Specifications

■ Ratings

Switching capacity	5 to 24 VDC, 1 to 50 mA (resistive load)
Insulation voltage	30 VDC

■ Characteristics

Contact configuration	SPST-NO
Contact resistance	100 mΩ max. (at 5 VDC, 1 mA)
Insulation resistance	100 MΩ min. (at 250 VDC)
Dielectric strength	500 VAC, 50/60 Hz for 1 min
Bounce time	5 ms max.
Vibration	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock	Destruction: 1,000 m/s^2 min. (approx. 100G min.) Malfunction: 100 m/s^2 min. (approx. 10G min.)
Life expectancy	3,000,000 operations min.
Ambient temperature	−25°C to 70°C (with no icing)
Ambient humidity	35% to 85%
Weight	Approx. 1.5 to 1.7 g

■ Operating Characteristics

Item	B3S-1000
Operating force (OF)	1.27±0.49 N (130±50 gf)
Reset force (RF min.)	0.29 N (30 gf min.)
Pretravel (PT)	$0.3^{+0.2}/_{-0.1}$ mm

Engineering Data

Operating Force vs. Stroke (Typical)

Stroke S (mm)
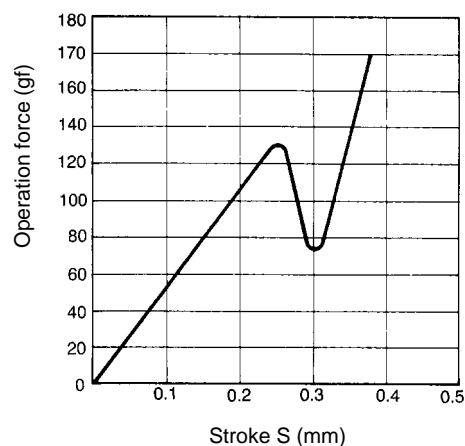
■ Built-in LED Performance

Item		Red	Yellow	Green
Forward voltage V$_F$	Standard value (V)	2.0	2.0	2.1
Forward current I$_F$	Standard value (mA)	20	20	20
Permissible loss P	Absolute maximum value (mW)	84	84	84
Reverse voltage V$_R$	Absolute maximum value (V)	5	5	5

Note: Since the built-in LED doesn't contain any limiting resistors, externally connect limiting resistors within the limits shown in the above table.
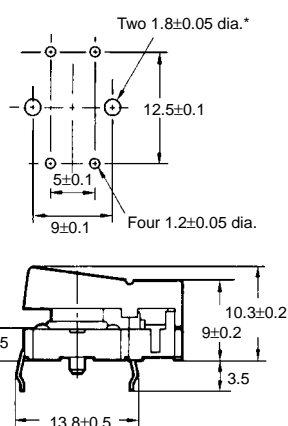
2

Dimensions ━━

Note: All units are in millimeters unless otherwise indicated. Unless otherwise specified, a tolerance of ±0.4 mm applies to all dimensions.
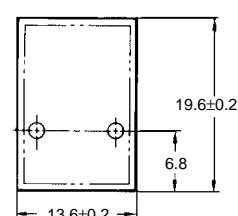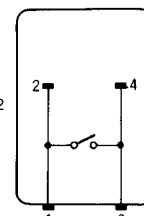
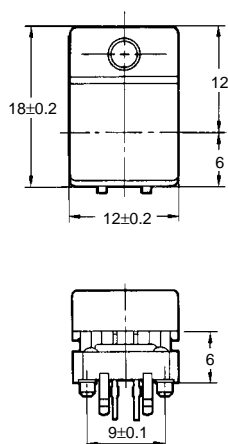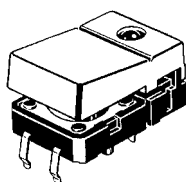**Types with no LED**
B3J-1□00
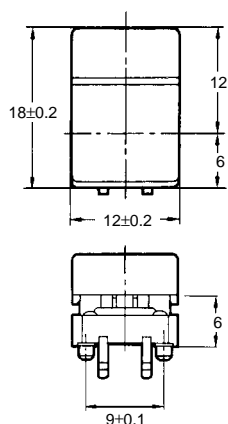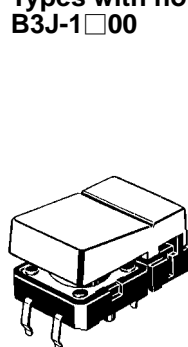
PCB Mounting
(Top View)

Two 1.8±0.05 dia.*

12.5±0.1

5±0.1

9±0.1

Four 1.2±0.05 dia.

Panel Cutout

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

18±0.2

12

6

12±0.2

6

9±0.1

10.3±0.2

9±0.2
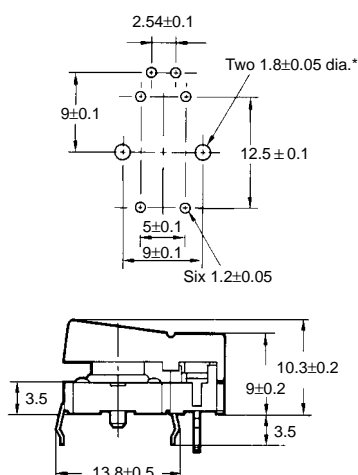
3.5

3.5

13.8±0.5

19.6±0.2

6.8

13.6±0.2

2 4

1 3

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

1 LED Types
**B3J-2□00, -3□00,
-4□00**

PCB Mounting
(Top View)
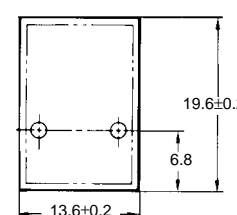
2.54±0.1

Two 1.8±0.05 dia.*

9±0.1

12.5 ± 0.1

5±0.1

9±0.1

Six 1.2±0.05

Panel Cutout

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

18±0.2

12

6

12±0.2

6

9±0.1

10.3±0.2

9±0.2

3.5

3.5

13.8±0.5

19.6±0.2

6.8

13.6±0.2

K   A

2 4

1 3
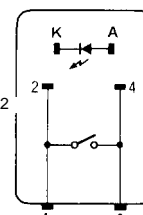
*Fit the projection of the Switch into
this hole to secure the Switch.

2 LED Types
**B3J-5□00, -6□00,
-7□00**

PCB Mounting
(Top View)
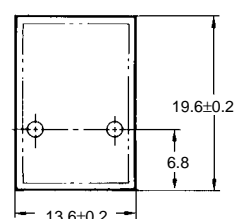
3.46±0.1
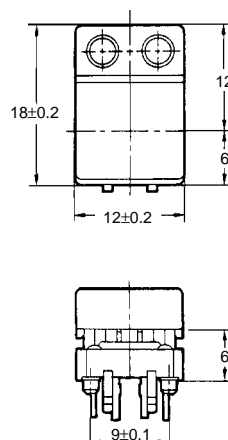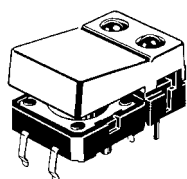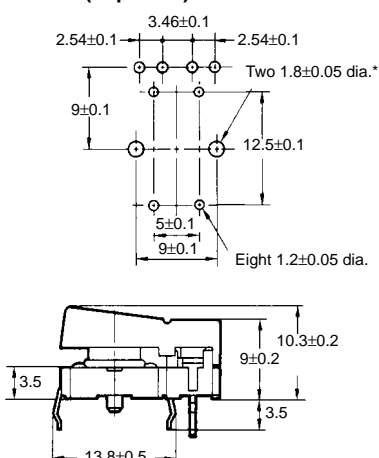
2.54±0.1   2.54±0.1

Two 1.8±0.05 dia.*

9±0.1

12.5±0.1

5±0.1

9±0.1

Eight 1.2±0.05 dia.

Panel Cutout

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

18±0.2

12

6

12±0.2

6

9±0.1

10.3±0.2

9±0.2

3.5

3.5

13.8±0.5

19.6±0.2

6.8

13.6±0.2

K   A K   A

2 4

1 3

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

3
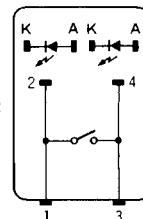
Precautions

- Do not apply additional force to the plunger once it has stopped moving.

- Solder at 260°±5°C within five seconds and within two tries.

- The Switches are not sealed and must be protected with a resin sheet as shown below when used in dust-prone environments.

- Do not wash the Switches. The Switches may be damaged by solvents if either wiped off using solvents of immersed in solvents.

- Do not allow flux or flux foam to penetrate onto the component side of the PCB.

- Use a single-sided PCB with a thickness of 1.6 mm. The Switches may be damaged due to instability or heat from soldering if other PCBs (other thickness or through holes) are used. If is it necessary to use another PCB, test the compatibility and processing in advance.

Indicators

- Connect a limiting resistor to the indicator. Since the Switch dos not contain any limiting resistor, obtain a limiting resistance according to the following formula depending on the voltage to be used so as to satisfy indicator characteristics.

$$\text{Limiting resistance } [R] = \frac{\text{Voltage used } [V] - \text{Indicator forward voltage } [V_F]}{\text{Indicator forward current } [I_F]} \quad (\Omega)$$