB, to enter the Switch, resulting in malfunction.

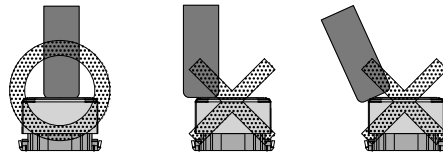
Packaging Specifications

The packaging specifications for B3AL Switches in embossed taping are given below.



Operation

- Do not repeatedly operate the Switch with excessive force. Applying excessive pressure or applying additional force after the plunger has stopped may deform the disk spring of the Switch, resulting in malfunction.
- Be sure to set up the Switch so that the plunger will operate in a straight vertical line. If the plunger is pressed off-center or from an angle it may cause deformation or damage to some parts.
- We recommend using a round bar with a diameter of at least 3 mm as the actuator.



Dust Countermeasures

Do not mount or use the Switch in areas that are subject to dust. If dust is unavoidable, protect the Switch with a sheet or other countermeasure.

Water and Drip Resistance

The switch is not water or drip resistant. Do not use it in locations subject to water.

• 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.

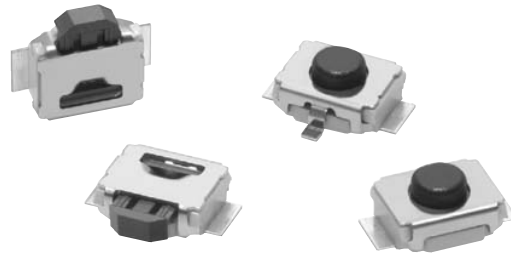
Note: Do not use this document to operate the Unit.

Ultra-small Tactile Switch (SMT)

B3U

Ultra-small Surface-mounting Tactile Switches with High Contact Reliability (1.2 × 3 × 2.5 mm (H × W × D))

- Smallest class in the industry for high-density mounting of compact devices.
- Surface mounted: Ideal for high-density mounting.
- Models with ground terminals are available for protection against static electricity.
- Available on embossed tape: Ideal for automatic mounting.



RoHS Compliant

List of Models

6 × 6 mm Models

Operation type	Contact material	Height	Operating force (OF)	Plunger color	Locating pin	Embossed taping (standard quantity)			Embossed taping (small quantity)		
						Without ground terminal	With ground terminal	Minimum packing unit	Without ground terminal	With ground terminal	Minimum packing unit
B3U-1000 Series: Top-actuated	Silver plated	1.6 mm	1.5 N {153 gf}	Black	Without boss	B3U-1000P	B3U-1100P	3,500	B3U-1000PM	B3U-1100PM	1,000
					With boss	B3U-1000P-B	B3U-1100P-B		B3U-1000PM-B	B3U-1100PM-B	
B3U-3000 Series: Side-actuated		3.2 mm	1.59 N {162 gf}		Without boss	B3U-3000P	B3U-3100P	4,000	B3U-3000PM	B3U-3100PM	1,000
					With boss	B3U-3000P-B	B3U-3100P-B		B3U-3000PM-B	B3U-3100PM-B	

Note: Orders must be made in multiples of the order unit specified above.

Ratings/Characteristics

Item	Operation type	Top-actuated (B3U-1000 Series)	Side-actuated (B3U-3000 Series)
Rating (resistive load)		1 to 50 mA, 3 to 12 VDC	
Minimum applicable load (reference value)		10 μA 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 mΩ max.	
Insulation resistance		100 MΩ min. (at 100 VDC with insulation tester)	
Dielectric strength		250 VAC, 50/60 Hz for 1 min	
Bounce time		5 ms max.	
Vibration resistance		10 to 55 Hz, 1.5 mm double amplitude	
Shock resistance		1,000 m/s ² max.	
Durability		200,000 operations min.	100,000 operations min.
Weight		Approx. 0.022 g	
Degree of protection		IEC IP40	
Washing		Not possible	

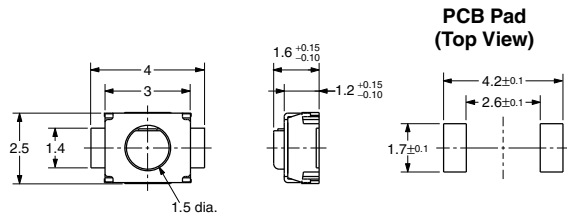
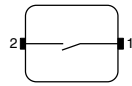
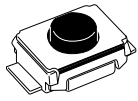
Operating Characteristics

Item	Operation type	Top-actuated (B3U-1000 Series)	Side-actuated (B3U-3000 Series)
Operating force (OF)		1.50 ± 0.49 N {153 ± 50 gf}	1.59 ± 0.49 N {162 ± 50 gf}
Releasing force (RF)		0.2 N min. {20 gf}	
Pretravel (PT)		0.15 ^{+0.2} _{-0.1} mm	0.2 ^{+0.2} _{-0.1} mm

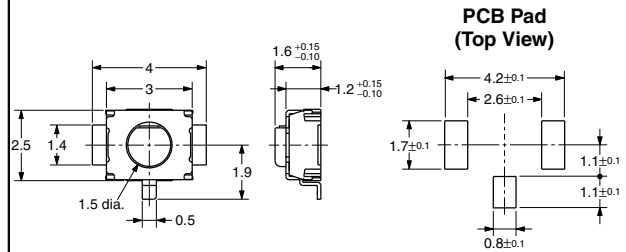
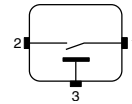
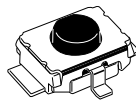
■ Dimensions (Unit: mm)

Top-actuated Models

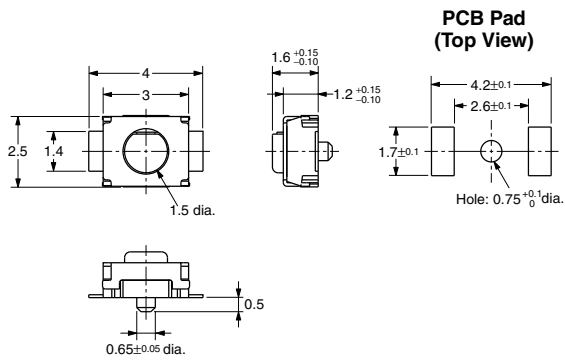
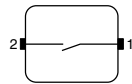
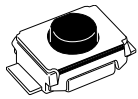
Without Ground Terminal, without Boss
 B3U-1000P(M)
 Terminal Arrangement /Internal Connections (Top View)



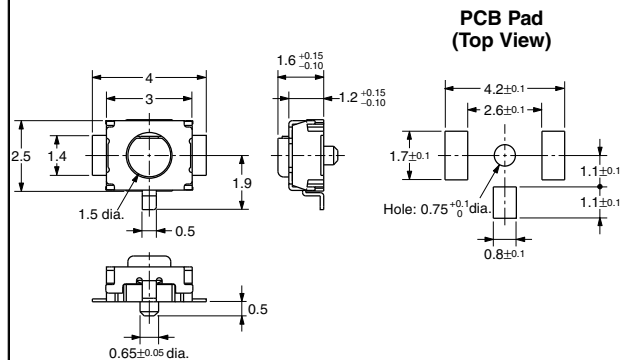
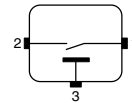
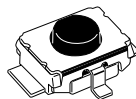
With Ground Terminal, without Boss
 B3U-1100P(M)
 Terminal Arrangement /Internal Connections (Top View)



Without Ground Terminal, with Boss
 B3U-1000P(M)-B
 Terminal Arrangement /Internal Connections (Top View)



With Ground Terminal, with Boss
 B3U-1100P(M)-B
 Terminal Arrangement /Internal Connections (Top View)

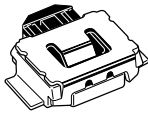


Note: Unless otherwise specified, a tolerance of ±0.2 mm applies to all dimensions. No terminal numbers are indicated on the Switches.

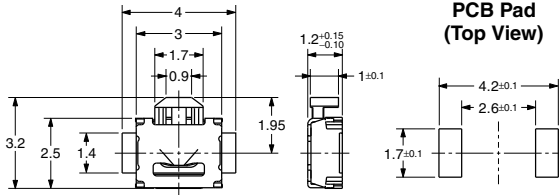
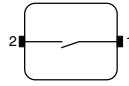
Side-actuated Models

Without Ground Terminal, without Boss

B3U-3000P(M)



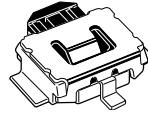
Terminal Arrangement /Internal Connections (Top View)



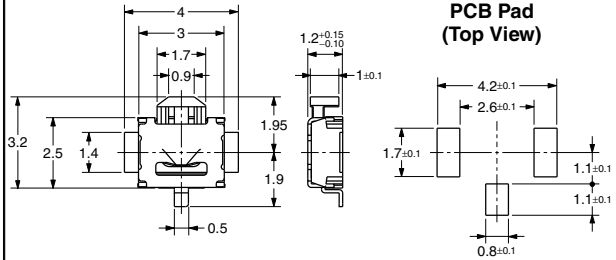
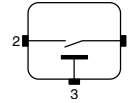
PCB Pad (Top View)

With Ground Terminal, without Boss

B3U-3100P(M)



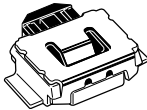
Terminal Arrangement /Internal Connections (Top View)



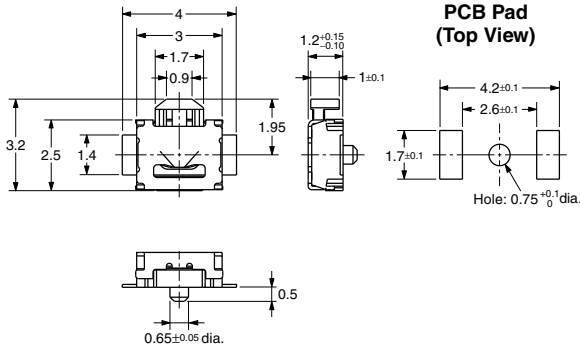
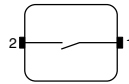
PCB Pad (Top View)

Without Ground Terminal, with Boss

B3U-3000P(M)-B



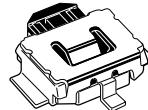
Terminal Arrangement /Internal Connections (Top View)



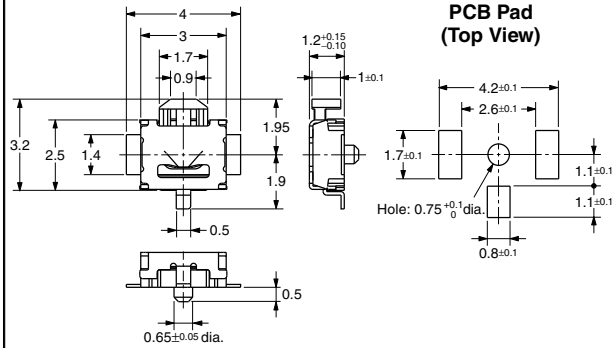
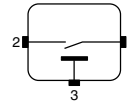
PCB Pad (Top View)

With Ground Terminal, with Boss

B3U-3100P(M)-B



Terminal Arrangement /Internal Connections (Top View)



PCB Pad (Top View)

Note: Unless otherwise specified, a tolerance of ±0.2 mm applies to all dimensions. No terminal numbers are indicated on the Switches.

■ Precautions

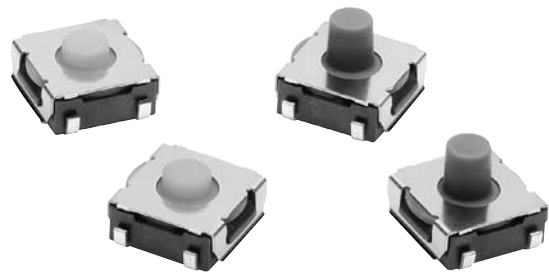
Be sure to read the precautions common to all Tactile Switches on pages for correct use.

- 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.

Surface-mounting Switches with a Sealed Structure (Rubber Plunger), Crisp Feel, and Middle Stroke. Available on Embossed Tape





- Sealed construction conforming to IP67 (IEC 60529) provides high contact reliability in dusty environments. (* Excluding the terminal section.)
- Crisp click feeling and middle stroke with rubber plunger.
- Embossed taping package for automatic mounting.



RoHS Compliant

■ List of Models

6 × 6 mm Models

Type	Contact material	Plunger	Height	Operating force (OF)	Plunger color	Embossed tape	
						Model	Minimum packing unit
B3SL Series	Silver plated	 (Flat type)	3.4 mm	1.96 N {200 gf}	Yellow-green	B3SL-1002P	2,000
		 (Flat type)	5.1 mm		Gray	B3SL-1022P	1,400
		 (Flat type)	3.4 mm	3.5 N {357 gf}	Blue	B3SL-1005P	2,000
		 (Flat type)	5.1 mm		Blue	B3SL-1025P	1,400

Note: Orders must be made in multiples of the minimum order. Switches are not sold individually.

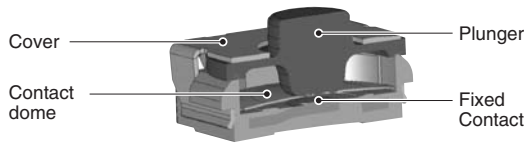
■ Ratings/Characteristics

Rating (resistive load)	1 to 50 mA at 3 to 12 VDC
Minimum applicable load (reference value)	10 μ A at 1 VDC (resistive load)
Ambient operating temperature	-25°C to +90°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 Ω max.
Insulation resistance	100 M Ω min. (at 250 VDC with insulation tester)
Dielectric strength	250 VAC, 50/60 Hz for 1 min
Bounce time	5 ms max.
Vibration resistance	Destruction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 1,000 m/s ² {approx. 100 G} max.
Durability	100,000 operations min.
Degree of protection	IEC IP67
Washing	Not possible

■ Operating Characteristics

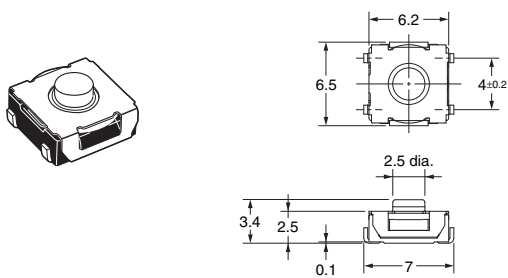
Operation type	B3SL-1002P	B3SL-1022P	B3SL-1005P	B3SL-1025P
Operating force (OF)	1.96 ± 0.49 N {200 ± 50 gf}		3.5 ± 0.8 N {357 ± 82 gf}	
Releasing force (RF)	0.35 N min. {35 gf}		0.5 N min. {51 gf}	
Pretravel (PT)	0.3 ± 0.2 mm	0.5 ± 0.2 mm	0.6 ± 0.2 mm	0.8 ± 0.2 mm

■ Model Structure

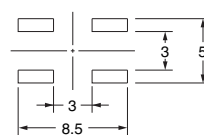


■ Dimensions (Unit: mm)

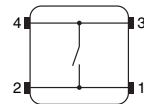
B3SL-1002P
B3SL-1005P



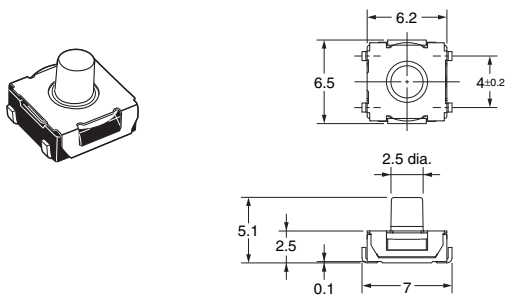
PCB Pad
(Top View)



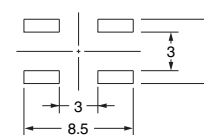
Terminal Arrangement/
Internal Connections
(Top View)



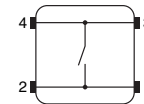
B3SL-1022P
B3SL-1025P



PCB Pad
(Top View)



Terminal Arrangement/
Internal Connections
(Top View)



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

■ Precautions

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

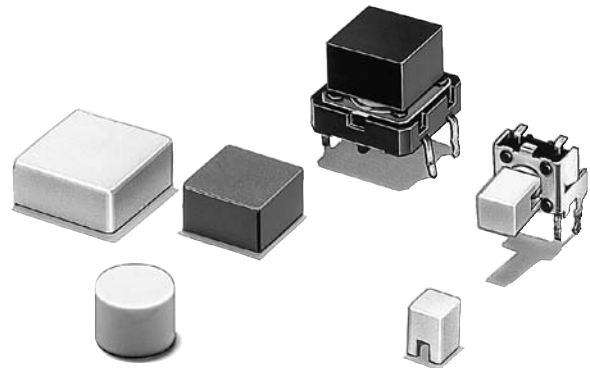
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Note: Do not use this document to operate the Unit.

Key Top Designed Specially for Projected-plunger-type B3F, B3FS, and B3W Switches

- Available in a wide range of colors and sizes.

RoHS Compliant



■ List of Models

For B3F, B3FS, and B3W Switches

Color	6 × 6 mm Switches B3F-1000, -1000-G, B3F-3000, -3000-G, -6000, B3W-1000, B3FS-1000			12 × 12 mm Switches B3F-4000, -5000, -5001, B3W-4000, B3FS-4000		
	4 × 4 mm Key Top	6 mm dia. Key Top	D-type Key Top	9 × 9 mm Key Top	12 × 12 mm Key Top	9.5-mm dia.
Ivory	B32-1000	B32-2000	B32-2100	B32-1200	B32-1300	B32-1600
Black	B32-1010	B32-2010	B32-2110	B32-1210	B32-1310	B32-1610
Orange	B32-1020	---	---	B32-1220	B32-1320	B32-1620
Yellow	B32-1030	---	---	B32-1230	B32-1330	B32-1630
Blue	B32-1040	---	---	B32-1240	B32-1340	---
White	B32-1060	---	---	B32-1260	B32-1360	---
Red	B32-1080	---	---	B32-1280	B32-1380	---

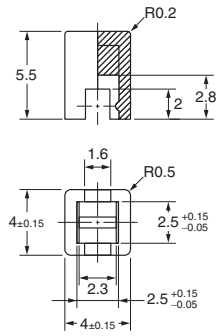
Note: Bulk Packed, 1000 pcs per bag. Order in multiple of the package quantity.

■ Characteristics

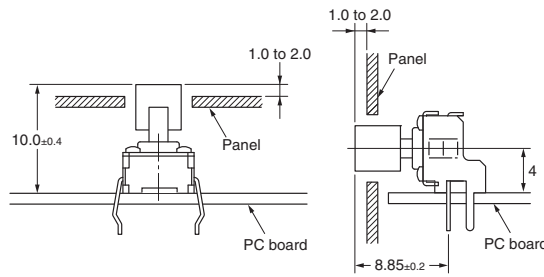
Ambient operating temperature	-25°C to +70°C at 60%RH max. (with no icing or condensation)
Ambient operating humidity	35% to 85% (at 5 to 35°C)

■ Dimensions (Unit: mm)

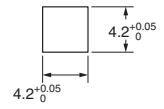
B32-10□0



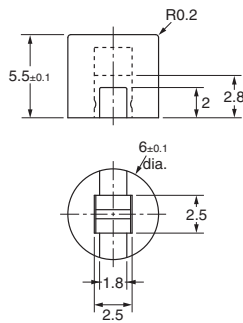
Reference Dimensions



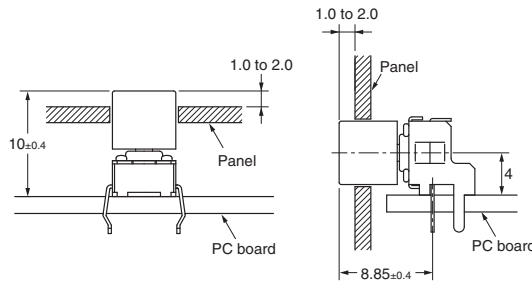
Panel Cutout



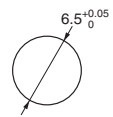
B32-2000
B32-2010



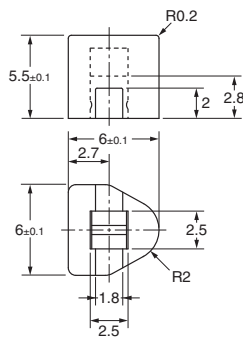
Reference Dimensions



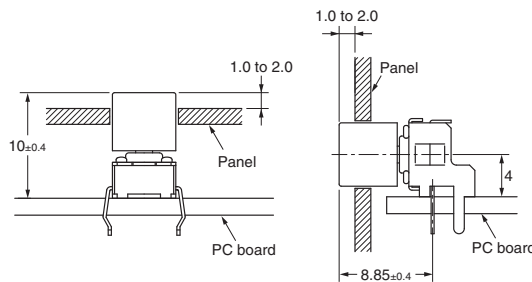
Panel Cutout



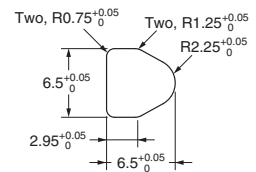
B32-2100
B32-2110



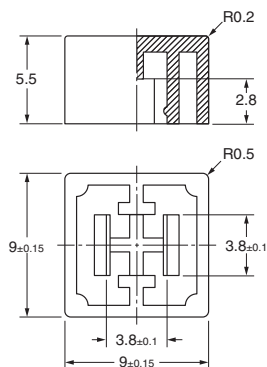
Reference Dimensions



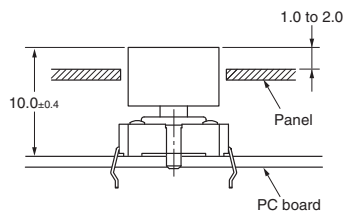
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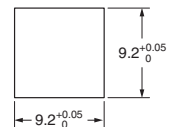
B32-12□0



Reference Dimensions

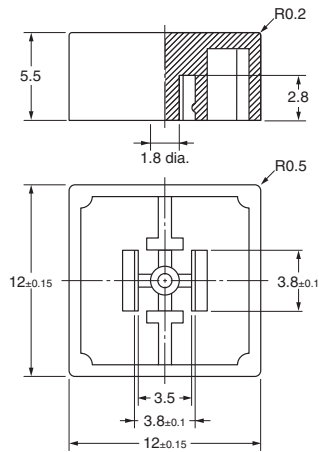
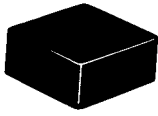


Panel Cutout

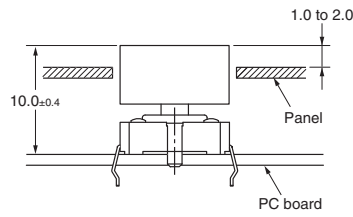


Note: Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.

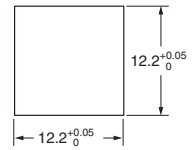
B32-13□0



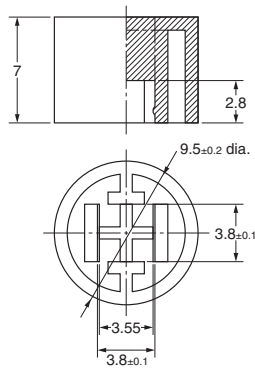
Reference Dimensions



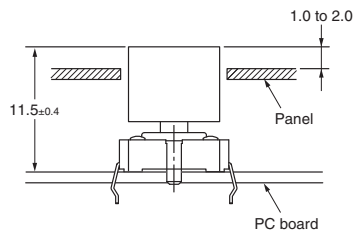
Panel Cutout



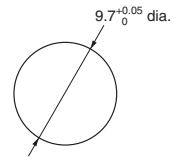
B32-16□0



Reference Dimensions



Panel Cutout



Note: Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.

■ Precautions

Mount the Key Top on to the Switch after soldering, otherwise the Key Top may be deformed by the soldering heat.

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

OMRON Corporation
Electronic and Mechanical Components Company

Contact: www.omron.com/ecb

Cat. No. A077-E1-06
1014(0207)(O)