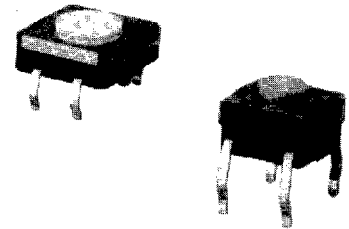
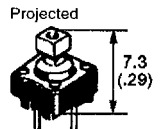
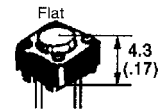


### Mechanical Keyswitch with Sealed Construction for Automatic Soldering

- 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 | <b>B3W-1000</b>         | <b>B3W-1000S</b> | <b>B3W-1100</b>      | <b>B3W-1100S</b> |
|         |           |                       | High-force: 230 g      | <b>B3W-1002</b>         | <b>B3W-1002S</b> | <b>B3W-1102</b>      | <b>B3W-1102S</b> |
|         | Projected | 6 x 6 mm              | General-purpose: 160 g | <b>B3W-1050</b>         | <b>B3W-1050S</b> | <b>B3W-1150</b>      | <b>B3W-1150S</b> |
|         |           |                       | High-force: 230 g      | <b>B3W-1052</b>         | <b>B3W-1052S</b> | <b>B3W-1152</b>      | <b>B3W-1152S</b> |
|         | Flat      | 12 x 12 mm            | General-purpose: 200 g | <b>B3W-4000</b>         | <b>B3W-4000S</b> | <b>B3W-4100</b>      | <b>B3W-4100S</b> |
|         |           |                       | High-force: 350 g      | <b>B3W-4005</b>         | <b>B3W-4005S</b> | <b>B3W-4105</b>      | <b>B3W-4105S</b> |
|         | Projected | 12 x 12 mm            | General-purpose: 200 g | <b>B3W-4050</b>         | <b>B3W-4050S</b> | <b>B3W-4150</b>      | <b>B3W-4150S</b> |
|         |           |                       | High-force: 350 g      | <b>B3W-4055</b>         | <b>B3W-4055S</b> | <b>B3W-4155</b>      | <b>B3W-4155S</b> |

\* 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: | Part Number     |                 |                 |
|--------------|------------------|-----------------|-----------------|-----------------|
|              |                  | 6 x 6 mm        | 12 x 12 mm      |                 |
|              | Size:            | 4 x 4 mm        | 9 x 9 mm        | 12 x 12 mm      |
| Light gray   |                  | <b>B32-1000</b> | <b>B32-1200</b> | <b>B32-1300</b> |
| Black        |                  | <b>B32-1010</b> | <b>B32-1210</b> | <b>B32-1310</b> |
| Orange       |                  | <b>B32-1020</b> | <b>B32-1220</b> | <b>B32-1320</b> |
| Yellow       |                  | <b>B32-1030</b> | <b>B32-1230</b> | <b>B32-1330</b> |
| Blue         |                  | <b>B32-1040</b> | <b>B32-1240</b> | <b>B32-1340</b> |
| Green        |                  | <b>B32-1050</b> | <b>B32-1250</b> | <b>B32-1350</b> |
| White        |                  | <b>B32-1060</b> | <b>B32-1260</b> | <b>B32-1360</b> |
| Light green  |                  | <b>B32-1070</b> | <b>B32-1270</b> | <b>B32-1370</b> |
| Red          |                  | <b>B32-1080</b> | <b>B32-1280</b> | <b>B32-1380</b> |

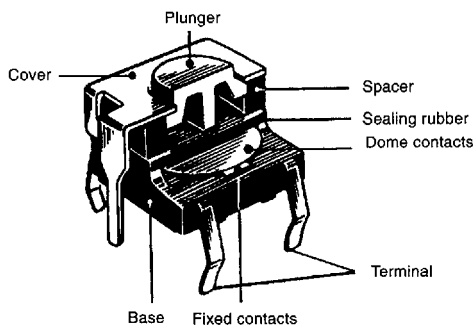
Note: Keycaps are available in different sizes and colors for exclusive use with the 6 x 6 mm and 12 x 12 mm projected plunger version of Model B3W.

### 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



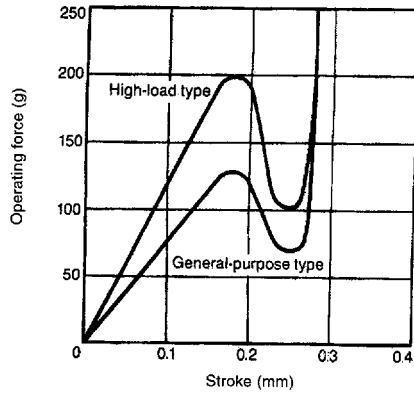
# Characteristics

|   |                        |  |                           |
|---|------------------------|--|---------------------------|
| 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 <sup>2</sup> (approx. 100 G) |                           |
|   | Malfunction durability | 100 m/s <sup>2</sup> (approx. 10 G)    |                           |
| Ambient temperature                     | Operating              | -25° to 70°C                           |                           |
| Humidity                                |                        | 35% to 85% RH                          |                           |
| Service life<br>[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            |

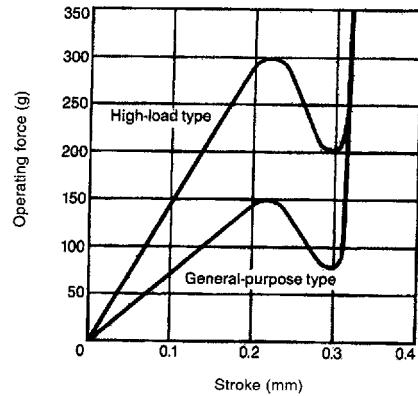
## CHARACTERISTIC DATA

Operating 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 <sup>+0.2</sup> / <sub>-0.1</sub> mm | 0.25 <sup>+0.2</sup> / <sub>-0.1</sub> mm | 0.3 <sup>+0.2</sup> / <sub>-0.1</sub> mm | 0.3 <sup>+0.2</sup> / <sub>-0.1</sub> mm |

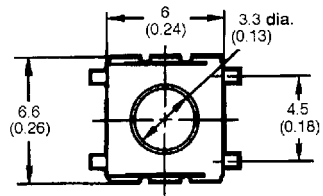
2

# Dimensions

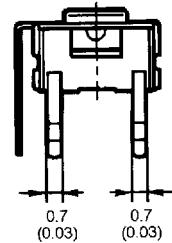
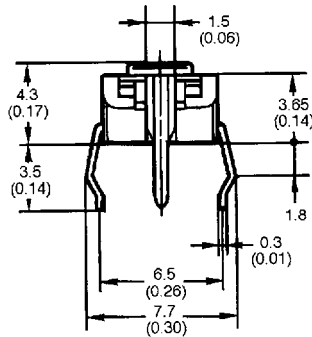
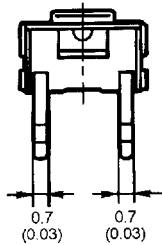
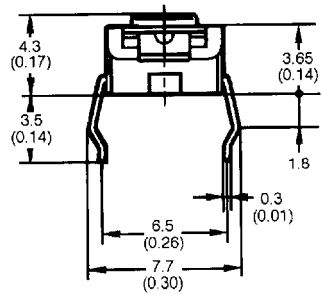
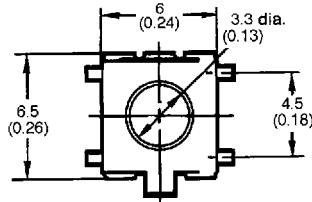
Unit: mm (inch)

## ■ 6 MM SQUARE TYPES

### B3W-1000, B3W-1002



### B3W-1100, B3W-1102

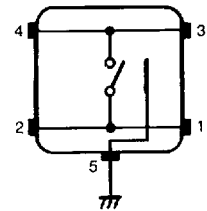
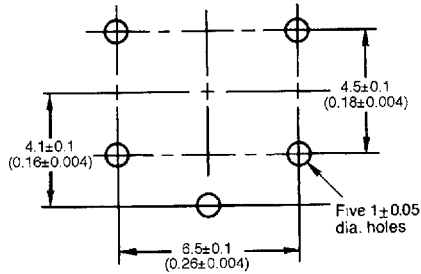
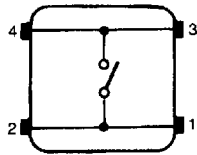
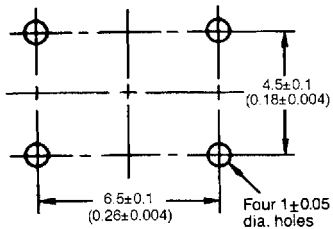


Mounting holes in PCB (top view)

Terminal arrangement/ Internal connection (top view)

Mounting holes in PCB (top view)

Terminal arrangement/ Internal connection (top view)

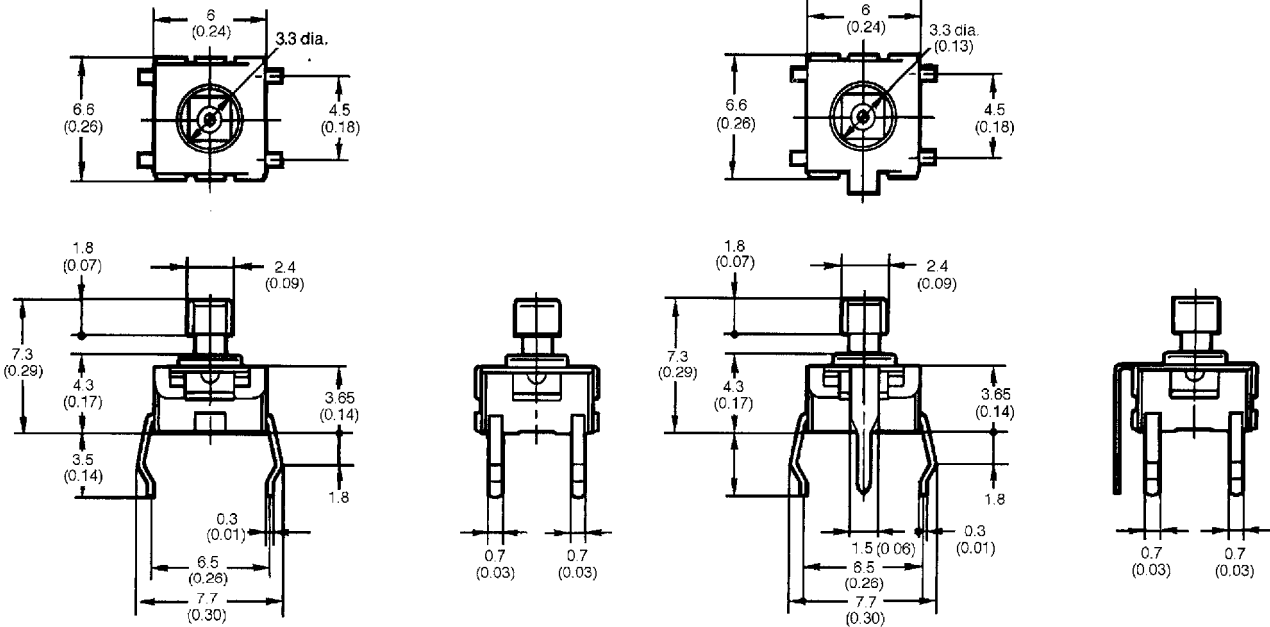


Note: Unless otherwise specified, a tolerance of  $\pm 0.2$  mm applies to all dimensions.

■ 6 MM SQUARE TYPES

B3W-1050, B3W-1052

B3W-1150, B3W-1152

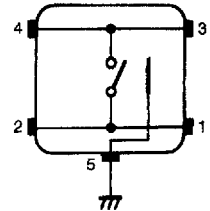
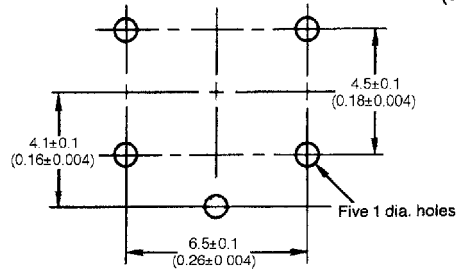
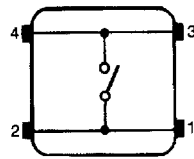
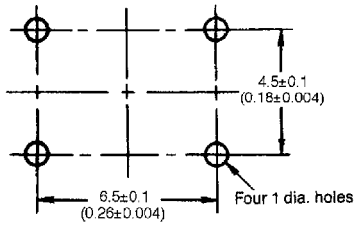


Mounting holes in PCB (top view)

Terminal arrangement/ Internal connection (top view)

Mounting holes in PCB (top view)

Terminal arrangement/ Internal connection (top view)

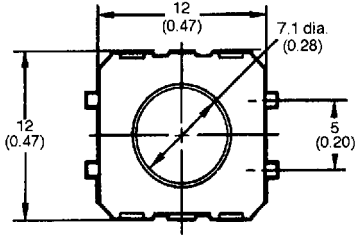


Note: Unless otherwise specified, a tolerance of  $\pm 0.2$  mm applies to all dimensions.

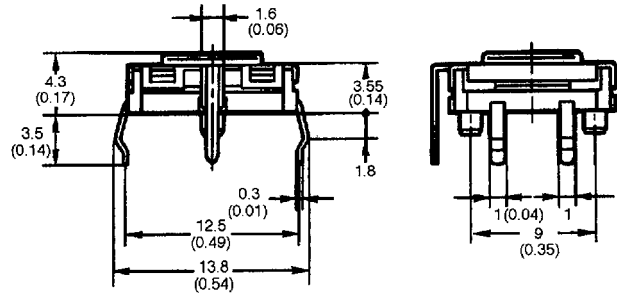
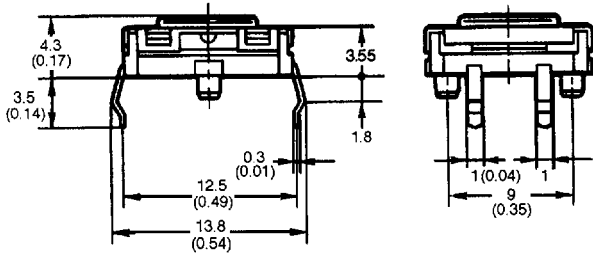
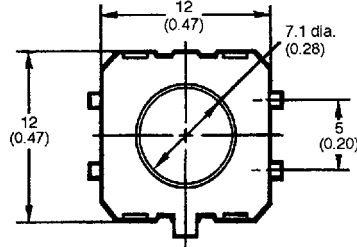
Unit: mm (inch)

■ 12 MM SQUARE TYPES

B3W-4000, B3W-4005

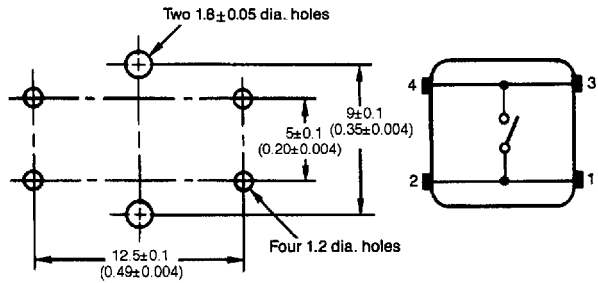


B3W-4100, B3W-4105



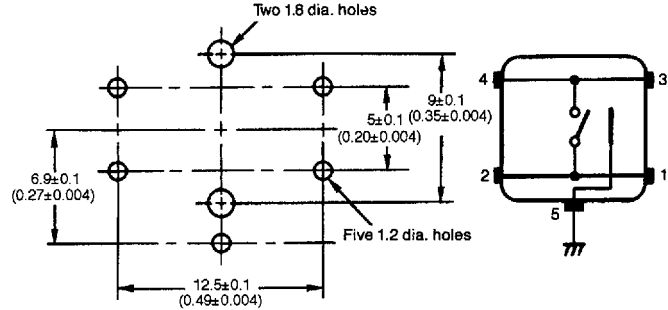
Mounting holes in PCB (top view)

Terminal arrangement/ Internal connection (top view)



Mounting holes in PCB (top view)

Terminal arrangement/ Internal connection (top view)

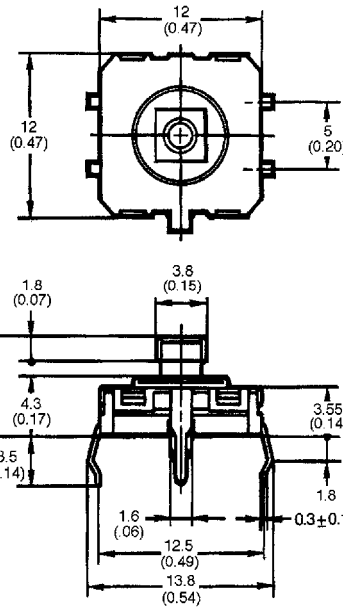
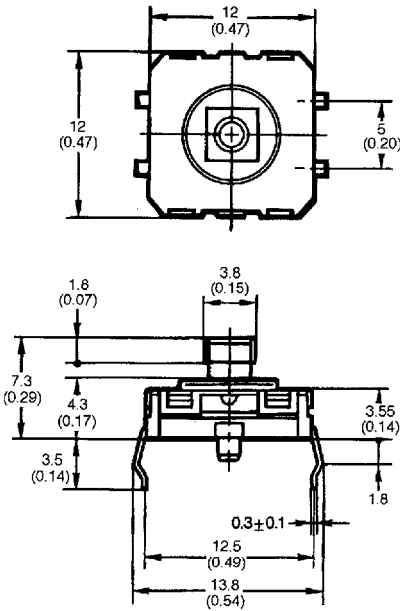


Note: Unless otherwise specified, a tolerance of ± 0.2 mm applies to all dimensions.

■ 12 MM SQUARE TYPES

B3W-4050, B3W-4055

B3W-4150, B3W-4155

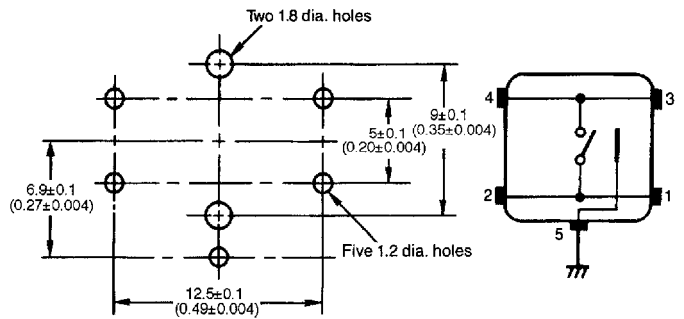
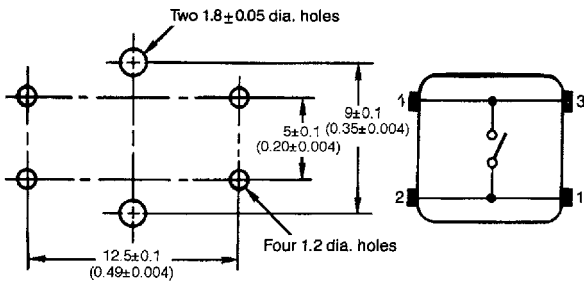


Mounting holes in PCB (top view)

Terminal arrangement/Internal connection (top view)

Mounting holes in PCB (top view)

Terminal arrangement/Internal connection (top view)



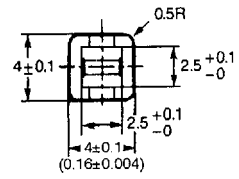
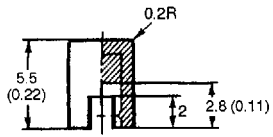
Note: Unless otherwise specified, a tolerance of ± 0.2 mm applies to all dimensions.

2

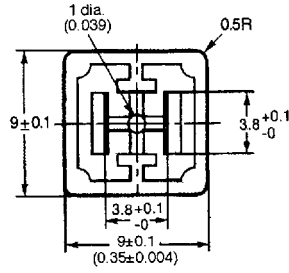
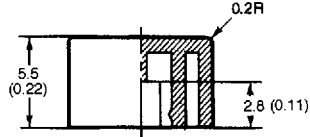
Unit: mm (inch)

■ KEYCAPS

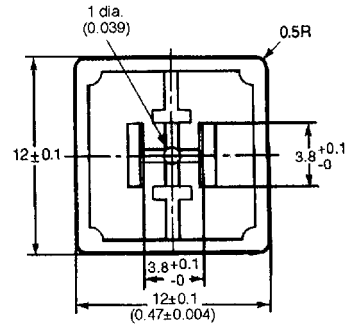
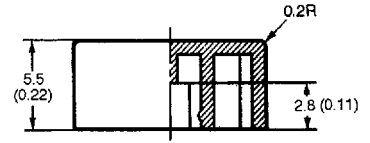
**B32-10** 0



**B32-12** 0



**B32-13** 0



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