



A

Pushbutton

ELUM™ Series Right Angle Illuminated Latching Pushbutton

**LEAD FREE
COMPATIBLE OPTION**

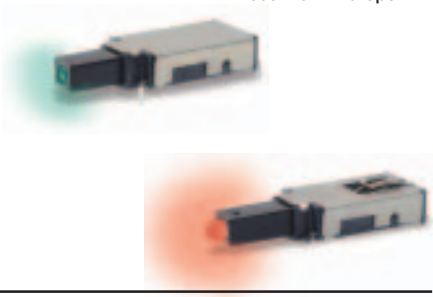
Features/Benefits

- 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: ≥ 10⁹ 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

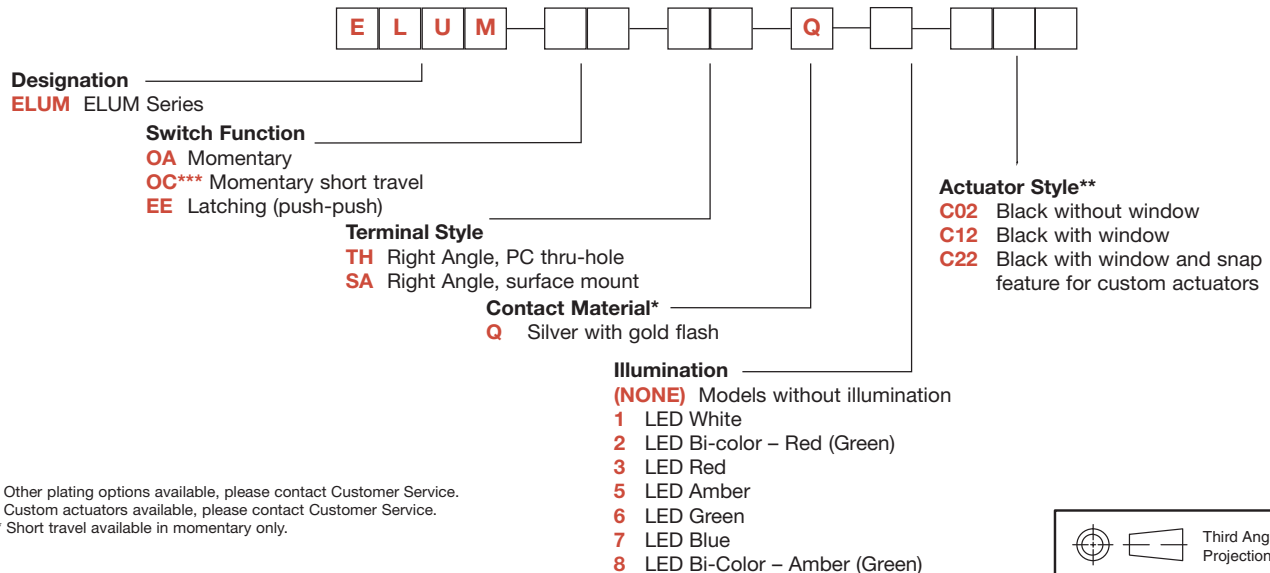
"SA" Terminal Style SMT: Tape and reel per EIA 481-2 (450/reel)
 "TH" Terminal Style PC: Tray (60/tray)

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

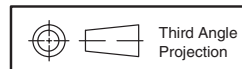
NOTE: Specifications and materials listed above are for switches with standard options. For information on specific and custom switches, please contact Customer Service.

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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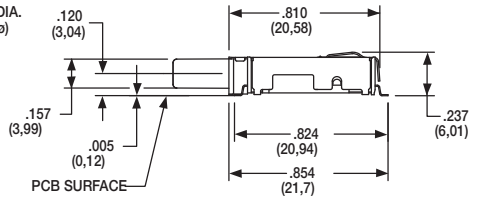
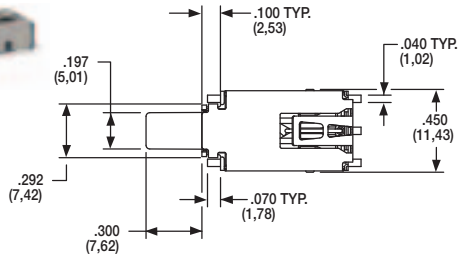
Pushbutton

STANDARD OPTIONS

ELUMEEA7C12



SURFACE MOUNT

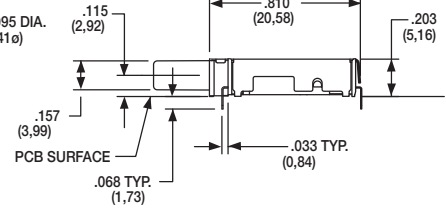
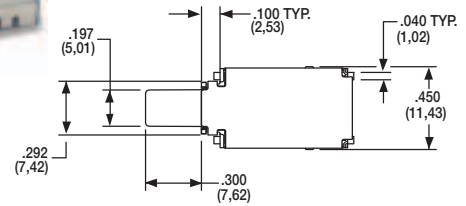


ACTUATOR SHOWN EXTENDED POSITION

ELUMOATHQ6C12



PC THRU-HOLE

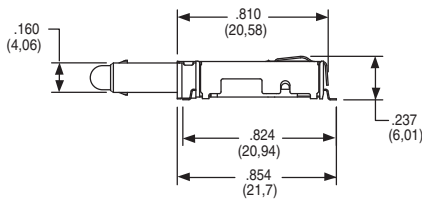
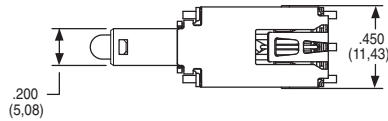


ACTUATOR SHOWN EXTENDED POSITION

ELUMEEA3C22

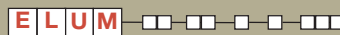


SURFACE MOUNT



ACTUATOR SHOWN EXTENDED POSITION

DESIGNATION



ELUM ELUM SERIES, Illuminated Latching Pushbutton

SWITCH FUNCTION

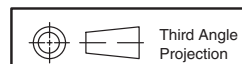
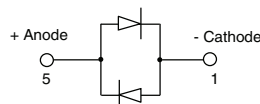


OPTION CODE	NO. OF POLES	SWITCH FUNCTION	CONNECTED TERMINALS	SWITCH FUNCTION	CONNECTED TERMINALS	SCHEMATIC
OA / OC	SP Momentary	ON	3 - 4	ON (Mom.)	3 - 2	
EE	SP Latching (Push-Push)	ON	3 - 4	ON	3 - 2	

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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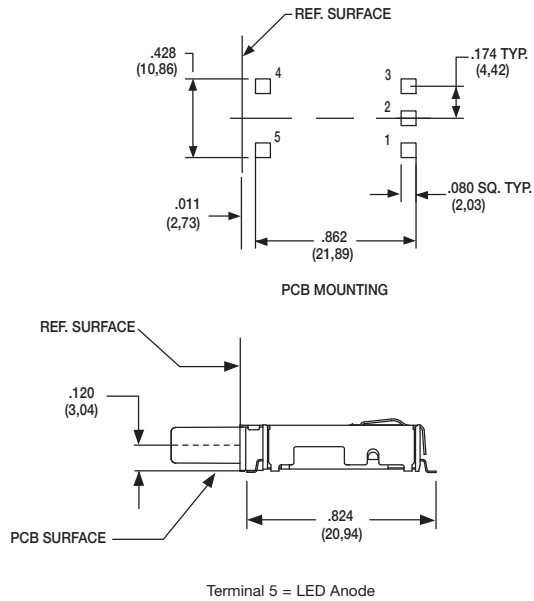
Pushbutton
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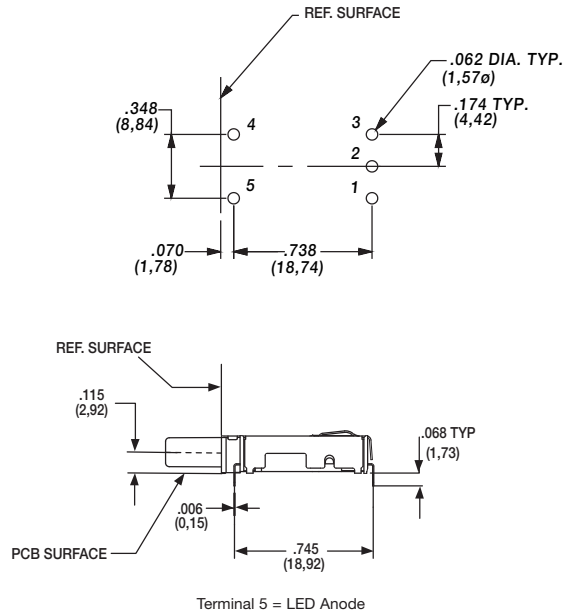
TERMINAL STYLE



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



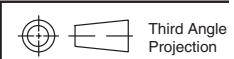
OPTION CODE	ILLUMINATION TYPE	TYPICAL INTENSITY* (mcd)		PEAK WAVELENGTH (nm)	Vf Forward Voltage
		MIN	MAX		
0	Model without illumination	N/A		N/A	
1	LED Super White	4,000	5,000	N/A	3.5
2	LED Bi-Color – Red (Green)	10	20	635/565	2.0
3	LED Red	4	8	700	2.0
5	LED Amber	35	50	610	2.0
6	LED Green	35	50	565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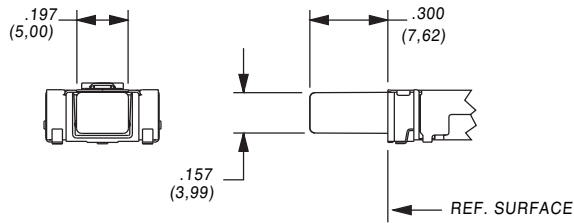


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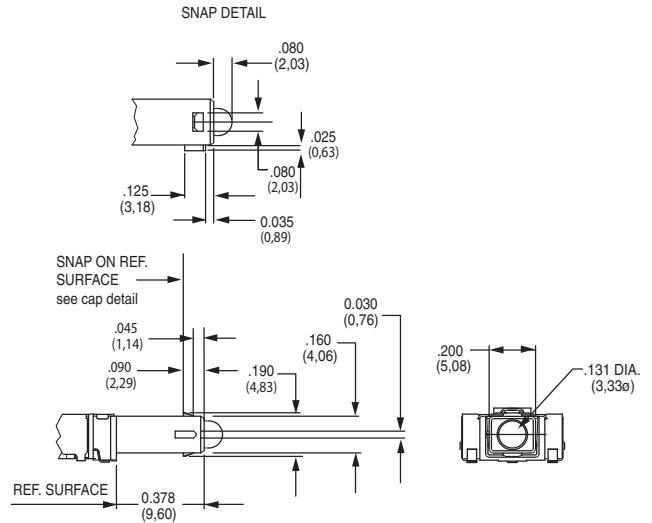
ACTUATOR STYLE*



C02 BLACK WITHOUT WINDOW

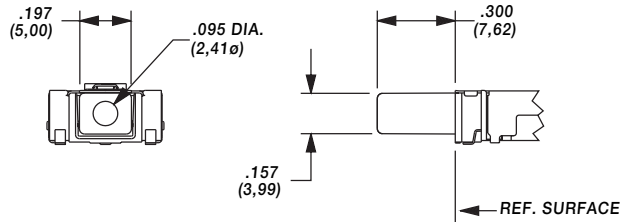


C22 BLACK WITH WINDOW AND SNAP FEATURE TO ACCEPT CUSTOM CAP

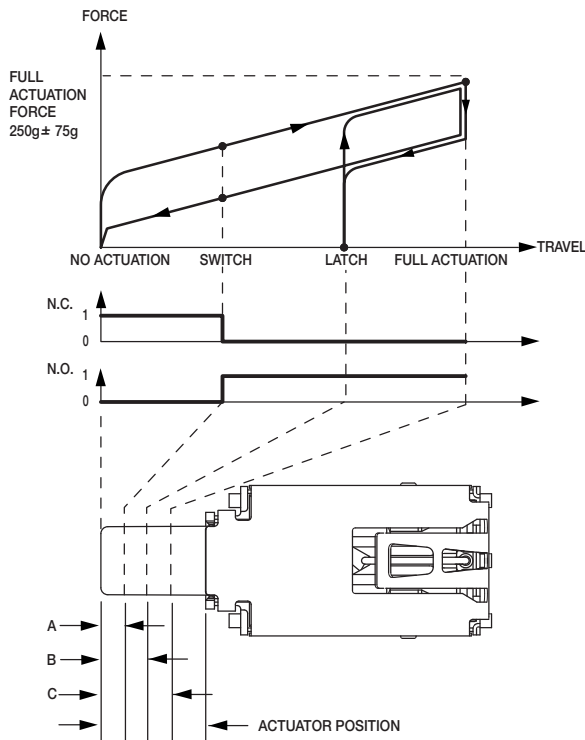


* Custom actuators available, please contact Customer Service.

C12 BLACK WITH WINDOW

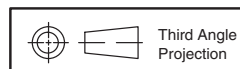
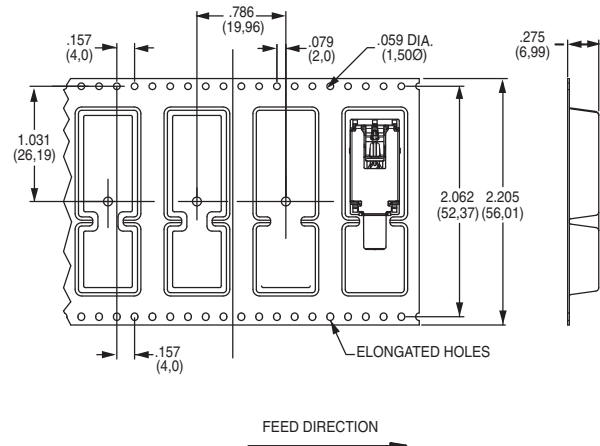


FORCE TRAVEL DIAGRAM



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

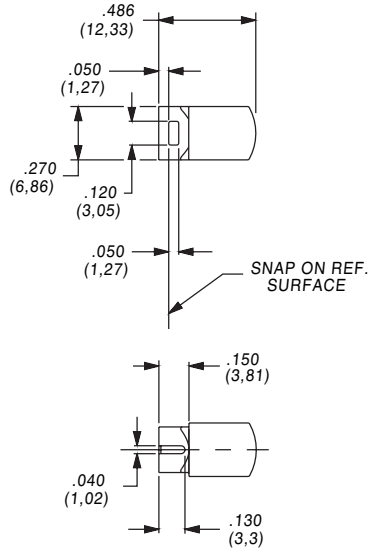
Cap



PART NO.

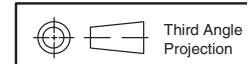
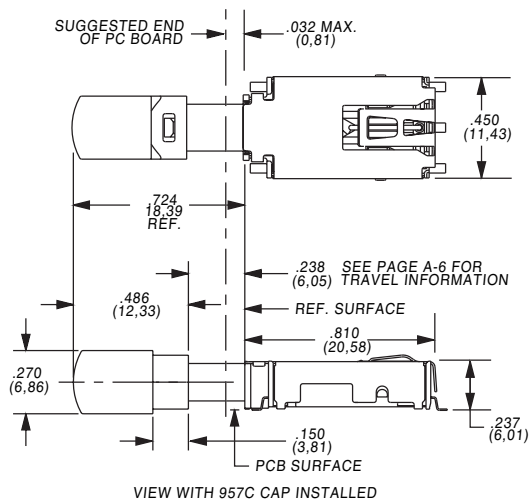
181D00000 Paint and laser etched with white paint underlay and black paint with universal standby symbol.

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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