

## FEATURES

- UL, RoHS and Lead-Free compliance
- IP67
- Wide variety of button and LED colors
- PCB through hole and snap-in mount
- Metal case available

## RS PRO Illuminated Sub-Miniature Pushbutton Switches

RS Stock No.: 2099051, 2099055, 2099057, 2099058, 2099060, 2099062, 2099064, 2099065, 2099065, 2099071, 2099077, 2099081, 2099082, 2099083, 2099085, 2099087, 2099089, 2099091, 2099093, 2099097, 2099099, 2099101, 2099103, 2099105, 2099107, 2099109, 2099111, 2099113, 2099115, 2099117, 2099120, 2099122, 2099124, 2099127, 2099129, 2099132



RS Professionally Approved Products bring to you professional quality parts across all product categories. Our product range has been tested by engineers and provides a comparable quality to the leading brands without paying a premium price.

## Illuminated Sub-Miniature Pushbutton Switches

### Similar Products

Stock No.	Brand	Switch Function	Terminal Type	Color & Cap Type	Bushing Type	LED
2099107	RS PRO	SP OFF-(ON)	Solder Lug	Red Flat Cap	Threaded Bushing (Die-Casting)	None
2099087	RS PRO	SP OFF-(ON)	Solder Lug	Red Flat Cap	Square Threaded Bushing (Die-Casting)	None
2099089	RS PRO	SP OFF-(ON)	Solder Lug	Orange Flat Cap	Square Threaded Bushing (Die-Casting)	None
2099117	RS PRO	SP OFF-(ON)	Solder Lug	Green Flat Cap	Threaded Bushing (Die-Casting)	None
2099093	RS PRO	SP OFF-(ON)	Solder Lug	Green Flat Cap	Square Threaded Bushing (Die-Casting)	None
2099101	RS PRO	SP OFF-(ON)	Solder Lug	Black Flat Cap	Threaded Bushing (Die-Casting)	None
2099085	RS PRO	SP OFF-(ON)	Solder Lug	Black Flat Cap	Square Threaded Bushing (Die-Casting)	None
2099124	RS PRO	SP OFF-(ON)	Solder Lug	Blue Flat Cap	Threaded Bushing (Die-Casting)	None
2099099	RS PRO	SP OFF-(ON)	Solder Lug	White Flat Cap	Threaded Bushing (Die-Casting)	None
2099097	RS PRO	SP OFF-(ON)	Solder Lug	Blue Flat Cap	Square Threaded Bushing (Die-Casting)	None
2099083	RS PRO	SP OFF-(ON)	Solder Lug	White Flat Cap	Square Threaded Bushing (Die-Casting)	None
2099113	RS PRO	SP OFF-(ON)	Solder Lug	Orange Flat Cap	Threaded Bushing (Die-Casting)	None
2099115	RS PRO	SP OFF-(ON)	Solder Lug	Yellow Flat Cap	Threaded Bushing (Die-Casting)	None
2099091	RS PRO	SP OFF-(ON)	Solder Lug	Yellow Flat Cap	Square Threaded Bushing (Die-Casting)	None
2099109	RS PRO	SP OFF-(ON)	Solder Lug	Red Flat Cap	Threaded Bushing (Die-Casting)	RED
2099103	RS PRO	SP OFF-(ON)	Solder Lug	Black Flat Cap	Threaded Bushing (Die-Casting)	RED
2099120	RS PRO	SP OFF-(ON)	Solder Lug	Green Flat Cap	Threaded Bushing (Die-Casting)	RED
2099111	RS PRO	SP OFF-(ON)	Solder Lug	Yellow Flat Cap	Threaded Bushing (Die-Casting)	GREEN
2099105	RS PRO	SP OFF-(ON)	Solder Lug	Black Flat Cap	Threaded Bushing (Die-Casting)	GREEN
2099122	RS PRO	SP OFF-(ON)	Solder Lug	Green Flat Cap	Threaded Bushing (Die-Casting)	GREEN
2099129	RS PRO	SP OFF-(ON)	Solder Lug	Red High Cap	Threaded Bushing (Die-Casting)	None
2099132	RS PRO	SP OFF-(ON)	Solder Lug	Green High Cap	Threaded Bushing (Die-Casting)	None
2099127	RS PRO	SP OFF-(ON)	Solder Lug	Black High Cap	Threaded Bushing (Die-Casting)	None
7346716	RS PRO	SP OFF-(ON)	Solder Lug	Red Flat Cap	Threaded Bushing	None
2099081	RS PRO	SP OFF-(ON)	Solder Lug	Green Flat Cap	Threaded Bushing	None
7346704	RS PRO	SP OFF-(ON)	Solder Lug	Black Flat Cap	Threaded Bushing	None
2099071	RS PRO	SP OFF-(ON)	Solder Lug	White Flat Cap	Threaded Bushing	None
1444358	RS PRO	SP OFF-(ON)	Solder Lug	Yellow Flat Cap	Threaded Bushing	None
2099077	RS PRO	SP OFF-(ON)	Solder Lug	Orange Flat Cap	Threaded Bushing	None
2099082	RS PRO	SP OFF-(ON)	Solder Lug	Blue Flat Cap	Threaded Bushing	None
2099060	RS PRO	SP OFF-(ON)	Molded back with AWG20 Black WIRE UL approved	Red Flat Cap	Threaded Bushing	None
2099065	RS PRO	SP OFF-(ON)	Molded back with AWG20 Black WIRE UL approved	Green Flat Cap	Threaded Bushing	None
2099055	RS PRO	SP OFF-(ON)	Molded back with AWG20 Black WIRE UL approved	Black Flat Cap	Threaded Bushing	None

## Illuminated Sub-Miniature Pushbutton Switches

2099051	RS PRO	SP OFF-(ON)	Molded back with AWG20 Black WIRE UL approved	White Flat Cap	Threaded Bushing	None
2099062	RS PRO	SP OFF-(ON)	Molded back with AWG20 Black WIRE UL approved	Orange Flat Cap	Threaded Bushing	None
2099064	RS PRO	SP OFF-(ON)	Molded back with AWG20 Black WIRE UL approved	Yellow Flat Cap	Threaded Bushing	None
2099065	RS PRO	SP OFF-(ON)	Molded back with AWG20 Black WIRE UL approved	Blue Flat Cap	Threaded Bushing	None
2099057	RS PRO	SP OFF-(ON)	Molded back with AWG20 Black WIRE UL approved	Black Flat Cap	Threaded Bushing	RED
2099058	RS PRO	SP OFF-(ON)	Molded back with AWG20 Black WIRE UL approved	Black Flat Cap	Threaded Bushing	GREEN

### Product Description

PA series pushbutton switches is our lowest cost, momentary, sealed, pushbutton switches that is panel mounted with options to illuminate. This slick design offers threaded or snap-in/press fit panel mounting and the operating temperature range between -30°C and 85°C.

Multiple actuator colors and discrete LED illumination options can help the switch stand out or fade into the background.

All of this aesthetic versatility along with IP67 level of seal allows the PA series to be used across a wide variety of applications and operating conditions.

#### **APPLICATIONS:**

Telecommunications, Networking equipment, Computers/servers, Performance audio and Instrumentation.

### Specifications

# Illuminated Sub-Miniature Pushbutton Switches

## SPECIFICATION:

### MAX. CURRENT/VOLTAGE RATING WITH RESISTIVE LOAD:

400mA 32VAC-100mA 50VDC-125mA 125VAC  
500mA 48VAC - 200 mA 50VDC - 200mA 250VAC for metal material.

**INITIAL CONTACT RESISTANCE:** 50mΩ max.

**INSULATION RESISTANCE:** 1GΩ min. at 500VDC.

**DIELECTRIC STRENGTH:** 1,000 VAC rms.  
1,500 VAC rms. for metal material.

**ELECTRICAL LIFE AT FULL LOAD:** 500,000 cycles.

**OPERATING TEMPERATURE:** -30°C to 85°C.

### PANEL THICKNESS:

B1 series : 0.8 mm (.031) min. -1.8 mm (.071) max.  
B2 series : 1.5 mm (.059) min. -4 mm (.157) max.  
B3 series : 2.85 +0.05/-0.10 mm (.112)

**TOTAL TRAVEL:** 1.5 mm(.059)

**OPERATING FORCE:** 2N-5N

**CONTACT BOUNCE:** 10 ms.

**MECHANICAL LIFE:** 1,000,000 cycles.

**TORQUE:** 0.5 Nm max. applied to nut,  
1.5 Nm max. for metal material.

**SOLDERING:** 350°C max. for 5 seconds.

## MATERIALS

**CASE:** Diallyl phthalate (DAP)(UL94v-0).




**CAP:** Polyamide 6/6.

**BUSHING:** Polyamide 6/6.

## Options

### Cap Color

- \* Please kindly note our standard is with flat cap.
- \* Only flat cap available with LED.
- \* Square threaded bushing applicable to flat cap only.

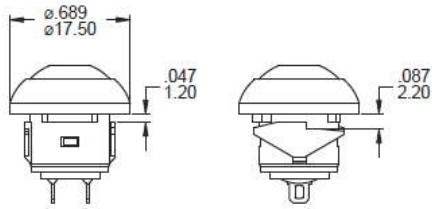
CAP COLOR	ITEM NO.		
	 Flat(std.)	 Round	 High
White	1	A1	G1
Black (Std)	2	A2	G2
Red (Std)	3	A3	G3
Orange	4	A4	G4
Yellow	5	A5	G5
Green	6	A6	G6
Blue	7	A7	G7

- \* Besides standard color, other colors need to check stocks available.

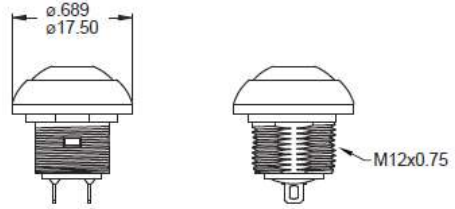
# Illuminated Sub-Miniature Pushbutton Switches

## BUSHING TYPE

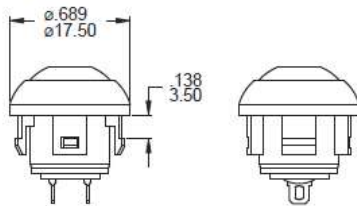
B1



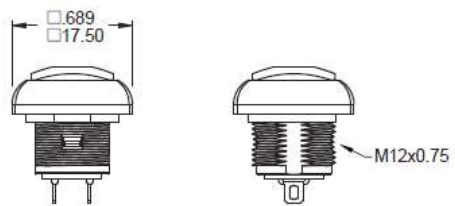
B2 / D2



B3



D1 / B6



## BUSHING PLATING



### PLATING

- A Chromium
- C Stain-chromium
- D Stain-nickel



Chromium



Stain-chromium



Stain-nickel

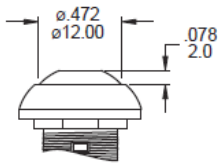
## WITH LED ELECTRO-OPTICAL DATA:

Model No.	Lens Appearance	Color	Electro-optical Data (AT 20mA)				Peak Wavelength	Viewing Angle 2θ 1/2 (deg)	
			Vf (V)		Iv (mcd)				
			Typ.	Max.	Typ.	Min.			
PAS6 & PAS7	Water Clear	Super White	2.8	3.3	200	100	X / Y=0.27	35°	
		Super Red	2.0	2.5	700	200	645		
		Yellow	2.1	2.6	100	55	589		
		Green	2.2	2.7	130	70	565		
		Super Blue	3.1	3.6	580	250	460		
		Super Yellow ( Super Green )	Y	2	2.6	475	210		590
			G	2	2.6	210	140		570
		Super Yellow ( Super Blue )	Y	2.1	2.6	200	94		590
			B	3.2	3.6	200	94		460
		Super Yellow ( Super Red )	Y	2.1	2.6	100	63		590
			R	2	2.6	90	42		630
		Super Red ( Super Green )	R	2	2.6	90	42		630
			G	2.0	2.6	90	42		570
		Super Red ( Super Blue )	R	2	2.6	90	42		630
B	3.2		3.6	200	94	460			
Super Green ( Super Blue )	G	2.0	2.6	100	42	570			
	B	3.2	3.6	200	94	460			

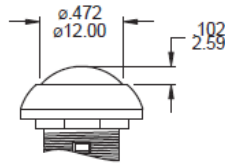
# Illuminated Sub-Miniature Pushbutton Switches

## R CAP OPTIONS

**FLAT STD**

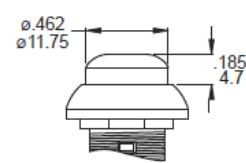


**ROUND Non-LED**



\* Only for B1,B2,B3,D2 bushing type

**HIGH Non-LED**



\* Only for B2,D2 bushing and PAS6 model type

<p><b>Resistance Humidity</b></p>	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made :</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Temperature : 40±2°C .</li> <li><input type="checkbox"/> Relative Humidity : 90~95%.</li> <li><input type="checkbox"/> Time : 96 hours.</li> </ul>
<p><b>The Salt Testing</b></p>	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made :</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Temperature : 35±2°C .</li> <li><input type="checkbox"/> The ratio of salt-water : 5%.</li> <li><input type="checkbox"/> The spray amount of salt- water : 1~2 ml/h.</li> <li><input type="checkbox"/> Time : 48 hours.</li> </ul>
<p><b>Test of IP 67</b></p>	<p>Upper side : Protected against the effects of temporary immersion in water. (1m below the surface of the water for a duration of 30 min)</p>
<p><b>Wave Soldering</b></p>	<ul style="list-style-type: none"> <li>■ Wave Soldering :             <ul style="list-style-type: none"> <li><input type="checkbox"/> Soldering Temperature:260±5°C .</li> <li><input type="checkbox"/> Duration of Solder Immersion: 5 ±1 seconds.</li> <li><input type="checkbox"/> PCB is 1.6mm in thickness.</li> </ul> </li> </ul>
<p><b>Soldering Temperature</b></p>	<ul style="list-style-type: none"> <li>■ Manual Soldering :             <ul style="list-style-type: none"> <li>Soldering Temperature : 350°C max.</li> <li>Duration of Solder Heated : Max 5 seconds.</li> </ul> </li> <li>■ Precautions in Handling             <ul style="list-style-type: none"> <li>Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch.</li> <li>Except for washable type do not wash the switch.</li> <li>Please make sure that there is no flux rose over the surface of the PCB.</li> </ul> </li> </ul>

# Illuminated Sub-Miniature Pushbutton Switches

## Additional Information

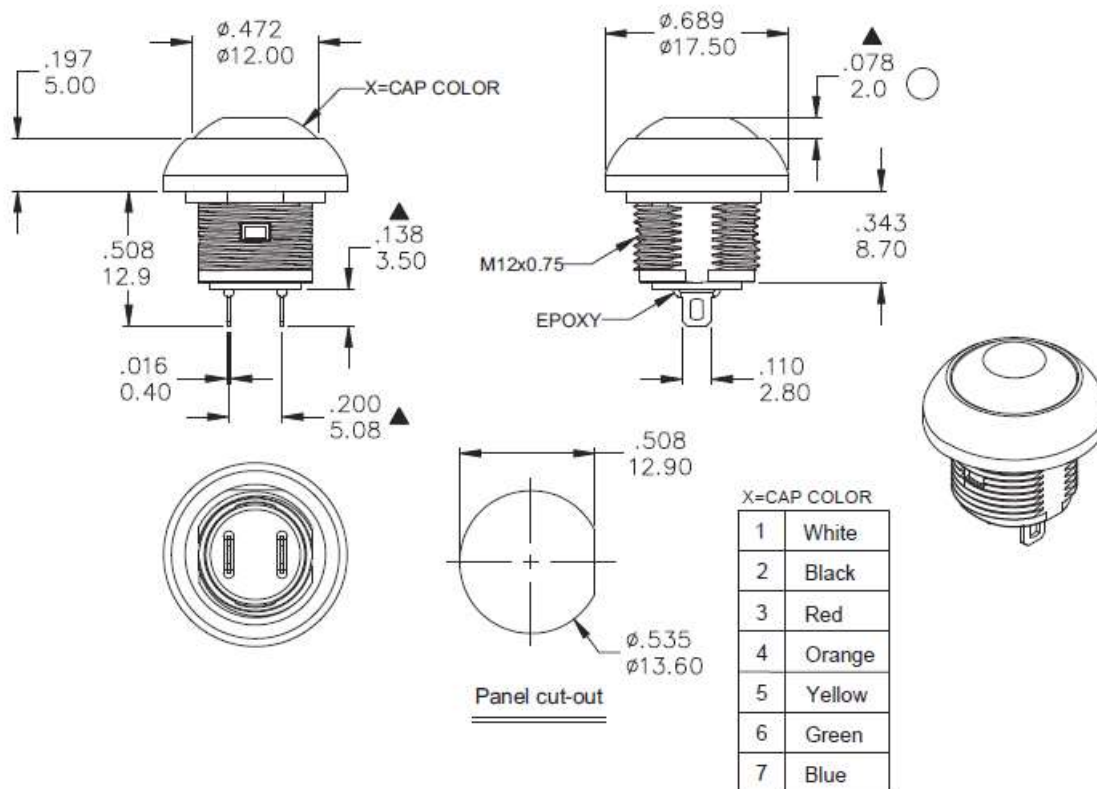
Custom Tariff Number 8536500000

## Approvals

Hazardous Area Certification RoHS 2011/65/EU & 2015/863  
 Standards Met IP 67

Stock No. PAS6D2M1CESX-5

Drawing:

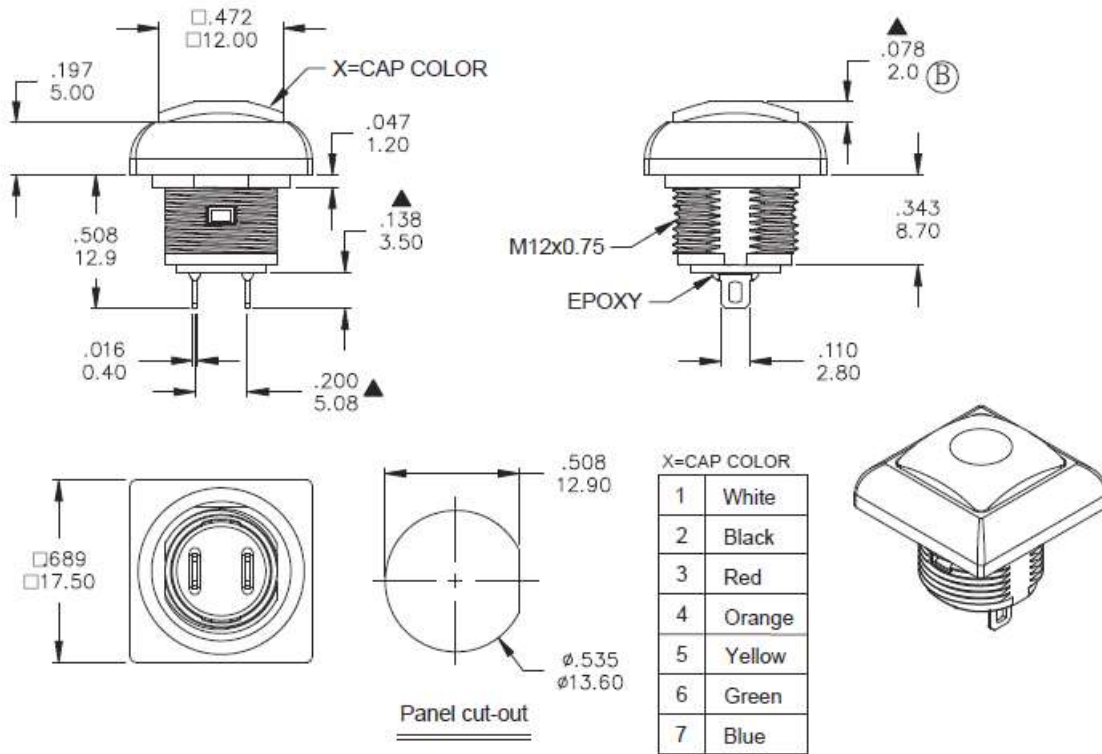




# Illuminated Sub-Miniature Pushbutton Switches

**Stock No.** PAS6D1M1CESX-5

**Drawing:**

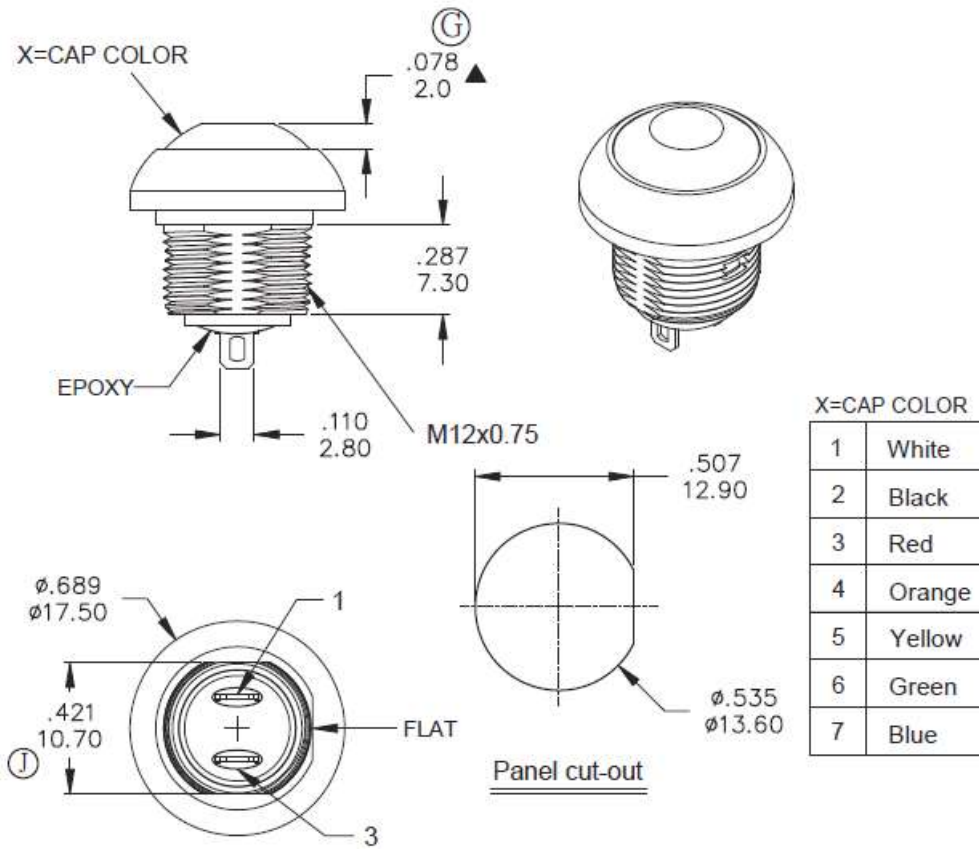




# Illuminated Sub-Miniature Pushbutton Switches

**Stock No.** PAS6B2M1CESX-5

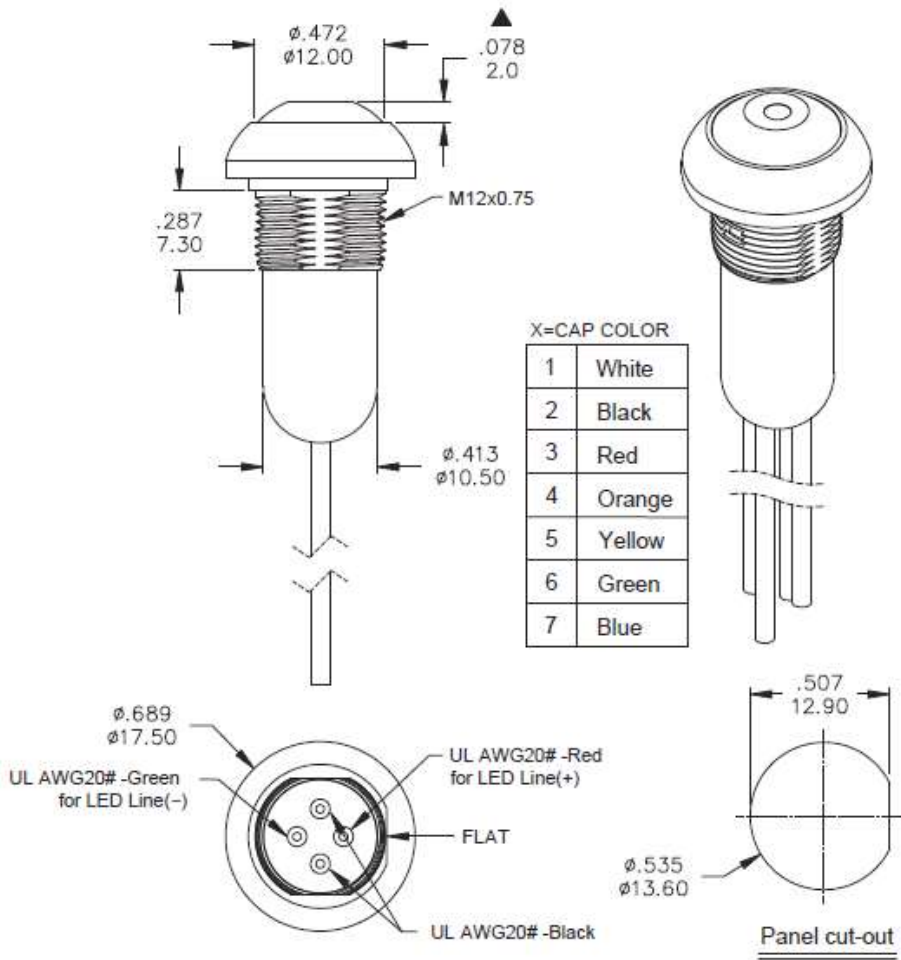
**Drawing:**



# Illuminated Sub-Miniature Pushbutton Switches

**Stock No.** PAS6B2D1CESX-5

**Drawing:**



Accessories / Illustrations