ELUM™ Series
Right Angle Illuminated Latching Pushbutton

LEAD FREE COMPATIBLE OPTION

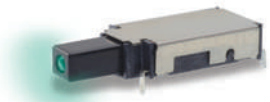
Features/Benefits

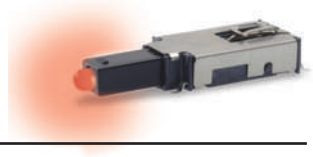
- *SPDT (N.O. & N.C.)*
- *Low height above PCB*
- *Reliable self-cleaning contact*
- *Surface-mount or thru-hole PCB*
- *Standard or custom actuator*
- *Central LED illumination*
- *Latching or Momentary*
- *Long travel. Smooth feel*
- *RoHS compliant and compatible*

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: Stainless steel, silver plated with gold flash
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: ≥ 10^9 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.

E	L	U	M					Q				

Designation
ELUM ELUM Series

Switch Function
OA Momentary
OC* ** Momentary short travel
EE Latching (push-push)

Terminal Style
TH Right Angle, PC thru-hole
SA Right Angle, surface mount

Contact Material*
Q Silver with gold flash

Illumination
(NONE) Models without illumination
1 LED White
2 LED Bi-color – Red (Green)
3 LED Red
5 LED Amber
6 LED Green
7 LED Blue
8 LED Bi-Color – Amber (Green)

Actuator Style**
C02 Black without window
C12 Black with window
C22 Black with window and snap feature for custom actuators

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

Third Angle Projection

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

STANDARD OPTIONS

ELUMEESAQ7C12



SURFACE MOUNT

ACTUATOR SHOWN EXTENDED POSITION

ELUMOATHQ6C12



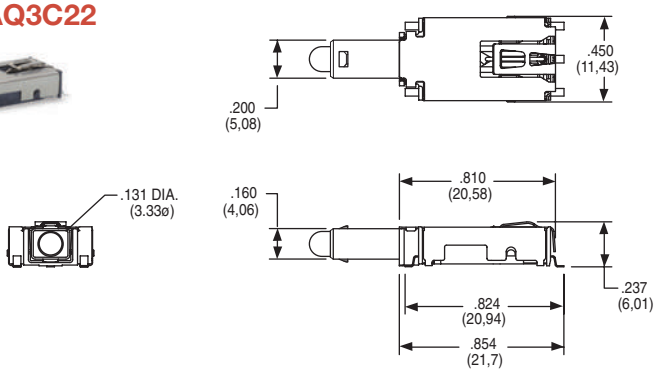
PC THRU-HOLE

ACTUATOR SHOWN EXTENDED POSITION

ELUMEESAQ3C22



SURFACE MOUNT



ACTUATOR SHOWN EXTENDED POSITION

DESIGNATION

E L U M □□ □□ □ □ □□□

ELUM ELUM SERIES, Illuminated Latching Pushbutton

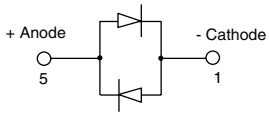
SWITCH FUNCTION

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



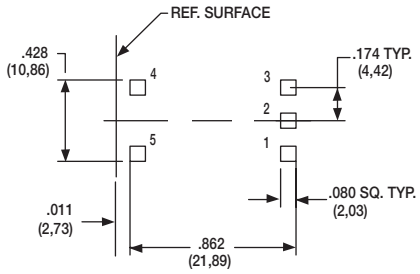
Third Angle Projection

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Specifications and dimensions subject to change

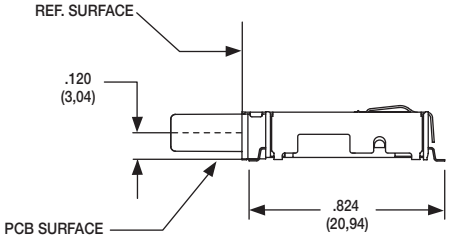
ELUM™ Series
Right Angle Illuminated Latching Pushbutton

TERMINAL STYLE

SA RIGHT ANGLE, SURFACE MOUNT

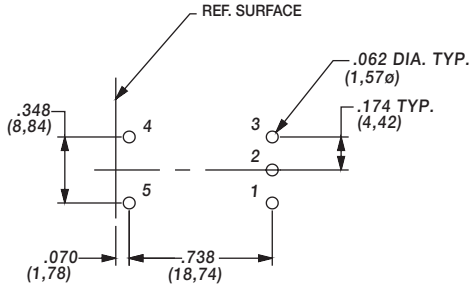


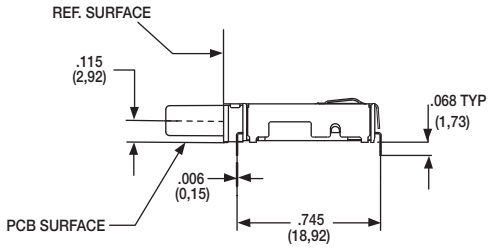
PCB MOUNTING



Terminal 5 = LED Anode

TH 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

* 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* MIN	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

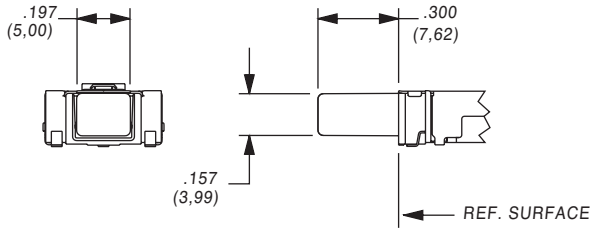
* For information on specific and custom LED, please contact Customer Service.

Third Angle Projection

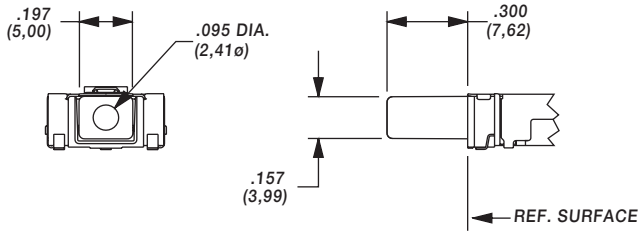
Dimensions are shown: Inches (mm)
Specifications and dimensions subject to change

ACTUATOR STYLE*

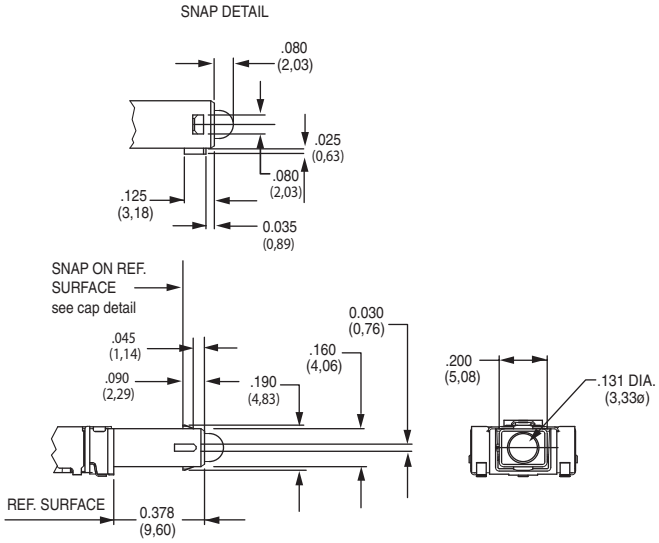
C02 BLACK WITHOUT WINDOW



C12 BLACK WITH WINDOW

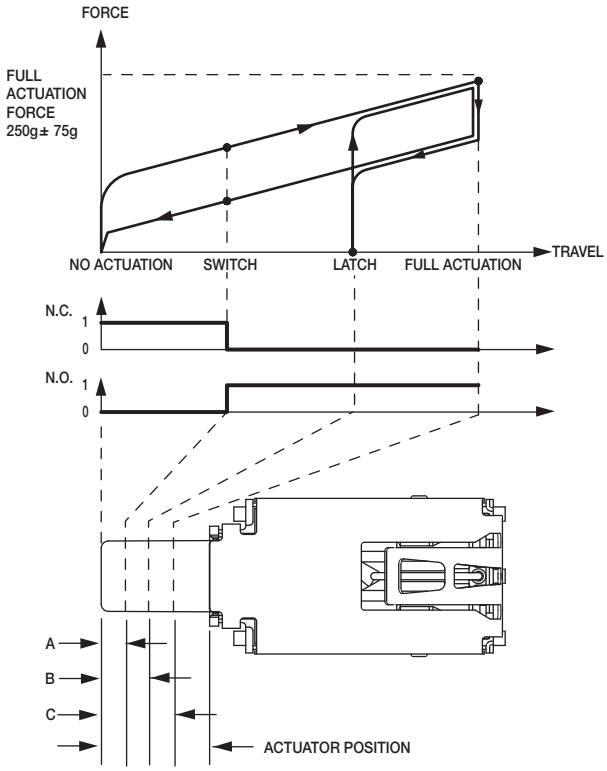


C22 BLACK WITH WINDOW AND SNAP FEATURE TO ACCEPT CUSTOM CAP



* Custom actuators available, please contact Customer Service.

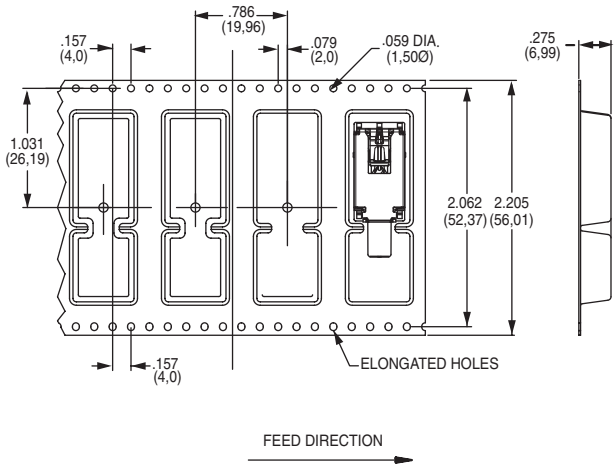
FORCE TRAVEL DIAGRAM



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



Third Angle Projection

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

ELUM™ Series
Right Angle Illuminated Latching Pushbutton

AVAILABLE HARDWARE

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

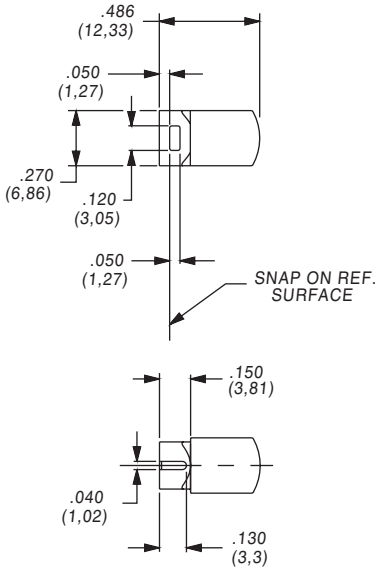
Cap



PART NO.

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

Material: Clear polycarbonate



Cap



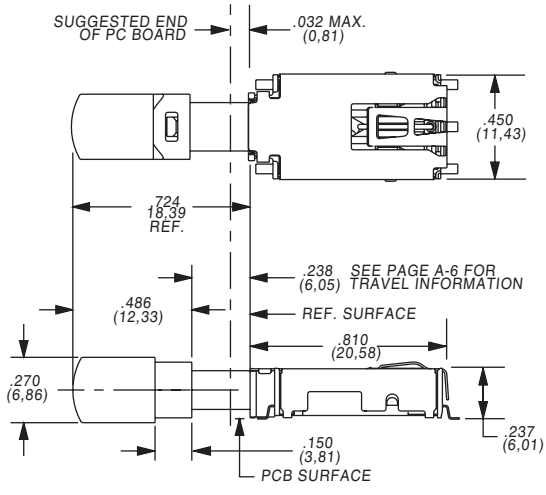
PART NO.

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



VIEW WITH 957C CAP INSTALLED

Third Angle Projection

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