



Pushbutton  
A

# ELUM™ Series Right Angle Illuminated Latching Pushbutton

**LEAD FREE  
COMPATIBLE OPTION**

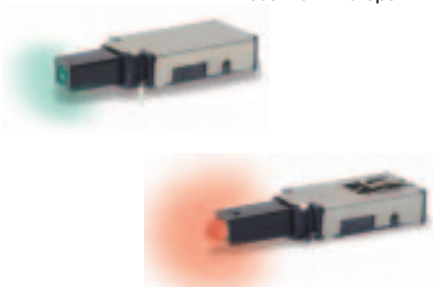
## Features/Benefits

- SPDT (N.O. & N.C.)
- Low height above PCB
- Reliable self-cleaning contact
- Surface-mount or thru-hole PCB
- Standard or custom actuator
- Central LED illumination
- Latching or Momentary
- Long travel. Smooth feel
- RoHS compliant and compatible

## Typical Applications

- Telecom network equipment
- Automotive electronics
- Consumer electronics
- Computer, server, modem, data storage
- Professional instrumentation, medical

Patent Numbers  
6,974,924 B2 US  
EP1583118B1 Europe



## Materials

FIXED CONTACTS AND TERMINALS: Stainless steel, silver plated with gold flash (STD.)  
 MOVABLE CONTACTS: Copper alloy, silver plated with gold flash (STD.)  
 BASE: Glass filled LCP (UL94V-0)  
 ACTUATOR: Glass filled nylon 4/6 (UL94V-0)  
 COVER: Stainless steel

## Electrical

MAXIMUM POWER: 3.5 VA  
 MIN./MAX. VOLTAGE: 20 mV – 50 VDC  
 MIN./MAX. CURRENT: 0.01 mA – 250 mA  
 DIELECTRIC STRENGTH: ≥ 250 Vrms  
 CONTACT RESISTANCE: ≤ 50 mΩ  
 INSULATION RESISTANCE: ≥ 10<sup>9</sup> Ω  
 BOUNCE TIME: ≤ 1 ms  
 LED SPECIFICATIONS: See page A-5

## Mechanical

OPERATING FORCE: 2.5 N at Full Travel  
 SWITCHING TRAVEL: .067" (1.7 mm)  
 LATCH TRAVEL: .131" (3.6 mm)  
 FULL TRAVEL: .200" (5.1 mm)

## Operating Environment

OPERATING TEMPERATURE: -40°C TO 80°C.  
 STORAGE TEMPERATURE: -40°C TO 80°C.  
 RELATIVE HUMIDITY: 90% R.H. @ 80°C.  
 OPERATING LIFE: 30,000 Cycles.  
 VIBRATION: Per EIA 186-E Method  
 MECHANICAL SHOCK: Per EIA 186-E Method 12.  
 OVERLOAD: Withstands 40 N for 1 minute without damage

## Process Environment

SOLDERABILITY: According to Mil STD 202F Method 208D or EIA RS-186E Method 9.  
 LEAD FREE PROCESS COMPATIBLE: 260°C peak, 10 seconds Max. above 250° C.  
 WASHING PROCESS: No clean process compatible (SMT)  
 Bottom wash compatible (Thru-hole)  
 SHEAR TEST (SWITCH/PCB): > 40 N

## Packaging

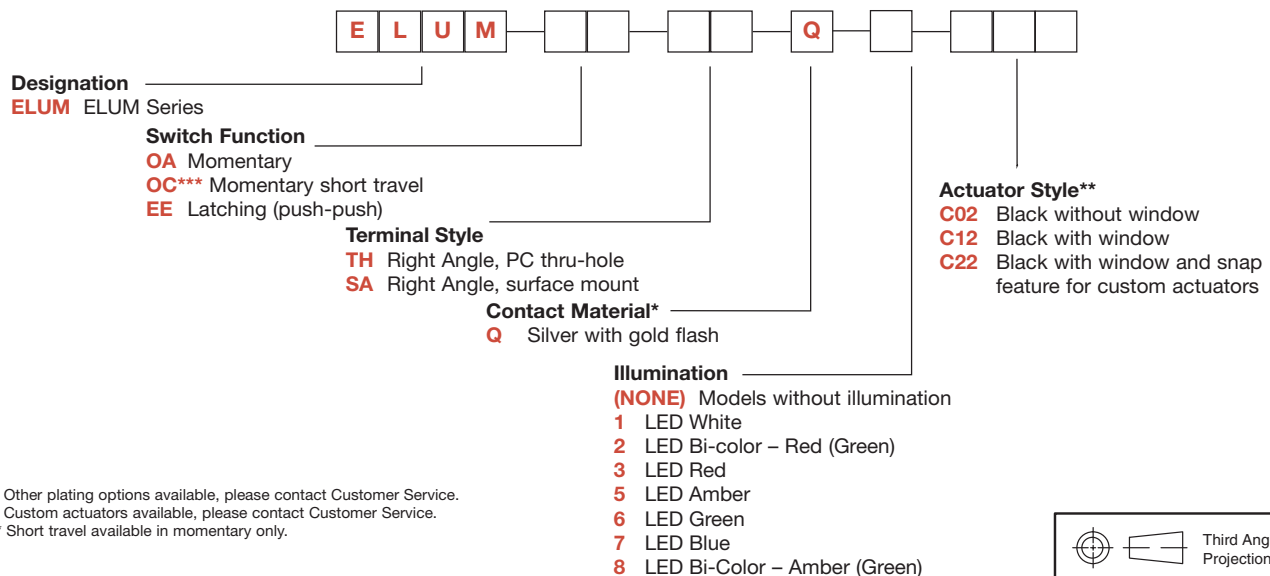
"SA" Terminal Style SMT: Tape and reel per EIA 481-2 (450/reel)  
 "TH" Terminal Style PC: Tray (60/tray)

**NOTE:** Any models supplied with Q, contact material are RoHS compliant.

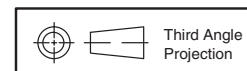
**NOTE:** Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, please contact Customer Service.

## Build-A-Switch

To order, simply select desired option from each category and place in the appropriate box.



\* Other plating options available, please contact Customer Service.  
 \*\* Custom actuators available, please contact Customer Service.  
 \*\*\* Short travel available in momentary only.



Dimensions are shown: Inches (mm)  
Specifications and dimensions subject to change



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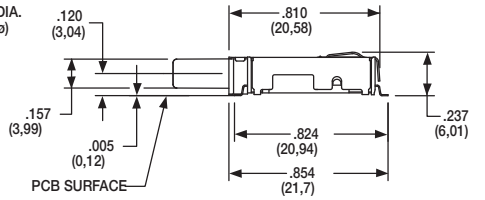
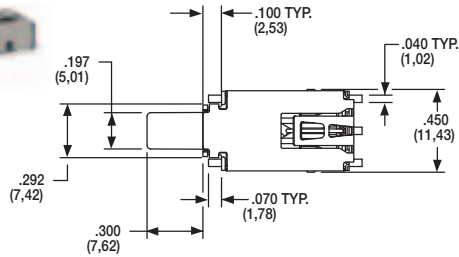
Pushbutton

## STANDARD OPTIONS

### ELUMEEA7C12



SURFACE MOUNT

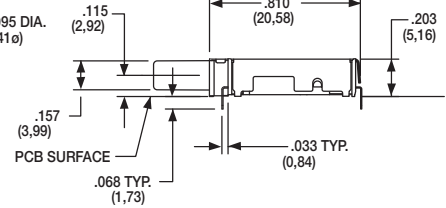
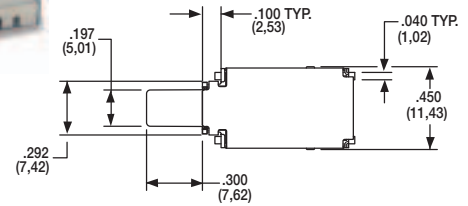


ACTUATOR SHOWN EXTENDED POSITION

### ELUMOATHQ6C12



PC THRU-HOLE

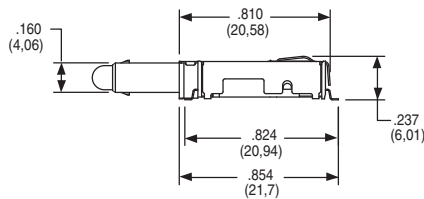
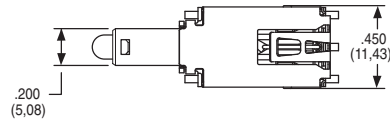


ACTUATOR SHOWN EXTENDED POSITION

### ELUMEEA3C22

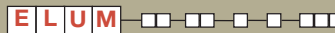


SURFACE MOUNT



ACTUATOR SHOWN EXTENDED POSITION

## DESIGNATION



**ELUM** ELUM SERIES, Illuminated Latching Pushbutton

## SWITCH FUNCTION

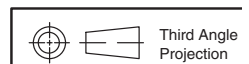
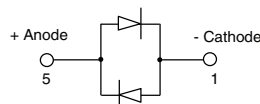


OPTION CODE	NO. OF POLES	SWITCH FUNCTION	CONNECTED TERMINALS	SWITCH FUNCTION	CONNECTED TERMINALS	SCHEMATIC 
<b>OA / OC</b>	SP Momentary	ON	3 - 4	ON (Mom.)	3 - 2	
<b>EE</b>	SP Latching (Push-Push)	ON	3 - 4	ON	3 - 2	

For SPST N.O. function, only terminals 3 & 2 are used.  
For SPST N.C. function, only terminals 3 & 4 are used.  
Circuit: Make before break

LED pins 1 & 5 are independent of switch function.

NOTE:  
For bi-color LED's the polarity must be reversed to alternate the color



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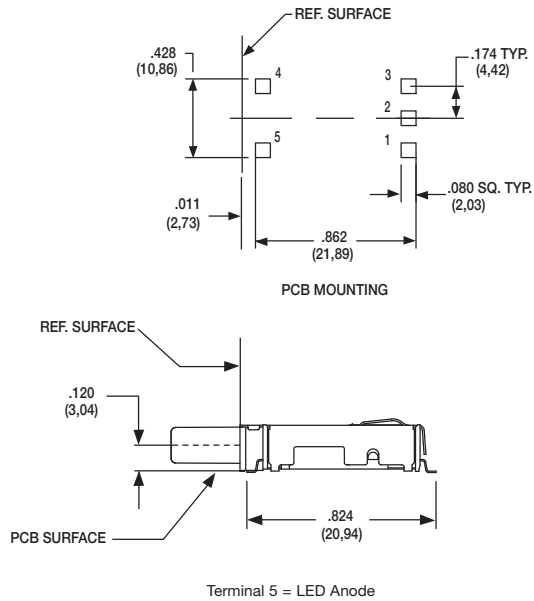
Pushbutton A

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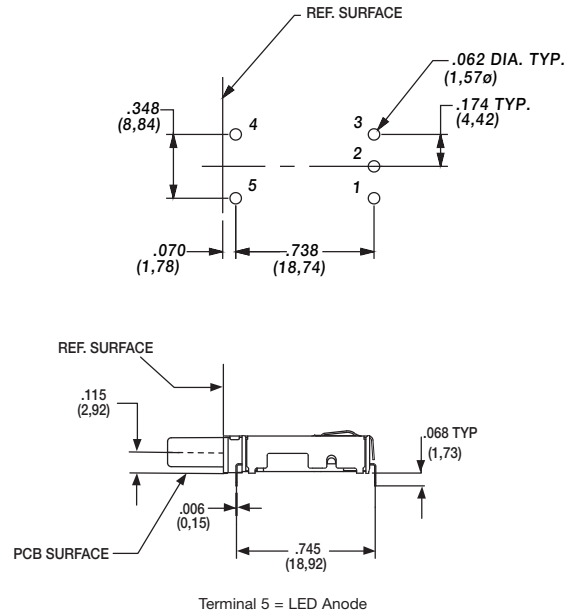
## TERMINAL STYLE



### SA RIGHT ANGLE, SURFACE MOUNT



### TH RIGHT ANGLE, PC THRU-HOLE



## CONTACT MATERIAL



OPTION CODE	CONTACT MATERIAL	TERMINAL PLATING	RATINGS
Q	SILVER WITH GOLD FLASH	SILVER WITH GOLD FLASH	250 mA

\* Note: See Technical Data section of this catalog for RoHS compliant and compatible definitions and specifications.

FIXED CONTACTS AND TERMINALS: Stainless steel, silver plated with gold flash

MOVABLE CONTACTS: Copper alloy, silver plated with gold flash

**NOTE:** Any models supplied with Q, contact material are RoHS compliant.

## ILLUMINATION



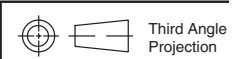
OPTION CODE	ILLUMINATION TYPE	TYPICAL INTENSITY* (mcd)		PEAK WAVELENGTH (nm)	Vf Forward Voltage
		MIN	MAX		
0	Model without illumination	N/A		N/A	
1	LED Super White	4,000	5,000	N/A	3.5
2	LED Bi-Color – Red (Green)	10	20	635/565	2.0
3	LED Red	4	8	700	2.0
5	LED Amber	35	50	610	2.0
6	LED Green	35	50	565	2.0
7	LED Super Blue	800	1,500	470	3.8
8	LED Bi-Color – Amber (Green)	10	10	585/565	2.0

\*LED FORWARD CURRENT: 20 mA

LED FORWARD VOLTAGE: see chart above

LED REVERSE VOLTAGE: 5.0 V MAX

\* For information on specific and custom LED, please contact Customer Service.



Third Angle Projection



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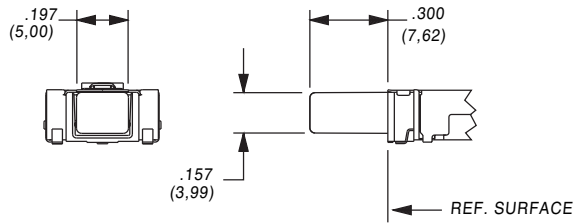


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Pushbutton

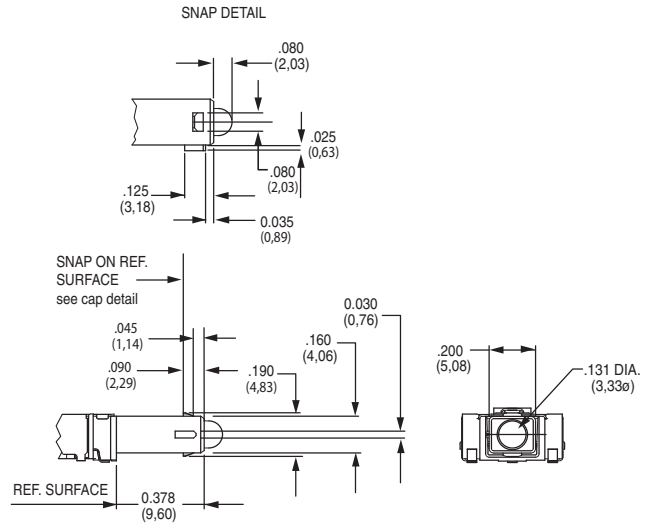
## ACTUATOR STYLE\*



### C02 BLACK WITHOUT WINDOW

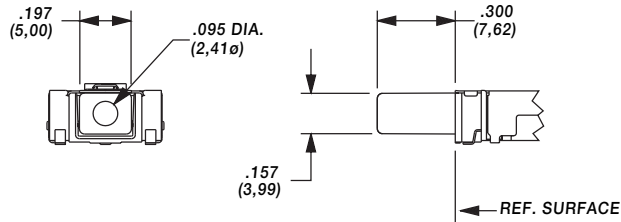


### C22 BLACK WITH WINDOW AND SNAP FEATURE TO ACCEPT CUSTOM CAP

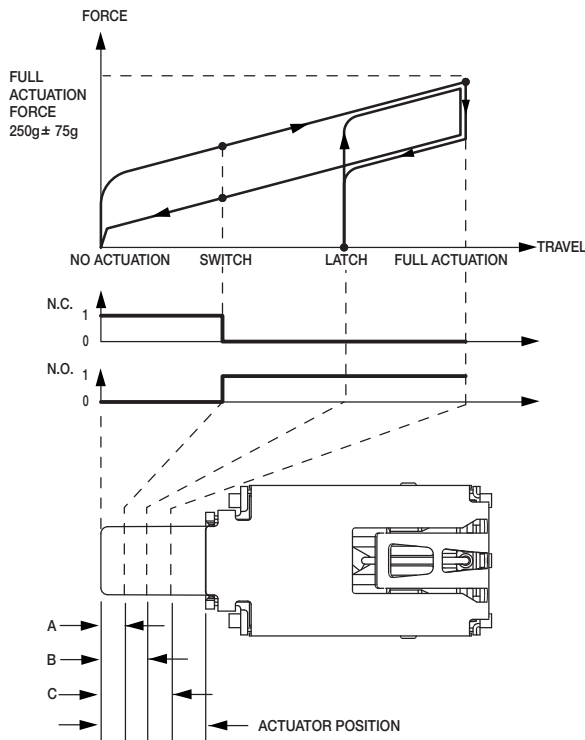


\* Custom actuators available, please contact Customer Service.

### C12 BLACK WITH WINDOW

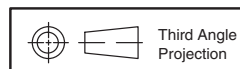
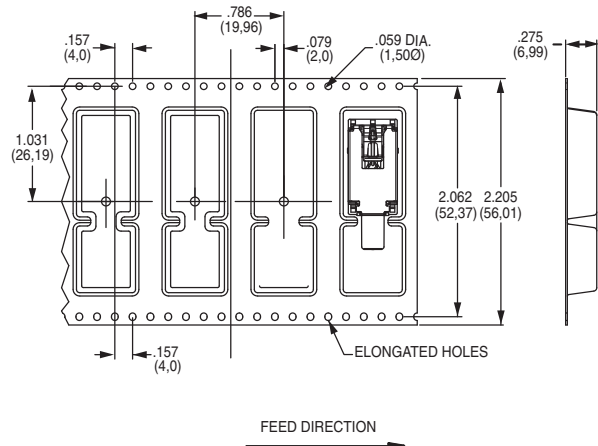


## FORCE TRAVEL DIAGRAM



OA, EE ACTUATOR POSITION			
A	SWITCH POINT	.067 ± .020	1,7 ± 0.5mm
B	LATCH	.131 ± .020	3,3 ± 0.5mm
C	FULL ACTUATION	.200 ± .020	5,1 ± 0.5mm
OC ACTUATOR POSITION			
A	SWITCH POINT	.067 ± .020	1,7 ± 0.5mm
C	FULL ACTUATION	.098 ± .020	2,5 ± 0.5mm

## TAPE & REEL



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## AVAILABLE HARDWARE

Pushbutton  
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Cap



**PART NO.**

**957C00000** High temperature black cap with universal standby symbol

**956C02000** High temperature black cap with no symbol

Material: 4/6 Nylon SMT compatible

Cap



**PART NO.**

**181D01000** Paint and Laser Etched with black paint and universal standby symbol

Material: Clear polycarbonate

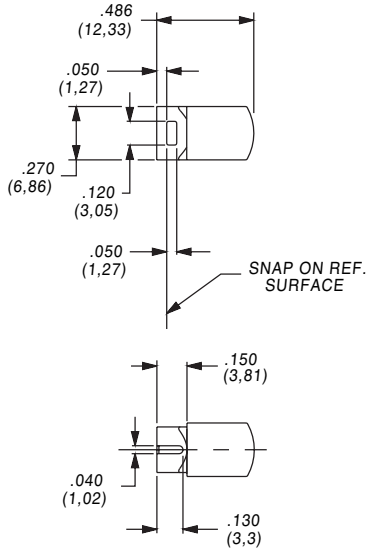
Cap



**PART NO.**

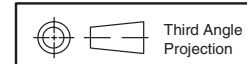
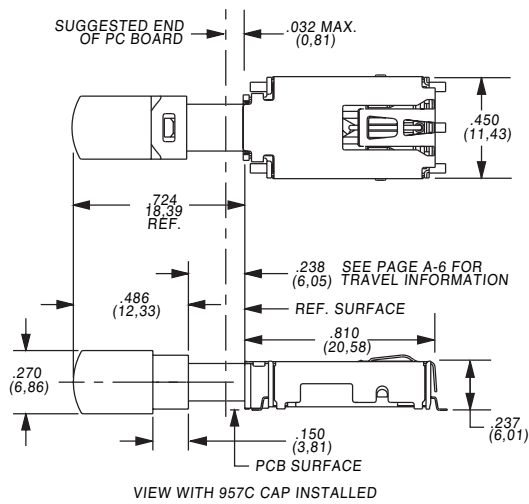
**181D00000** Paint and laser etched with white paint underlay and black paint with universal standby symbol.

Material: Clear polycarbonate



**NOTE:** Caps are for use with the C22 actuator style. Other colors and symbols available, consult Customer Service Center.

## CAP INSTALLATION



Third Angle  
Projection



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