Series BB  Process Sealed Subminiature Antistatic Pushbuttons

General Specifications

Electrical Capacity (Resistive Load)

Logic Level: 0.4VA maximum @ 28V AC/DC maximum
(Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)
Note: Find additional explanation of operating range in Supplement section.

Other Ratings

- Contact Resistance: 50 milliohms maximum
- Insulation Resistance: 500 megohms minimum @ 500V DC
- Dielectric Strength: 500V AC minimum for 1 minute minimum
- Mechanical Life: 50,000 operations minimum (momentary)
- Electrical Life: 25,000 operations minimum (alternate action)
- Nominal Operating Force: 2.55N (momentary); 2.94N (alternate action)
- Contact Timing: Nonshorting
- Travel: Momentary: Pretravel .028” (0.7mm); Overtravel .016” (0.4mm); Total Travel .043” (1.1mm)
  Alternate: Pretravel .039” (1.0mm); Overtravel .039” (1.0mm); Total Travel .079” (2.0mm)

Materials & Finishes

- Plunger: Polyacetal
- Bushing: Carbon blended polyamide
- Case Housing: Glass fiber reinforced polyamide
- Support Bracket: Tin plated phosphor bronze
- Movable Contact: Phosphor bronze with gold plating
- Stationary Contacts: Copper alloy with gold plating
- Terminals: Copper alloy with gold plating

Environmental Data

- Operating Temp Range: -30°C through +85°C (-22°F through +185°F)
- Humidity: 90 ~ 95% humidity for 96 hours @ 40°C (104°F)
- Vibration: 10 ~ 55Hz with peak-to-peak amplitude of 1.5mm traversing the frequency range & returning in 1 minute; 3 right angled directions for 2 hours
- Shock: 50G (490m/s²) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

Installation

- Cap Installation Force: 49.03N (11.2 lbf) maximum downward force on actuator;
  actuator must be in UP position to remove cap from alternate action models

PCB Processing

- Soldering: Wave Soldering Recommended: See Profile A in Supplement section.

Standards & Certifications

- Flammability Standards: UL94V-0 available
  The BB Series pushbuttons have not been tested for UL recognition or CSA certification.
  These switches are designed for use in a low-voltage, low-current, logic-level circuit.
  When used as intended in a logic-level circuit, the results do not produce hazardous energy.
Distinctive Characteristics

Subminiature size (1/3 size of Series M switches) saves space on PC boards.

Specifically developed for logic-level applications.

Available in momentary and maintained circuits.

Industry’s smallest alternate action (maintained) pushbutton with latchdown feature providing visible, audible, and tactile feedback.

Antistatic superstructure, consisting of the carbon impregnated bushing and the support bracket, prevents static discharge to the contacts. Static electricity from an operator’s touch travels from the actuator through the bushing and bracket to the PC board.

Award-winning STC contact mechanism with benefits unavailable in conventional mechanisms: smoother, positive detent actuation, increased contact stability and unparalleled logic-level reliability. (Additional STC details in Terms & Acronyms; see Supplement section.)

Smooth, 6mm diameter bushing simplifies panel layout.

Totally sealed body construction prevents contact contamination and allows time- and money-saving soldering and cleaning.

.100” x .100” (2.54mm x 2.54mm) terminal spacing conforms to standard PC board grids.
Series BB

Process Sealed Subminiature Antistatic Pushbuttons

TYPICAL SWITCH ORDERING EXAMPLE

BB15AH-FA

- **Poles**
  - 1 SPDT
  - 2 DPDT

- **Circuits**
  - 5 ON (ON)
  - 6 ON ON

  Alternate Action has Latchdown. BB16 has a Double Pole case.

- **PC Terminals**
  - P Straight
  - *B Straight with Bracket
  - *H Right Angle with Bracket
  - *V Vertical with Bracket
  - W Straight Long
  - * Bracketed models are ESD protected

- **Plunger**
  - A .213” (5.4mm) Long

- **Caps**
  - F .201” (5.1mm) Diameter
  - H .295” (7.5mm) Diameter

- **Cap Colors**
  - A Black
  - B White
  - C Red

DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

BB15AH-FA

- Black .201” (5.1mm) Diameter Cap
- .213” (5.4mm) Long White Plunger
- SPDT ON-(ON) Circuit
- Right Angle PC Terminals
Process Sealed Subminiature Antistatic Pushbuttons

Series BB

POLES & CIRCUITS

<table>
<thead>
<tr>
<th>Pole</th>
<th>Model</th>
<th>Normal</th>
<th>Down</th>
<th>Connected Terminals</th>
<th>Throw &amp; Schematics</th>
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<tr>
<td>SP</td>
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<td>ON</td>
<td>ON</td>
<td>2-3</td>
<td>SPDT</td>
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<tr>
<td></td>
<td>BB16</td>
<td>(ON)</td>
<td>ON</td>
<td>2-1</td>
<td></td>
</tr>
<tr>
<td>DP</td>
<td>BB25</td>
<td>ON</td>
<td>(ON)</td>
<td>2-3 5-6</td>
<td>DPDT</td>
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<tr>
<td></td>
<td>BB26</td>
<td>ON</td>
<td>ON</td>
<td>2-1 5-4</td>
<td></td>
</tr>
</tbody>
</table>

Note: Terminal numbers are not actually on the switch.

PLUNGERS

A .213” (5.4mm) Long

Standard Plunger Color: White

Contact factory for other colors and lengths.

PC TERMINALS

Use of a support bracket is recommended to increase PCB mounting strength and stability.

Both single pole and double pole alternate action models have double pole bases.

See Typical Switch Dimensions for details.

SLIP-ON CAPS

F AT475 .201” (5.1mm) Diameter Cap

H AT496 .295” (7.5mm) Diameter Cap

Material: Polyamide

Colors Available: A Black  B White  C Red
Series BB
Process Sealed Subminiature Antistatic Pushbuttons

TYPICAL SWITCH DIMENSIONS

Straight PC

Single Pole

Momentary

Double Pole

BB16AP

Momentary & Alternate

Alternate

Straight PC • Bracket

BB16AB

Momentary & Alternate

Alternate

Straight PC • Bracket

BB15AP-FA

Straight PC

BB25AP-FA

Straight PC • Bracket

BB15AB-FA

Straight PC

BB25AB-FA

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