

# General Specifications

## Electrical Capacity (Resistive Load)

<b>Power Level (code W):</b>	3A @ 125V AC
<b>Logic Level (code G):</b>	0.4VA maximum @ 28V AC/DC maximum (Applicable Range 0.1mA ~ 0.1A @ 20mV ~ 28V)
<b>Logic/Power Level (code A):</b>	Combines W & G ratings Note: See Supplement section to find explanation of operating range.

## Other Ratings

<b>Contact Resistance:</b>	20 milliohms maximum for silver; 30 milliohms maximum for gold
<b>Insulation Resistance:</b>	1,000 megohms minimum @ 500V DC
<b>Dielectric Strength:</b>	1,000V AC minimum between contacts for 1 minute minimum; 1,500V AC minimum between contacts & case for 1 minute minimum
<b>Mechanical Life:</b>	200,000 operations minimum
<b>Electrical Life:</b>	25,000 operations minimum for silver; 100,000 operations minimum for gold
<b>Nominal Operating Force:</b>	Single pole 2.45N; double pole 3.92N
<b>Travel:</b>	Pretravel .024" (0.6mm); Overtravel .016" (0.4mm); Total Travel .039" (1.0mm)

## Materials & Finishes

<b>Plunger:</b>	Brass with nickel plating
<b>Bushing:</b>	Brass with nickel plating
<b>Mounting &amp; Body Frames:</b>	Stainless steel
<b>Support Bracket:</b>	Brass with tin plating
<b>Case:</b>	Glass fiber reinforced polyester (UL94V-0)
<b>Base:</b>	Diallyl phthalate resin
<b>Movable Contactor:</b>	Phosphor bronze with silver or gold plating
<b>Movable Contacts:</b>	Silver alloy (code W); copper with gold plating (code G)
<b>Stationary Contacts:</b>	Silver with silver plating (code W); copper or brass with gold plating (code G)
<b>Terminals:</b>	Copper with silver plating; copper or brass with gold plating

## Environmental Data

<b>Operating Temp Range:</b>	-30°C through +85°C (-22°F through +185°F)
<b>Humidity:</b>	90 ~ 95% humidity for 100 hours @ 40°C (104°F)
<b>Vibration:</b>	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
<b>Shock:</b>	50G (490m/s <sup>2</sup> ) acceleration (tested in 6 right angled directions, with 5 shocks in each direction)

## Installation

<b>Mounting Torque:</b>	1.5Nm (13 lb•in) for double nut; 0.7Nm (6 lb•in) for single nut
<b>Cap Installation Force:</b>	80N (18 lbf) maximum downward force on actuator

## Processing

<b>Soldering:</b>	Wave Soldering Recommended: See Profile B in Supplement section. Manual Soldering: See Profile B in Supplement section.
<b>Cleaning:</b>	These devices are not process sealed. Hand clean locally using alcohol based solution.

## Standards & Certifications

<b>Flammability Standards:</b>	UL94V-0 Case
<b>UL :</b>	<b>File No. E44145 - Recognized only when ordered with marking on switch.</b> Add "/U" or "/CUL" before dash in part number to order UL recognized switch. All single & double pole models recognized at 3A @ 125V AC or 0.4VA max. @ 28V AC/DC max.
<b>CSA:</b>	<b>File No. 023535_0_000 - Certified only when ordered with marking on switch.</b> Add "/C" before dash in part number to order CSA certified switch. Single pole & double pole models certified at 3A @ 125V AC or 0.4VA max. @ 28V AC/DC max.

# Distinctive Characteristics

Short stroke and light touch.

Antijamming design protects contacts from damage due to excessive downward force on the actuator.

High torque bushing construction prevents rotation or separation from frame during installation.

Stainless steel frame resists corrosion.

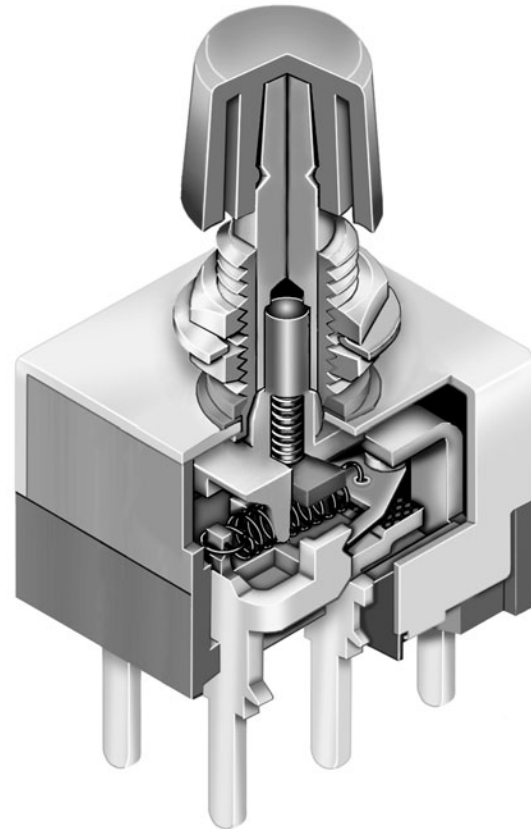
Longer center solder lug terminal simplifies wiring and soldering.

Patented silver contacts of specially composed alloy for hardness.

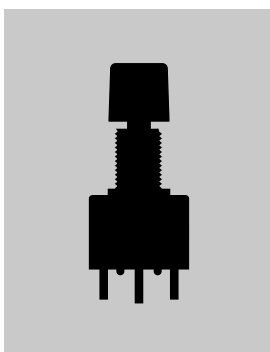
Epoxy sealed terminals prevent entry of solder flux and other contaminants.

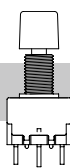
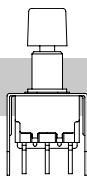
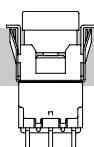
Snap-acting mechanism gives smooth actuation and audible feedback.

Prominent external insulating barriers increase insulation resistance and dielectric strength.



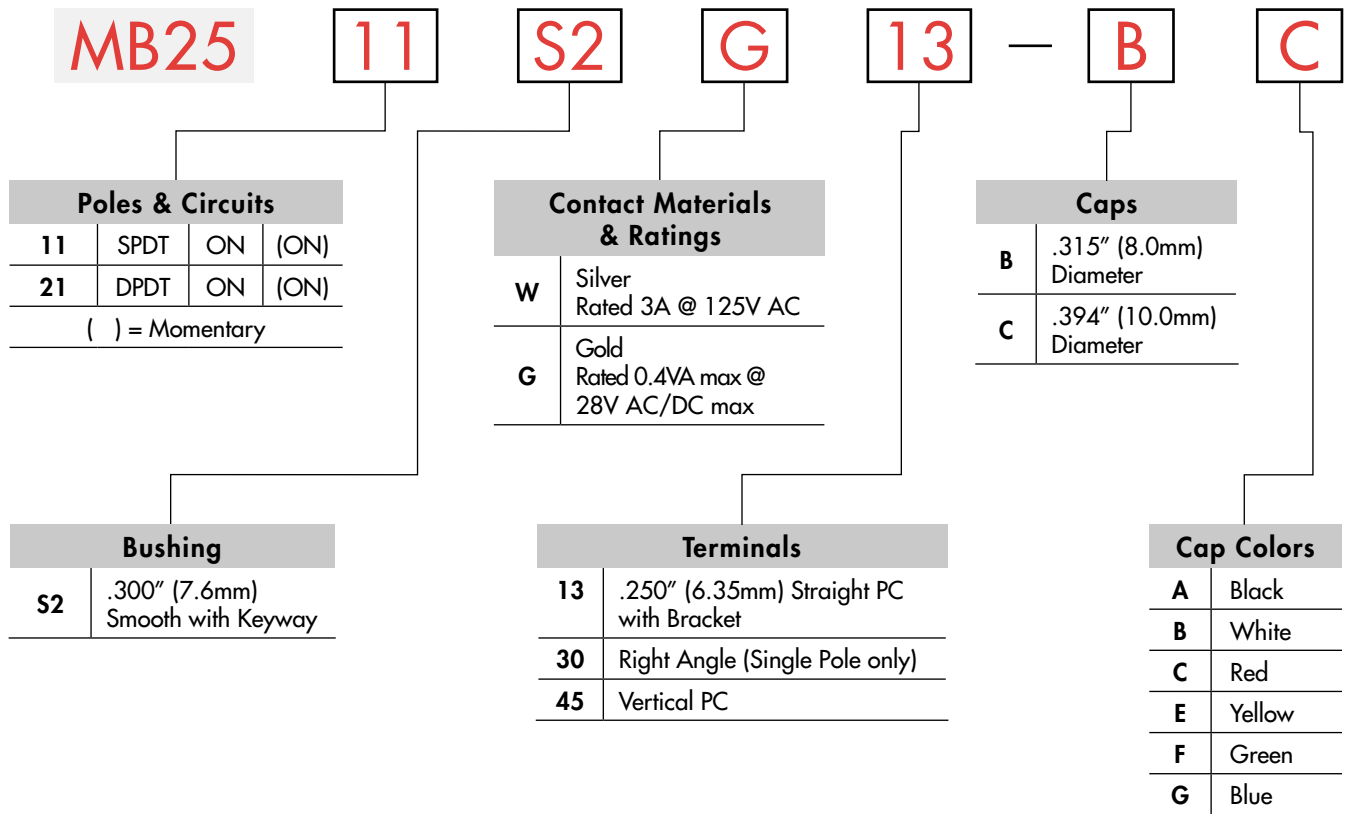
Actual Size



	Bushing Mount	Page C118
	Bracket PC Mount	Page C121
	Snap-in Mount	Page C124

- Toggle
- Rockers
- Pushbuttons**
- Illuminated PB
- Programmable
- Keylocks
- Rotaries
- Slides
- Tactiles
- Tilt
- Touch
- Indicators
- Accessories
- Supplement

## TYPICAL SWITCH ORDERING EXAMPLE



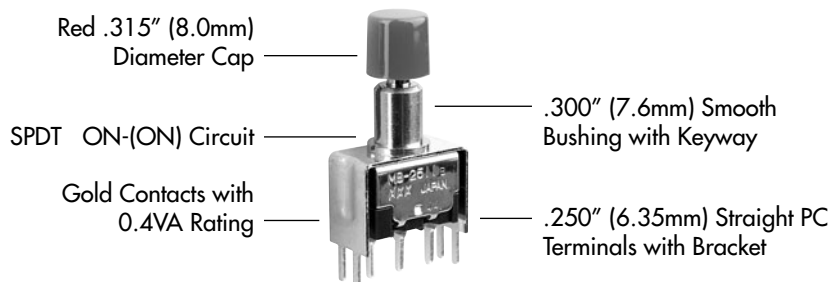
### IMPORTANT:



Switches are supplied without UL, cULus & CSA marking unless specified. **UL, cULus & CSA recognized only when ordered with marking on the switch.** Specific models, ratings, & ordering instructions are noted on General Specifications page.

### DESCRIPTION FOR TYPICAL ORDERING EXAMPLE

**MB2511S2G13-BC**



Toggles

Rockers

Pushbuttons

Illuminated PB

Programmable

Keylocks

Rotaries

Slides

Tactiles

Tilt

Touch

Indicators

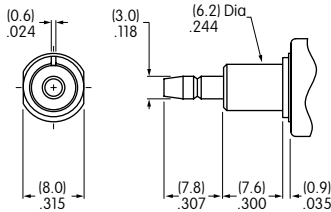
Accessories

### POLES & CIRCUITS

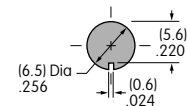
Pole	Model	Plunger Position ( ) = Momentary		Connected Terminals		Throw & Switch Schematics
		Normal	Down	Normal	Down	
						Note: Terminal numbers are not actually on the switch.
SP	MB2511	ON	(ON)	3-1	3-2	SPDT
DP	MB2521	ON	(ON)	3-1 6-4	3-2 6-5	DPDT

### BUSHING

**S2** .300" (7.6mm)  
Smooth with Keyway



#### Panel Cutout



### CONTACT MATERIALS & RATINGS

**W** Silver over Silver

Power Level

3A @ 125V AC

**G** Gold over Brass or Copper

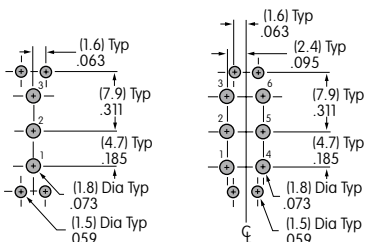
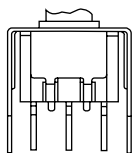
Logic Level

0.4VA maximum @ 28V AC/DC maximum

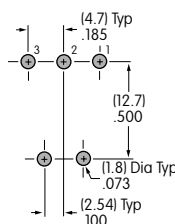
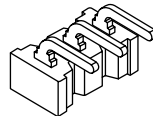
Note: Complete explanation of operating range in Supplement section.

### TERMINALS

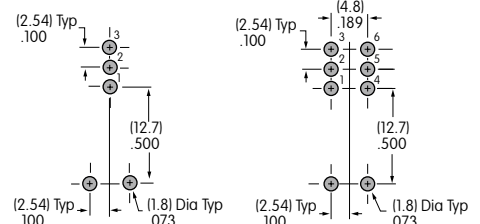
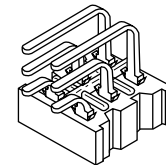
**13** .250" (6.35mm) Terminal  
with .465" (11.8mm) Bracket



**30** Right Angle PC  
Single Pole only



**45** Vertical PC



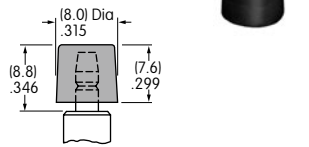
## CAPS & CAP COLORS

**B** AT443  
.315" (8.0mm) Diameter Cap



Material: Polycarbonate

Finish: Glossy

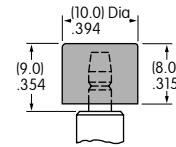


**C** AT442  
.394" (10.0mm) Diameter Cap



Material: Polycarbonate

Finish: Glossy



Cap Colors Available:



Black



White



Red



Yellow



Green



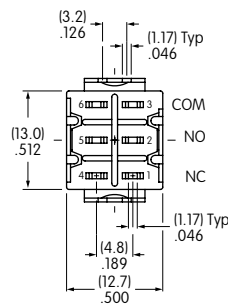
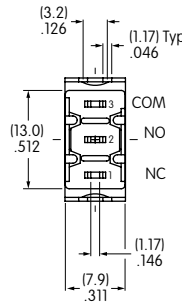
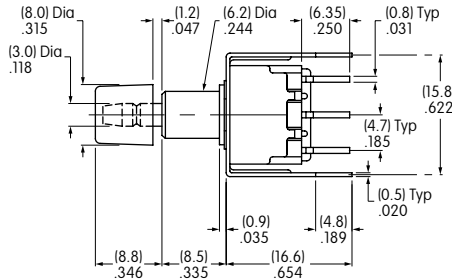
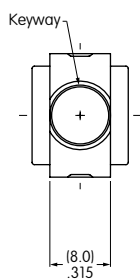
Blue

## TYPICAL SWITCH DIMENSIONS

Single Pole

Double Pole

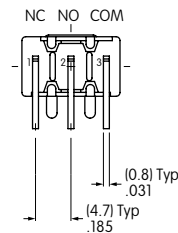
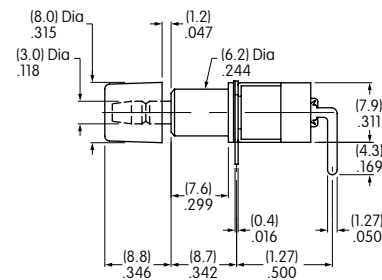
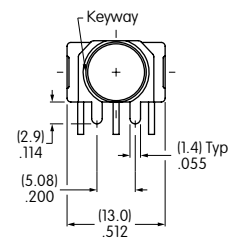
Straight PC • Bracket



MB2511S2G13-BC

Single Pole

Right Angle PC

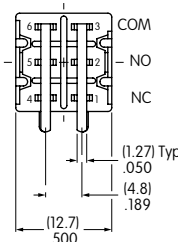
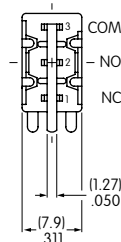
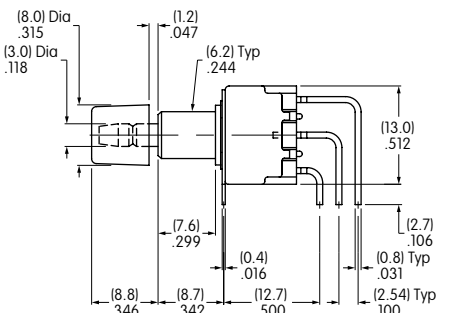
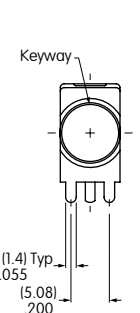


MB2511S2G30-BC

Single Pole

Double Pole

Vertical PC



MB2511S2G45-BC

Toggles  
Rockers  
Pushbuttons  
Illuminated PB  
Programmable  
Keylocks  
Rotaries  
Slides  
Tactiles  
Tilt  
Touch  
Indicators  
Accessories  
Supplement