

Pushbutton Switches

SPST Sealed Round Pushbutton Switches

PB16 Series



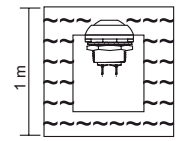
FEATURES :

- > Sealed Protection Degree IP67
- > Snap-in and threaded bushing
- > Compact and light weight
- > Tactile feeling
- > Plating gold over silver
- > Vapor phase solderable

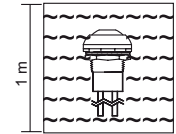
IP67

ACCORDING TO
EN 60529:1991+A1:2001
IEC 60529:2001

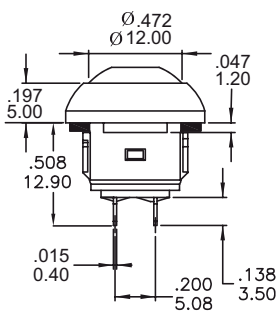
Protected against the effects of immersion up to 1 m water(30mn)



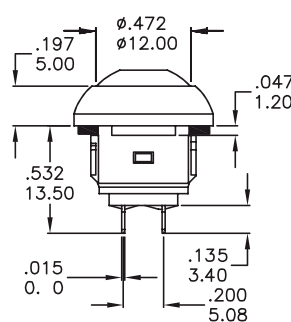
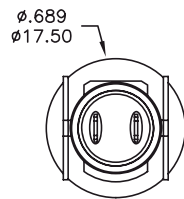
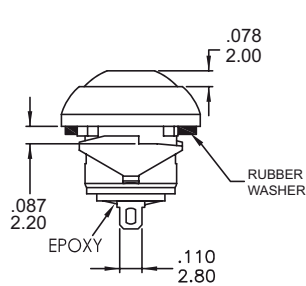
Sealed Type 1:
IP67 for Panel Surface



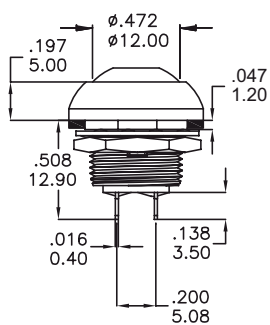
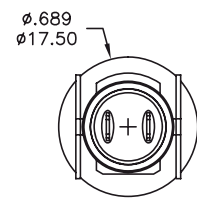
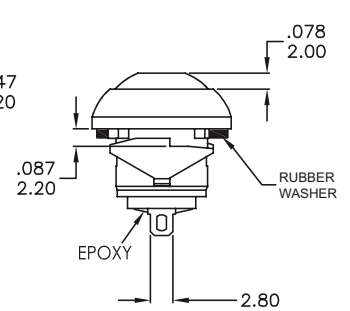
Sealed Type 2:
IP67 for Whole Body



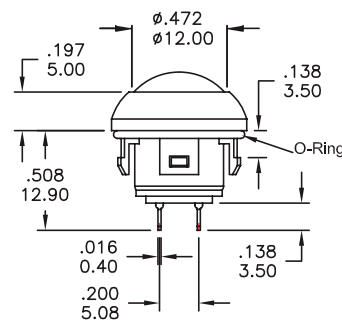
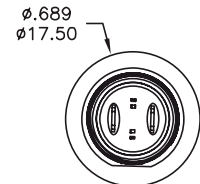
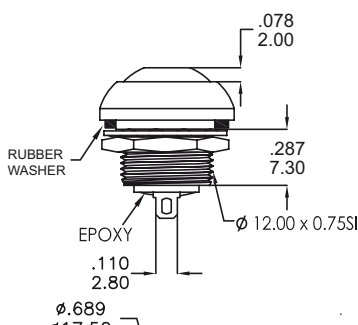
PB161B1TS1...
OFF-MOM
Flat Top Actuator
Snap-in Bushing
Solder Lug Terminals
IP67 for Panel Surface



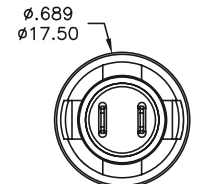
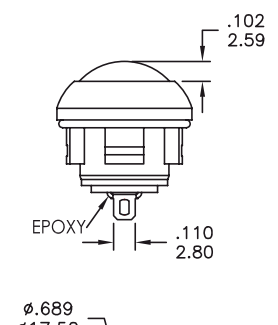
PB162B1TS1...
ON-MOM
Flat Top Actuator
Snap-in Bushing
Solder Lug Terminals
IP67 for Panel Surface



PB161B2TS1...
OFF-MOM
Flat Top Actuator
Threaded Bushing
Solder Lug Terminals
IP67 for Panel Surface



PB161RB3TS1...
OFF-MOM
Spherical Top Actuator
Snap-in Bushing
Solder Lug Terminals
IP67 for Panel Surface



How to order:

PB16

- 1 CIRCUITS:**
1 OFF-MOM
2 ON-MOM (without LED)
3 OFF-ON
- 2 ACTUATOR:**
blank Flat Top
R Spherical Top (only without LED)

- 3 BUSHING:**
B1 Snap-in
B2 Threaded Bushing
B3 Snap-in
- 4 TERMINALS:**
TS Solder Lug
W1 Wire Type 1 (See Drawing)
W2 Wire Type 2 (See Drawing)

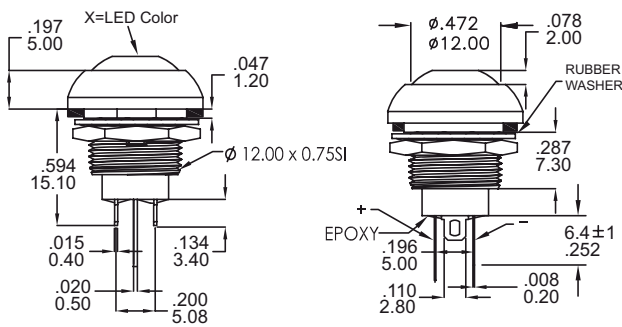
- 5 SEAL**
1 O-Ring & Epoxy (IP67 for Panel Surface)
2 O-Ring & Wire Type 2 Terminals (IP67 for whole body)
- 6 ACTUATOR COLOR:**
A Black B White
C Red D Orange
E Yellow F Green
G Blue

- 7 LED COLOR:**
N No LED B White
C Red E Yellow
F Green G Blue
- 8 ADDITIONAL CAP:**
blank No Cap
W With Cap

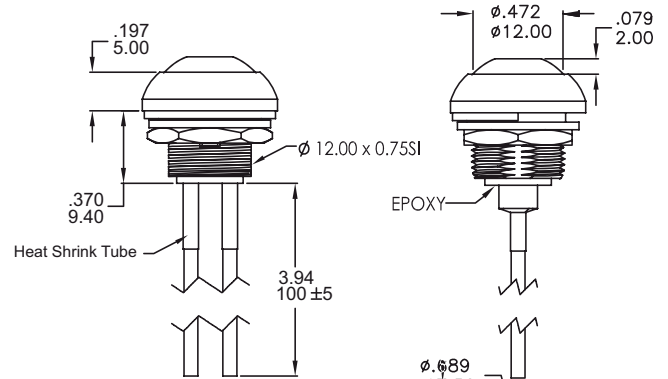
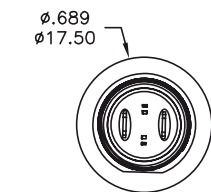
Pushbutton Switches

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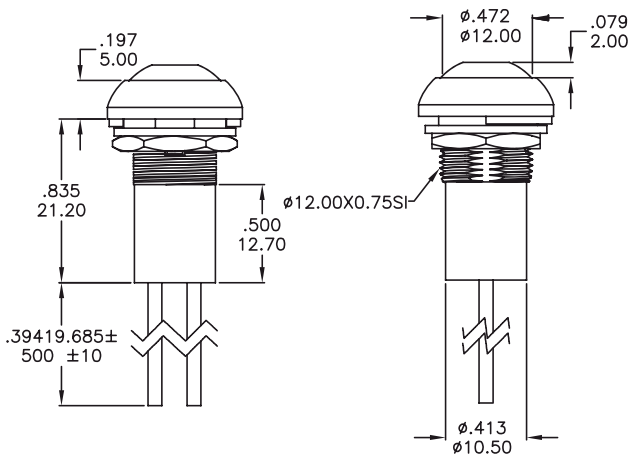
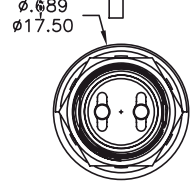
PB16 Series



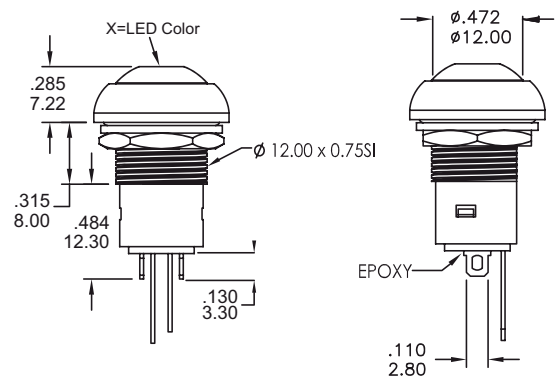
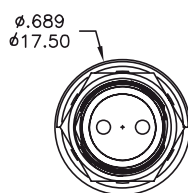
PB161B2TS1...X
OFF-MOM
Flat Top Actuator
Threaded Bushing
Solder Lug Terminals
Illuminated with LED
IP67 for Panel Surface



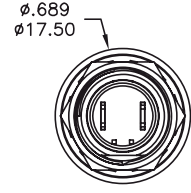
PB161B2W11...
OFF-MOM
Flat Top Actuator
Threaded Bushing
Wire Terminals Type 1
IP67 for Panel Surface



PB161B2W22...
OFF-MOM
Flat Top Actuator
Threaded Bushing
Wire Terminals Type 2
IP67 for Whole Body



PB163B2TS1...X
OFF-ON
Flat Top Actuator
Threaded Bushing
Solder Lug Terminals
Illuminated with LED
IP67 for Panel Surface

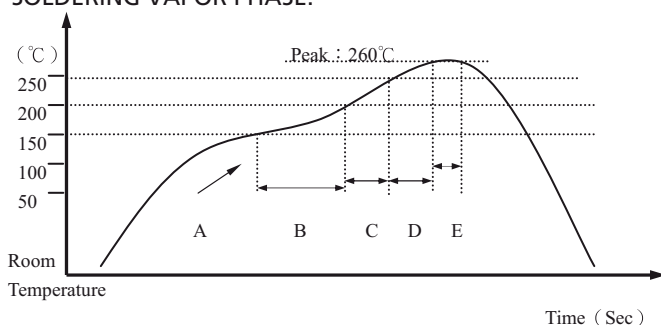


SOLDERING PROCESSES

MANUAL SOLDERING: Use soldering iron of 30 watts, controls at 350°C approximately 5 seconds while applying solder.

WAVE SOLDERING: Recommended soldering temperature: 260±5°C 5±1 seconds (PCB thickness 1.6mm)

SOLDERING VAPOR PHASE:



Temperature Profile

Zone	Room temperature	Time (Sec)
Pre-heat (A)	150°C	Min 120s
Soak (B)	180°C~200°C	Min 150s
Peak (C)	200°C~235°C	Min 30s
Peak (D)	235°C~260°C	Min 40s
Peak (E)	260°C	Max 10s

LED ELECTRO-OPTICAL DATA :


	Lens Appearance	Color	Electro-optical Data (AT 20mA)			Viewing Angle 2θ 1/2 (deg)
			Vf(V) Typ.	Vf(V) Max.	Iv(mcd) Typ.	
PB161 (OFF-MOM)	Water Clear	Super Red	2.1	2.6	42.0	35°
		Super Yellow Green	2.0	2.6	42.0	
		Super Yellow	2.1	2.6	94.0	
		Super Blue	2.8	3.2	28.0	
		Super White	3.5	4.0	140.0	
PB163 (OFF-ON)	Water Clear	Super Red	2.0	2.6	3.5	60°
		Super Green	2.2	2.6	3.5	
		Super Yellow	2.1	2.6	3.5	

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PB16 Series

SWITCH FUNCTION

NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS		SCHEMATIC 
		POS.1	POS.2	POS.1	POS.2	
SP	PB161	OFF	MOM	OPEN	1-3	
SP	PB162	ON	OFF(MOM)	1-3	OPEN	
SP	PB163	OFF	ON	OPEN	1-3	

MOM=MOMENTARY

GENERAL SPECIFICATIONS

RATING:

PB16 1 / 2	400mA 32VAC-100mA 50VDC-125mA 125VAC
PB16 3	100mA 24VDC-life expectancy 200,000 cycles 2A 125VAC-life expectancy 10,000 cycles

INITIAL CONTACT RESISTANCE:

PB16 1 / 2	50mΩmax.
PB16 3	100mΩmax.

INSULATION RESISTANCE: 1GΩmin.at 500VDC.

DIELECTRIC STRENGTH: 1,000 VAC rms.

ELECTRICAL LIFE AT FULL LOAD: 500,000 cycles.

OPERATING TEMPERATURE: -30°C to 85°C.

PANEL THICKNESS:

PB16 1 / 2	- B1 bushing : 0.8 mm (.031) min. -1.8 mm (.071) max. - B2 bushing : 1.5 mm (.059) min. -4 mm (.157) max. - B3 bushing : 3.0±0.25 mm (.118)
PB16 3	- B2 bushing : 1.5 mm (.059) min. -5.5 mm (.217) max.

TOTAL TRAVEL:

PB16 1 / 2	1.5 mm(.59)
PB16 3	2.5 mm(.98)

OPERATING FORCE:

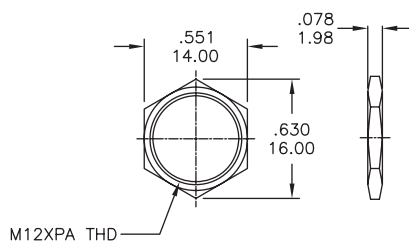
PB16 1 / 2	2N~5N
PB16 3	5.5N+/-1.5N.

CONTACT BOUNCE:10 ms.

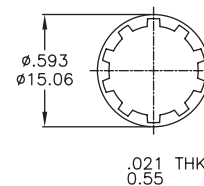
MECHANICAL LIFE:1,000,000 cycles.

TORQUE:1.5 Nm max.applied to nut.

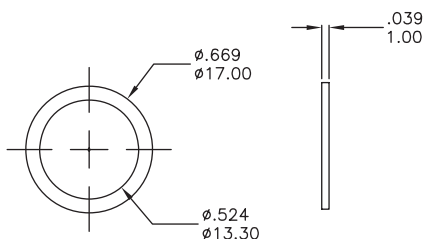
HARDWARE



M12 PA Nuts



Locking Washer



Rubber Washer



Cap