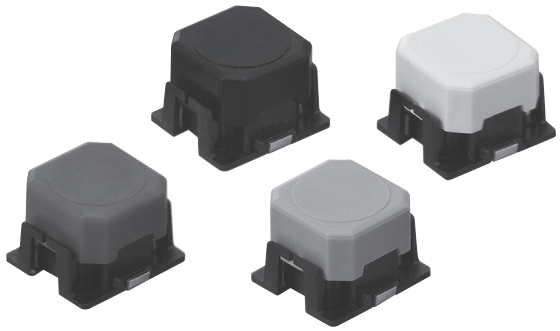
Long Stroke Tactile Switch
B3AL

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

- High operating force version available (OF = 3.5 N (356 gf)).
- Extended Service Life of 1 million operations.
- Long stroke achieved by using a rubber plunger.
- RoHS Compliant



NEW

Ordering Information

Type	Height	Plunger Color	Operating force (OF)	Embossed tape	
				Model	Quantity per reel
Top actuated, flat	5 mm	Red	1.96 N (200 gf)	**B3AL-1000P**	1,400
		Green	2.45 N (250 gf)	**B3AL-1001P**	
		Black	3.00 N (305 gf)	**B3AL-1002P**	
		White (milk-white)	3.50 N (357 gf)	**B3AL-1003P**	

Note: Order in multiples of the quantities given. Switches are not sold individually.

Specifications

■ Characteristics

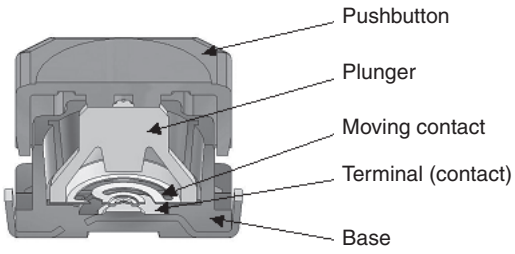
Item	Specification
Contact form	SPST-NO
Switching capacity	1 to 50 mA at 5 to 16 VDC (resistive load)
Contact resistance	100 mΩ max.
Insulation resistance	100 MΩ min. (at 100 VDC)
Dielectric strength	250 VAC, 50/60 Hz for 1 min.
Bounce time	5 ms max. (The center of the plunger is pressed at a speed of 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 (approx. 100 G) max. Malfunction: 100 m/s^2 (approx. 10 G) max.
Ambient operating temperature	−40 to 90°C (at 60% RH max.) with no icing or condensation
Ambient operating humidity	35% to 85% (at 5 to 35°C)
Service Life	1,000,000 operations min.
Weight	Approx. 0.18 g

Note: Data shown are of initial value

■ Operating Characteristics

Model	B3AL-1000P	B3AL-1001P	B3AL-1002P	B3AL-1003P
Plunger Color	Red	green	black	White (milk-white)
Operating force (OF)	1.96 ± 0.59 N (200 ± 60 gf)	2.45 ± 0.69 N (200 ± 70 gf)	3.00 ± 0.90 N (200 ± 91 gf)	3.50 ± 1.05 N (200 ± 107 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.
Pretravel (PT)	$1.3^{+0.2}_{-0.3}$ mm			

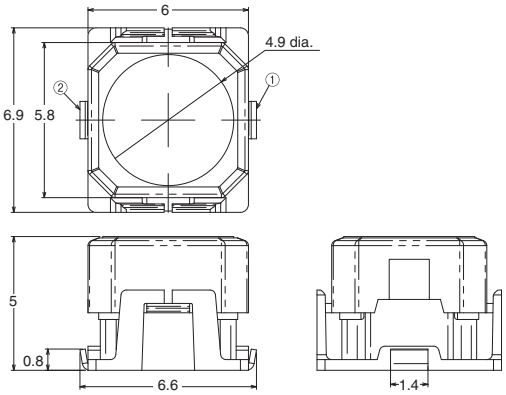
■ Construction



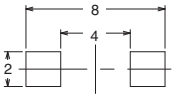
Dimensions

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

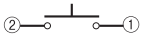




PCB Pad (Top View)



Terminal Arrangement/ Internal Connections (Top View)



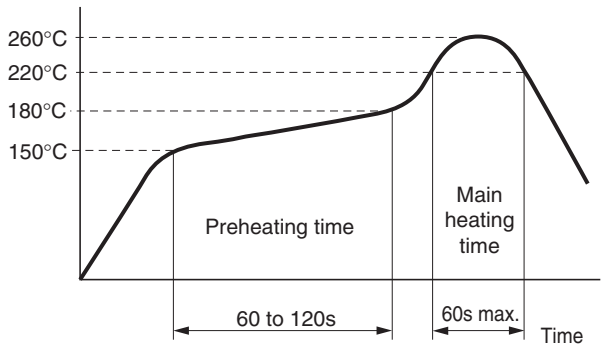
Precautions

■ Precautions for Correct Use

Handling

Soldering

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



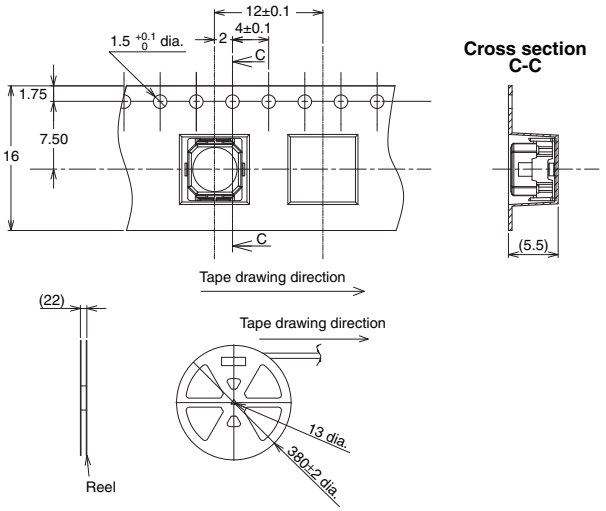
Washing

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.

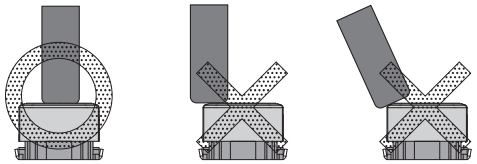
Packaging Specifications

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.

Common Precautions

Be sure to read the precautions common to all Tactile Switches, contained in the Technical User's Guide, "Tactile Switches, Technical Information" for correct use.

All sales are subject to Omron Electronic Components LLC standard terms and conditions of sale, which can be found at http://www.components.omron.com/components/web/webfiles.nsf/sales_terms.html

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

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Cat. No. A196-E-1 04/11 Specifications subject to change without notice Printed in USA