

## 641/110P-Series Pushbutton Switches



The single pole 110 and 641 series represent the most compact offerings of our pushbutton switch line. Rugged metal construction, self cleaning contacts and stiff actuation force (3-3 1/2 lbs. typical) have made these switches ideal for most "foot pedal" type applications. These alternate action switches fit a standard .500" mounting hole, have termination options including solder lug, wire lead and PC, and are popular within The Music Industry and Audio-visual market segments.

**Dielectric Strength**

UL/CSA: 1000V - live to dead metal & opposite polarity

**Electrical Life**

100,000 cycles

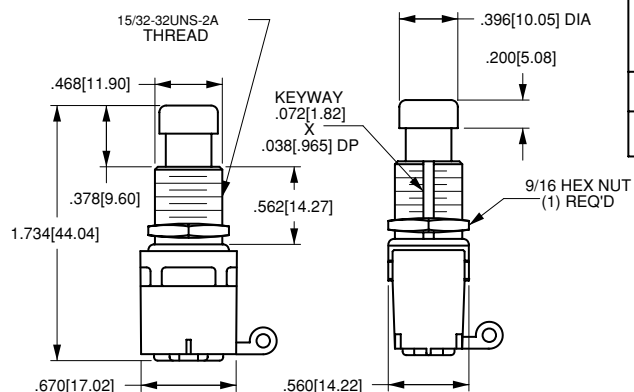
**Mechanical Life**

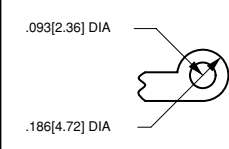
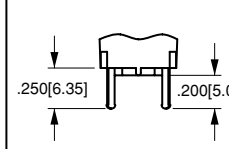
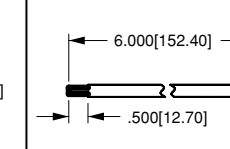
25,000 cycles

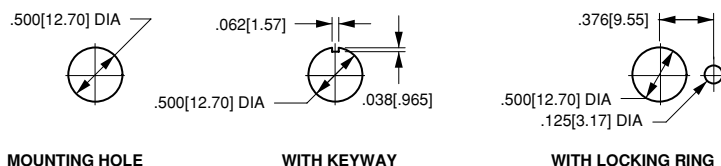
**Operating Temperature**

32°F to 185°F (0°C to +85°C)

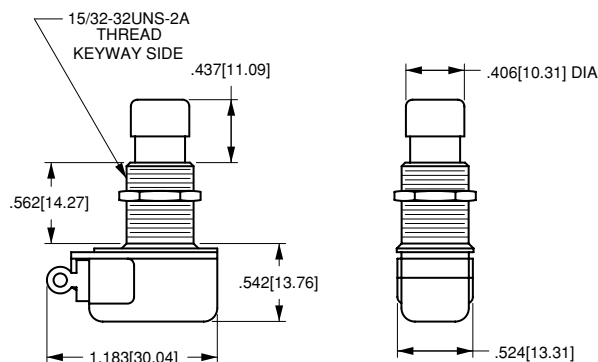
### 641-Series Dimensional Specifications: in.[mm]



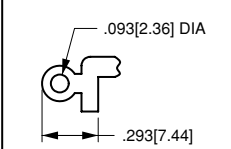
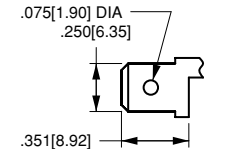
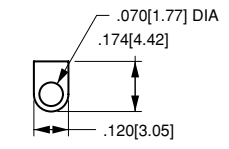
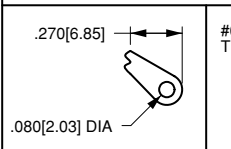
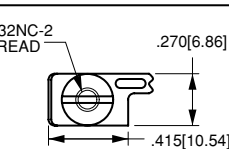
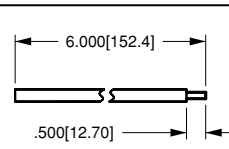
		
SOLDER LUG	PC TERMINAL	WIRE LEAD
TERMINAL TYPE		

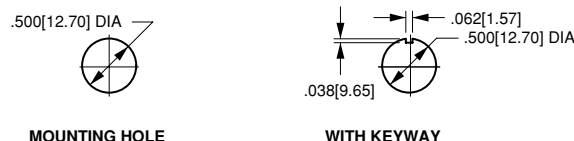


### 110-Series Dimensional Specifications: in.[mm]



NOTE:  
KEYWAY  
.072[1.82] X .038[.965] DP

		
SOLDER LUG	.250 TAB (Q.C.) (SPST only)	SOLDER LUG (bottom)
TERMINAL TYPE		
		
END TERMINAL	SCREW (ASSEMBLED) (SPST ONLY)	INTEGRATED WIRE LEAD (no exposed conductors)



# 64111210

**1**  
Part Number

### 1 PART NUMBER: SERIES/ POLES/ RATING / CIRCUITRY/ TERMINATION

#### 641-SERIES

##### single pole

2A 250VAC, 5A 125VAC

solder lug PC term wire leads

6411210

6411212

6411215

ON-OFF

6412210

6412212

6412215

6411220

6411222

6411225

ON-ON

6412220

6412222

6412225

##### double pole

#### 110-SERIES

single pole 3A 250VAC, 6A 125VAC, AC/DC

solder lug solder lug (btm) screw term wire lead .250 tab

ON-OFF

110-P

110-BP

110-SP

111-16-P

110-P-TABS

OFF-(ON)

110-PM-OFF

110-PBM-OFF

110-SPM-OFF

111-PM-OFF

110-PM-OFF-TABS

ON-(OFF)

110-PM-ON

110-PBM-ON

110-SPM-ON

111-PM-ON

110-PM-ON-TABS

NOTE  
( ) - indicates momentary function.

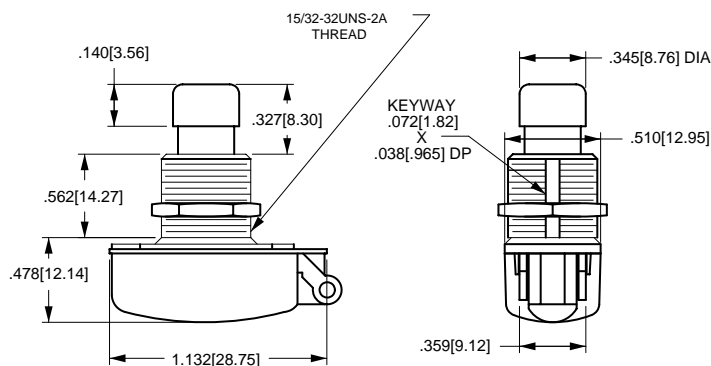
**16-3P-Series**

The 16-3P-Series pushbutton switches are single pole and AC rated up to 3 amps. These momentary action switches have a slow-make, slow-break contact mechanism and require only light actuation force (4 oz. - 1 lb.).

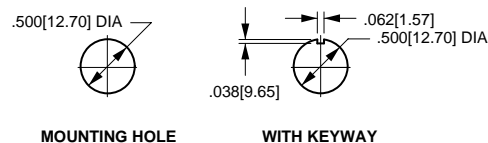
**Specifications**

- Certifications\*: UL, CSA
- Dielectric Strength: 1,000V (minimum)
- Insulation Resistance: 100 Megohms (minimum)
- Base Material: Phenolic
- Actuator Material: Brass/Nickel Plate
- Bushing Material: Brass/Nickel Plate

\* Due to ongoing technological advances, consult factory for certification specifics.

**Dimensional Specifications: in. [mm]**

SOLDER LUG	INTEGRATED WIRE LEAD (no exposed conductors)
TERMINAL TYPE	

**16-3POFF****SERIES****PLASTIC COLOR CAP****4****BUSHING<sup>1</sup>**

STANDARD PLUNGER	WITH OVERTRAVEL	TERMINAL	SINGLE POLE CIRCUIT	RATING
<b>16-3POFF</b> <b>16-3APOFF</b>	<b>16-3POFF-OV</b> <b>16-3APOFF-OV</b>	SOLDER LUG WIRE LEAD	OFF-NONE-(ON)	3A 125VAC
<b>16-3PON</b> <b>16-3APON</b>	NONE	SOLDER LUG WIRE LEAD	ON-NONE-(OFF)	
<b>116-P</b> <b>116-AP</b>	<b>116-P-OV</b> <b>116-AP-OV</b>	SOLDER LUG WIRE LEAD	ON-NONE-ON	1A 125VAC
<b>516-P</b> <b>516-AP</b>	<b>516-P-OV</b> <b>516-AP-OV</b>	SOLDER LUG WIRE LEAD	2 CIRCUIT 1 ON - 1 OFF	

- CBL BLACK
- CRD RED

- 2 .312
- 4 .562

NICKEL PLATED  
PLUNGER IS  
STANDARD.  
NO CODE REQUIRED.

**NOTES:**

Shading indicates standard configurations.

1 Overtravel only available with #4 bushing.

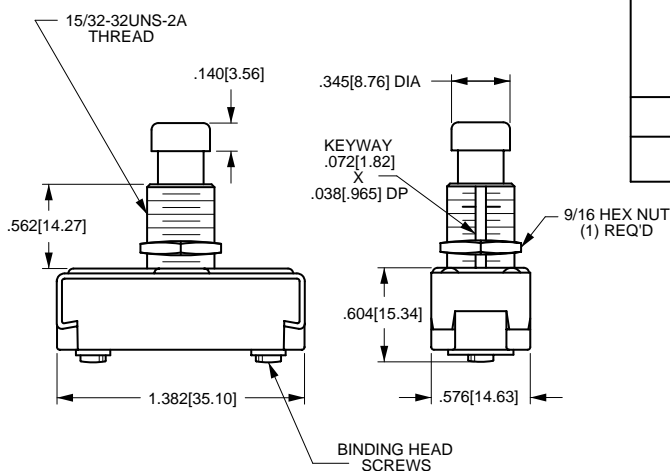
**170/172-Series**

The 170/172-Series pushbutton switches are single pole, high amperage switches suitable for shallow back panel applications. These switches are momentary action and require an actuation force of 2.5 lbs. The 170/172-Series switches are equipped with a slow-make, slow-break contact mechanism and are rated at 15 amps at 125VAC.

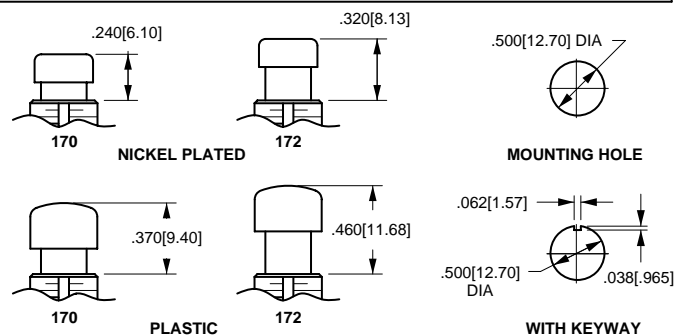
**Specifications**

- Certifications\*: UL, CSA
- Dielectric Strength: 1,000 V (minimum)
- Insulation Resistance: 100 Megohms (minimum)
- Base Material: Phenolic
- Actuator Material: Brass/Nickel Plate
- Bushing Material: Brass/Nickel Plate

\* Due to ongoing technological advances, consult factory for certification specifics.

**Dimensional Specifications: in. [mm]**

SOLDER LUG	SCREW (ASSEMBLED)	WIRE LEAD
TERMINAL TYPE		

**172****SERIES<sup>1</sup>**

SINGLE POLE  
PUSHBUTTON

10A 250VAC  
15A 125VAC

**170** ON-(OFF)  
**172** OFF-(ON)

**TERMINATION**

- **A** WIRE LEAD
- **B** SOLDER LUG

SCREW TERMINAL IS  
STANDARD. NO CODE  
REQUIRED.

**PLASTIC COLOR CAP**

- **CBL** BLACK
- **CGN** GREEN
- **CRD** RED
- **CWH** WHITE

NICKEL PLATED PLUNGER  
IS STANDARD. NO CODE  
REQUIRED.

**NOTES:**

Shading indicates standard configurations.

1 172 switch has approximately .03 overtravel.

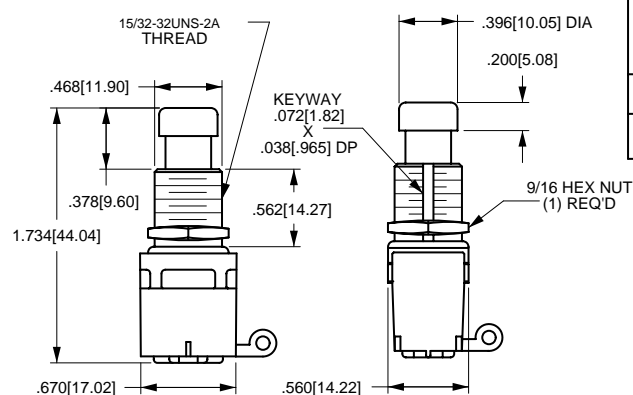
**641-Series**

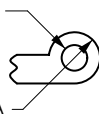
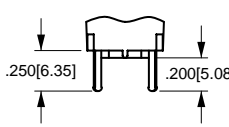
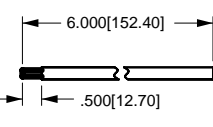
The 641-Series pushbutton switches are single or double pole and AC rated up to 5 amps. These switches offer maintained action with a slider contact mechanism. The typical actuation force required is 3 - 3 1/2 lbs.

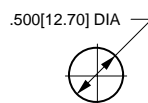
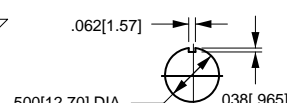
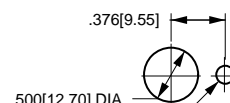
**Specifications**

- Certifications\*: UL, CSA
- Dielectric Strength: 1,000 V (minimum)
- Insulation Resistance: 100 Megohms (minimum)
- Base Material: Polyester
- Actuator Material: Brass/Nickel Plate
- Bushing Material: Brass/Nickel Plate

\* Due to ongoing technological advances, consult factory for certification specifics.

**Dimensional Specifications: in. [mm]**

		
SOLDER LUG	PC TERMINAL	WIRE LEAD
TERMINAL TYPE		

**MOUNTING HOLE****WITH KEYWAY****WITH LOCKING RING**

<b>641</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>0</b>
<b>SERIES</b>	<b>BUSHING</b>	<b>POLES</b>	<b>RATING</b>	<b>CIRCUIT</b>	<b>TERMINATION</b>
641 PUSHBUTTON	1 .465 DIAMETER .562 LENGTH	1 SINGLE 2 DOUBLE	2 2A 250VAC 5A 125VAC	1 ON-OFF 2 ON-ON	0 SOLDER LUG 2 PC TERM. 5 WIRE LEAD

NOTES:  
Shading indicates standard configurations.

## 641/110P-Series Pushbutton Switches



The single pole 110 and 641 series represent the most compact offerings of our pushbutton switch line. Rugged metal construction, self cleaning contacts and stiff actuation force (3-3 1/2 lbs. typical) have made these switches ideal for most "foot pedal" type applications. These alternate action switches fit a standard .500" mounting hole, have termination options including solder lug, wire lead and PC, and are popular within The Music Industry and Audio-visual market segments.

### Dielectric Strength

UL/CSA: 1000V - live to dead metal & opposite polarity

### Electrical Life

100,000 cycles

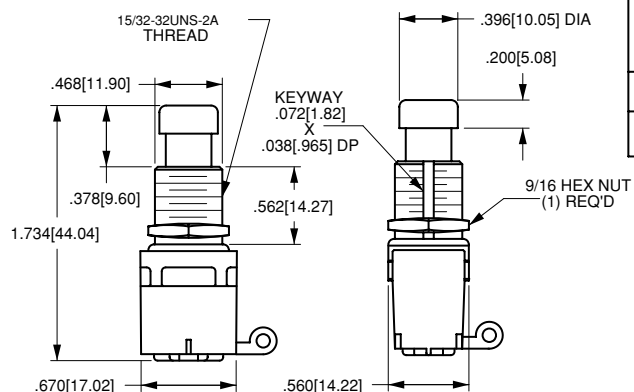
### Mechanical Life

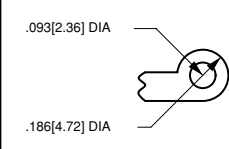
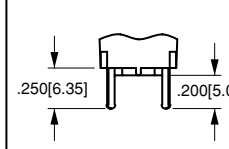
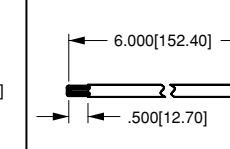
25,000 cycles

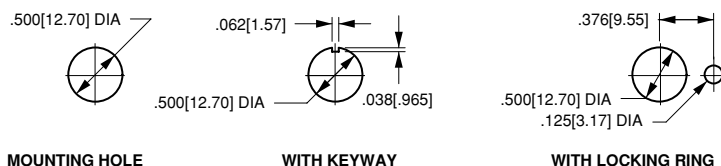
### Operating Temperature

32°F to 185°F (0°C to +85°C)

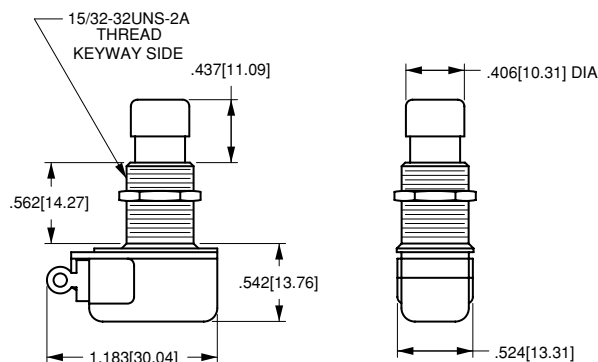
### 641-Series Dimensional Specifications: in.[mm]



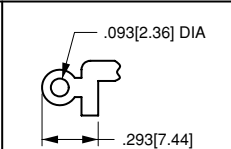
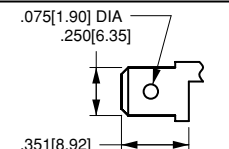
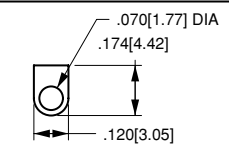
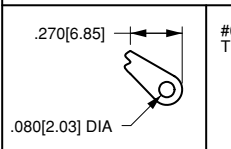
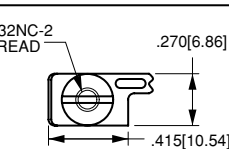
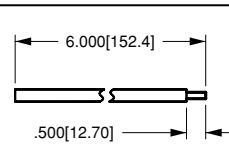
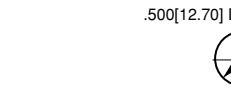

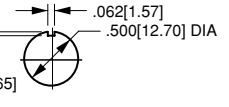
		
SOLDER LUG	PC TERMINAL	WIRE LEAD
TERMINAL TYPE		



### 110-Series Dimensional Specifications: in.[mm]



NOTE:  
KEYWAY  
.072[1.82] X .038[.965] DP

		
SOLDER LUG	.250 TAB (Q.C.) (SPST only)	SOLDER LUG (bottom)
TERMINAL TYPE		
		
END TERMINAL	SCREW (ASSEMBLED) (SPST ONLY)	INTEGRATED WIRE LEAD (no exposed conductors)
		
MOUNTING HOLE	WITH KEYWAY	

# 64111210

1  
Part Number

### 1 PART NUMBER: SERIES/ POLES/ RATING / CIRCUITRY/ TERMINATION 641-SERIES

#### single pole

2A 250VAC, 5A 125VAC

solder lug

PC term

wire leads

6411210

6411212

6411215

ON-OFF

#### double pole

solder lug

PC term

wire leads

6412210

6412212

6412215

6411220

6411222

6411225

ON-ON

6412220

6412222

6412225

### 110-SERIES

single pole 3A 250VAC, 6A 125VAC, AC/DC

solder lug

solder lug (btm) screw term

wire lead

.250 tab

ON-OFF

110-P

110-BP

110-SP

111-16-P

110-P-TABS

OFF-(ON)

110-PM-OFF

110-PBM-OFF

110-SPM-OFF

111-PM-OFF

110-PM-OFF-TABS

ON-(OFF)

110-PM-ON

110-PBM-ON

110-SPM-ON

111-PM-ON

110-PM-ON-TABS

NOTE  
( ) - Indicates momentary function.

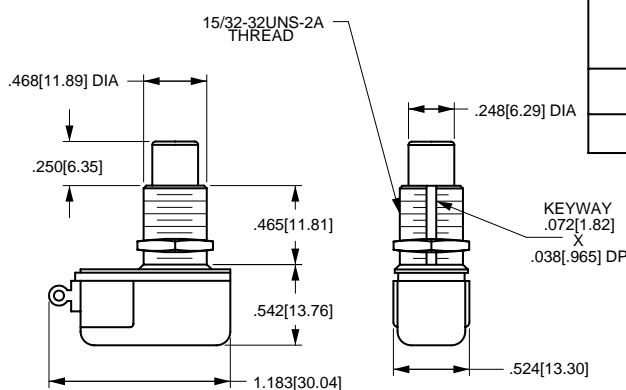
**P26-Series**

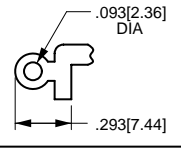
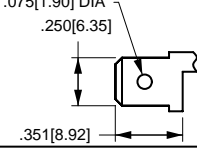
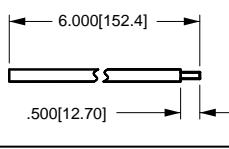
The P26-Series pushbutton switches are single pole, AC rated for 8 amps at 125 VAC and suitable for shallow back panel applications. These switches are momentary action with a medium actuation force (13 oz. typical). The P26-Series switch is equipped with a slow-make, slow-break contact mechanism.

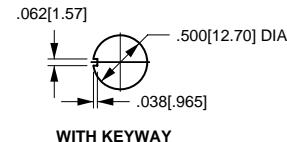
**Specifications**



- Certifications\*: UL, CSA
- Dielectric Strength: 1,000V (minimum)
- Insulation Resistance: 100 Megohms (minimum)
- Base Material: Phenolic
- Actuator Material: Nylon or Brass
- Bushing Material: Brass/Nickel Plate

\* Due to ongoing technological advances, consult factory for certification specifics.

**Dimensional Specifications: in. [mm]**

		
SOLDER LUG	.250 TAB (Q.C.) (Momentary ON only)	INTEGRATED WIRE LEAD (no exposed conductors)
TERMINAL TYPE		



<b>P</b>	<b>26</b>	<b>L</b>	<b>-</b>	<b>1D</b>	<b>-</b>	<b>BL</b>
SERIES	RATING	TERMINATION/ FUNCTION		BUSHING <sup>1</sup>		BUTTON COLOR/STYLE <sup>2</sup>
<b>P</b> SINGLE POLE PUSHBUTTON	<b>26</b> 3A 250VAC 6A 125VAC 3/4A 125V <b>28</b> 4A 250VAC 8A 125VAC 1A 125V <b>265</b> 3A 250VAC 6A 125VAC 3/4A 125V 5A 12V <b>267</b> 3A 277VAC 6A 125VAC	<b>A</b> SOLDER LUG OFF-(ON) <b>B</b> .250TAB (QC) OFF-(ON) <b>F</b> WIRE LEAD OFF-(ON) <b>L</b> SOLDER LUG ON-(OFF) <b>T</b> WIRE LEAD ON-(OFF)		<b>1A</b> .406 .375 <b>1B</b> .406 .468 <b>1C</b> .465 .375 <b>1D</b> .465 .468		<b>BL</b> BLACK NYLON <b>RD</b> RED NYLON
					<b>RND MTL</b> ROUND METAL	
					<b>CON MTL</b> CONCAVE METAL	

**NOTES:**

Shading indicates standard configurations.

1 For panel mounting to assure equal button heights, use bushing 1A or 1B for Momentary ON and 1C or 1D for Momentary OFF.

2 Round metal and concave metal buttons are only available with 1D bushing, which will be .562 in length.

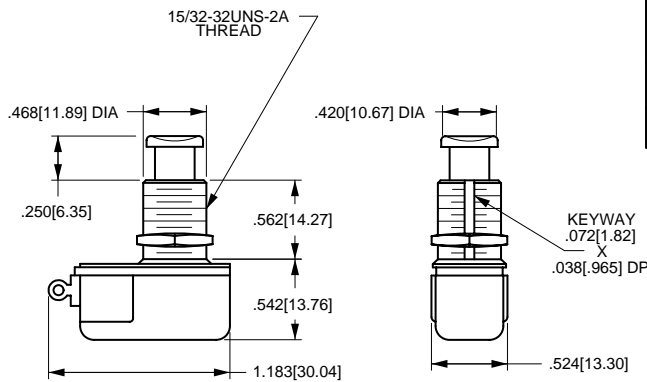
**P27-Series**

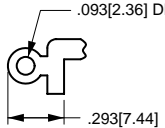
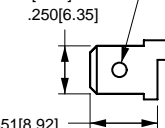
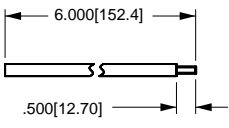
The P27-Series pushbutton switches are single pole, AC/DC rated switches suitable for shallow back panel applications. These switches are momentary action with a medium actuation force (26 oz. typical). The P27-Series switch is equipped with a slow-make, slow-break contact mechanism, rated at 6 amps with a nylon concave pushbutton.

**Specifications**

- Certifications\*: UL, CSA
- Dielectric Strength: 1,000 V (minimum)
- Insulation Resistance: 100 Megohms (minimum)
- Base Material: Phenolic
- Actuator Material: Nylon
- Bushing Material: Brass/Nickel Plate

\* Due to ongoing technological advances, consult factory for certification specifics.

**Dimensional Specifications: in. [mm]**

 .093[2.36] DIA .293[7.44]	 .075[1.90] DIA .250[6.35] .351[8.92]	 6.000[152.4] .500[12.70]
SOLDER LUG	.250 TAB (Q.C.) (Momentary ON only)	INTEGRATED WIRE LEAD (no exposed conductors)
TERMINAL TYPE		



**P**  
SERIES

**P** SINGLE POLE  
PUSHBUTTON  
MOMENTARY

**27**  
RATING

**27** 3A 250VAC  
6A 125VAC  
3/4A 125V

**A** -  
TERMINATION/  
FUNCTION<sup>1</sup>

**A** SOLDER LUG  
OFF-(ON)  
**B** .250TAB (QC)  
OFF-(ON)  
**F** WIRE LEAD  
OFF-(ON)  
**L** SOLDER LUG  
ON-(OFF)  
**T** WIRE LEAD  
ON-(OFF)

**BL**  
CONCAVE BUTTON

**BL** BLACK NYLON  
**RD** RED NYLON  
**WH** WHITE NYLON

**NOTES:**

Shading indicates standard configurations.

<sup>1</sup> Momentary OFF functions (L and T) available only with 3/4A 125V.



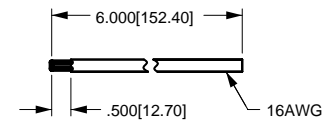
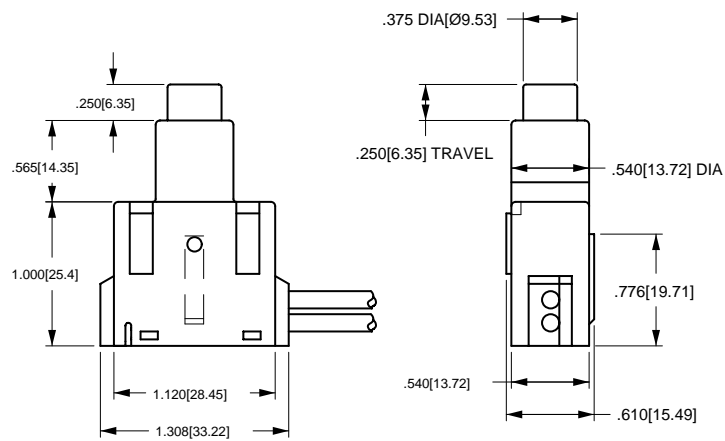
**PP-Series**

The new PP-Series plastic pushbutton switches are heavy-duty, single pole switches with wire leads. They are alternate action, available in single throw construction, with AC ratings up to 15 amps. Both bushing and bracket are made out of nylon.

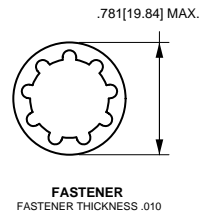
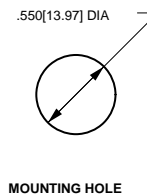
**Specifications**

- Certifications\*: UL, CSA
- Dielectric Strength: 1,000 V (minimum)
- Insulation Resistance: 100 Megohms (minimum)
- Base Material: Polycarbonate
- Plunger Material: Nylon
- Housing Material: Nylon

\* Due to ongoing technological advances, consult factory for certification specifics.

**Dimensional Specifications: in. [mm]**

INTEGRATED WIRE LEAD  
(NO EXPOSED CONDUCTORS)

**TERMINAL TYPE****OPTIONAL FASTENER**

<b>PP</b>	<b>A</b>	<b>51</b>	<b>5</b>	-	<b>A</b>	<b>C</b>
<b>SERIES</b>	<b>CIRCUIT</b>		<b>TERMINATION</b>		<b>BUSHING</b>	<b>BUTTON STYLE</b>
PP SINGLE POLE PUSHBUTTON	A ON-OFF		5 WIRE LEAD		A .540 DIA X .565	C
	<b>RATING</b>					
	51 10A 250VAC 15A 125VAC 52 10A 250VAC 15A 125VAC 3/4HP 125-250VAC					

**NOTES:**

Shading indicates standard configurations.



**P/PP-Series Pushbutton Switches**

These rugged pushbutton-type switches feature international approvals, ratings to 20A 125VAC and a heavy actuation force (3-5 lbs. typical) which makes this switch ideal for use as a "foot-pedal" switch. These switches have become mainstays for cannister vacuum cleaner applications. A choice of metal (P series) or nylon (PP series) style actuators and bushings further broadens the appeal of these alternate action switches.

**Dielectric Strength**

UL/CSA: 1000V - live to dead metal & opposite polarity

**Electrical Life**

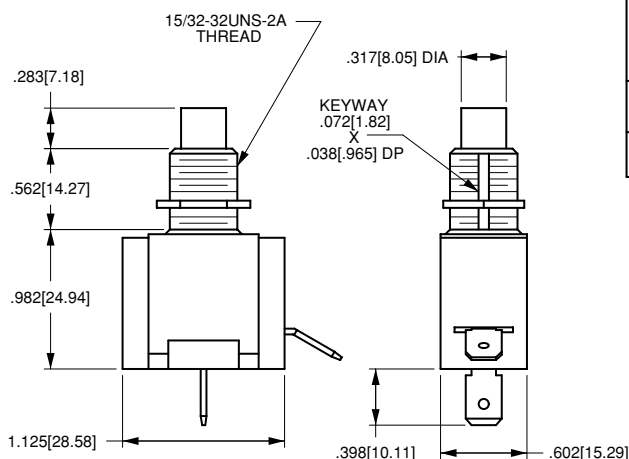
100,000 cycles

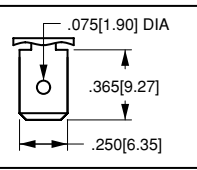
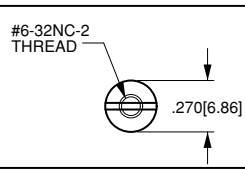
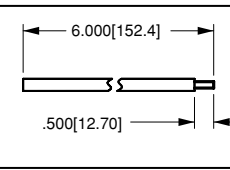
**Mechanical Life**

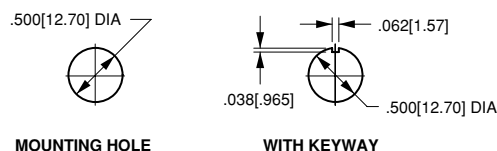
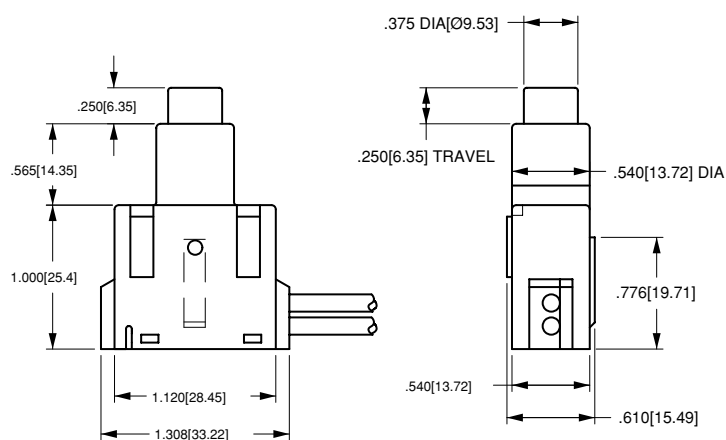
25,000 cycles

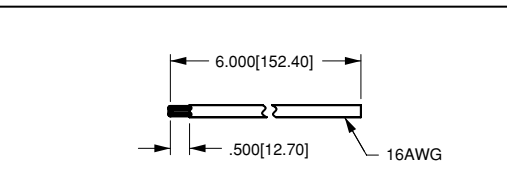

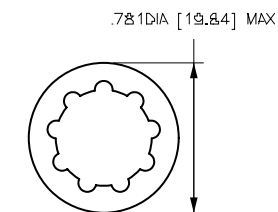
**Operating Temperature**

32°F to 185°F (0°C to +85°C)

**P-Series Dimensional Specifications: in.[mm]**

		
.250 TAB (Q.C.)	SCREW (ASSEMBLED)	INTEGRATED WIRE LEAD (no exposed conductors)
TERMINAL TYPE		

**PP-Series Dimensional Specifications: in.[mm]**


INTEGRATED WIRE LEAD (NO EXPOSED CONDUCTORS)
TERMINAL TYPE

MOUNTING HOLE

FASTENER FASTENER THICKNESS -.010
OPTIONAL FASTENER

**PA351**

1  
Part Number

**1 PART NUMBER: SERIES/ACTUATOR/CIRCUITRY/RATING/TERMINATION**

.250 tab screw term wire leads

**P-SERIES**

METAL CASE: 10A 250VAC, 15A 125VAC, 3/4 HP 120-240 VAC<sup>1</sup>

ON-OFF PA341 PA344 PA345

ON-ON PB341 PB344 PB345

METAL CASE: 10A 250 VAC, 15A 125 VAC, 10A(6) 250Vu, T85

ON-OFF PA951 PA954 PA955

**PP-SERIES** PLASTIC CASE: 10A 250VAC, 15A 125VAC, 3/4 HP 125-250 VAC

ON-OFF PPA525-AC

NOTE

1

Additional ratings available.  
Consult factory for details.

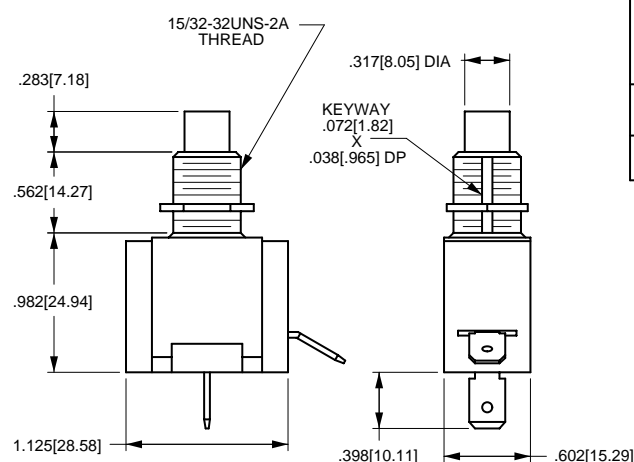
**P-Series**

The P-Series pushbutton switches are heavy-duty, single pole switches. They are alternate action, available in single and double throw construction, with ratings up to 20 amps. Both plunger and bushing are made of plated brass. Typical actuation force is 3-5 lbs.

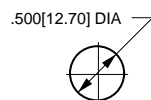
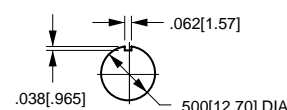
**Specifications**

- Certifications\*: UL, CSA, TUV
- Dielectric Strength: 1,000 V (minimum)
- Insulation Resistance: 100 Megohms (minimum)
- Base Material: Phenolic
- Actuator Material: Brass/Nickel Plate
- Bracket Material: Plated Steel
- Bushing Material: Brass/Nickel Plate

\* Due to ongoing technological advances, consult factory for certification specifics.

**Dimensional Specifications: in. [mm]**

.250 TAB (Q.C.)	SCREW (ASSEMBLED)	INTEGRATED WIRE LEAD (no exposed conductors)
TERMINAL TYPE		

**MOUNTING HOLE****WITH KEYWAY**

**P**  
SERIES

**P** SINGLE POLE  
PUSHBUTTON

**A**  
CIRCUIT

**A** ON-OFF  
**B** ON-ON

**35**  
RATING<sup>1</sup>

**30** 10A 250VAC  
20A 125VAC  
1 1/2HP 120-240VAC  
**34** 10A 250VAC  
15A 125VAC  
3/4HP 120-240VAC  
**35** 10A 250VAC  
15A 125VAC  
**95** 10A 250VAC  
15A 125VAC  
10A(6) 250V<sub>μ</sub> T85

**1**  
TERMINATION

**1** .250TAB (QC)  
**4** SCREW TERM.  
**5** WIRE LEAD

NOTES:  
Shading indicates standard configurations.  
1 For TUV approval, use rating 95.