# **ELUM™** Series

#### LEAD FREE COMPATIBLE OPTION

# **Right Angle Illuminated Latching Pushbutton**

#### 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: Stainless steel, silver plated with gold flash OPERATING TEMPERATURE: -40°C TO 80°C.

TERMINALS: Stainless steel, silver plated

MOVABLE CONTACTS: Copper alloy, silver plated with

gold flash

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° 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**

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)

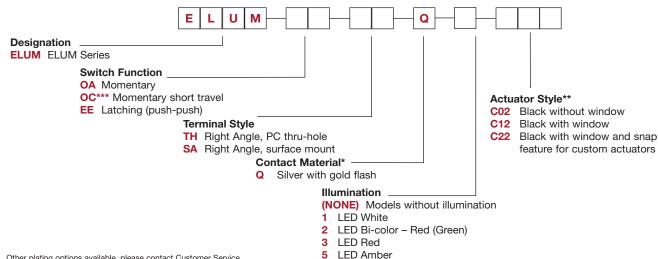
"TH" Terminal Style PC: Tray (60/tray)

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.



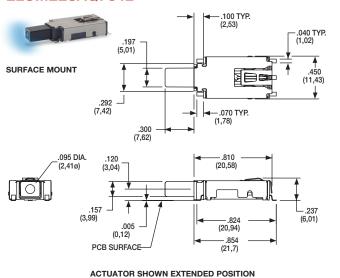
LED Blue 8 LED Bi-Color - Amber (Green)



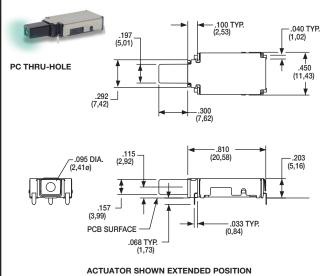


#### STANDARD OPTIONS

#### **ELUMEESAQ7C12**

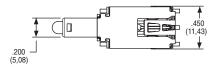


#### **ELUMOATHQ6C12**



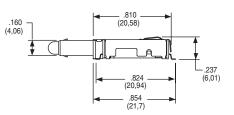
#### **ELUMEESAQ3C22**





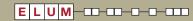
SURFACE MOUNT





**ACTUATOR SHOWN EXTENDED POSITION** 

#### **DESIGNATION**



**ELUM** ELUM SERIES, Illuminated Latching Pushbutton

#### **SWITCH FUNCTION**

		POSITION	1	POSITION	12	SCHEMATIC
OPTION CODE	NO. OF POLES	SWITCH FUNCTION	CONNECTED TERMINALS	SWITCH FUNCTION	CONNECTED TERMINALS	3 C 4 NC / NO 2
OA / OC	SP Momentary	ON	3 – 4	ON (Mom.)	3 – 2	SPDT 5 1
EE	SP Latching (Push-Push)	ON	3 – 4	ON	3 – 2	+ Anode - Cathode

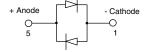
For SPST N.O. function, only terminals 3 & 2 are used. For SPST N.C. function, only terminals 3 & 4 are used.

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

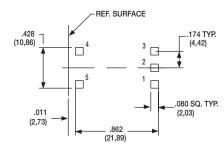




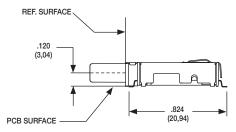


#### **TERMINAL STYLE**

#### RIGHT ANGLE, SURFACE MOUNT

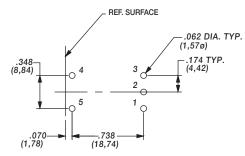


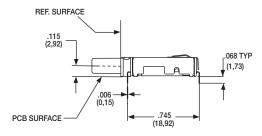
PCB MOUNTING



Terminal 5 = LED Anode

#### RIGHT ANGLE, PC THRU-HOLE





Terminal 5 = LED Anode

### **CONTACT MATERIAL**

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

<sup>\*</sup> 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 I MIN	NTENSITY* MAX	PEAK WAVELENGTH	Vf Forward Voltage
		(mcd)		(nm)	
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

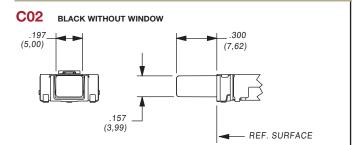
\*LED FORWARD CURRENT: 20 mA LED FORWARD VOLTAGE: see chart above LED REVERSE VOLTAGE: 5.0 V MAX



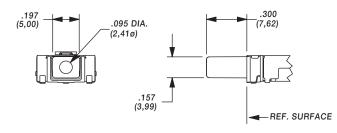


<sup>\*</sup> For information on specific and custom LED, please contact Customer Service.

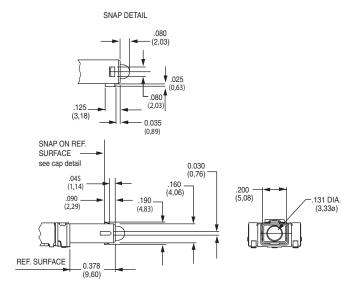
### **ACTUATOR STYLE\***



#### BLACK WITH WINDOW



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



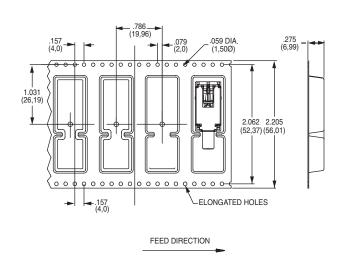
<sup>\*</sup> Custom actuators available, please contact Customer Service.

### **FORCE TRAVEL DIAGRAM**

# FORCE FULL ACTUATION FORCE 250g± 75g NO ACTUATION FULL ACTUATION N.O. **ACTUATOR POSITION** OA. EE ACTUATOR POSITION

	07, 22 7.01			
Α	SWITCH POINT	.067 ±.020	1,7 ± 0.5mm	
В	LATCH	.131 ±.020	3,3 ± 0.5mm	
С	FULL ACTUATION	.200 ±.020	5,1 ± 0.5mm	
OC ACTUATOR POSITION				
Α	SWITCH POINT	.067 ±.020	1,7 ± 0.5mm	
С			2.5 ± 0.5mm	

#### **TAPE & REEL**







#### **AVAILABLE HARDWARE**



#### PART NO.

957C00000 High temperature black cap with universal standby symbol

956C02000 High temperature black cap with no

Material: 4/6 Nylon SMT compatible

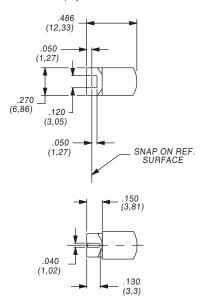
Сар



#### PART NO.

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

Material: Clear polycarbonate





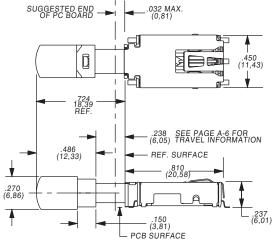
#### PART NO.

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

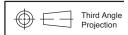
Material: Clear polycarbonate

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

### **CAP INSTALLATION**



VIEW WITH 957C CAP INSTALLED





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757200264 764300000 MHU35 MHU37 807039-1 825.003.011 825.005.011 825.053.011 825.055.011 826.000.071 827.020.011
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