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℃ TO 80℃.
STORAGE TEMPERATURE: -40℃ TO 80℃.
RELATIVE HUMIDITY: 90% R.H. @ 80℃.
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℃ peak, 10 seconds Max. above 250º C.
WASHING PROCESS: No clean process compatible (SMT)
    Bottom wash compatible (Thru-hole)
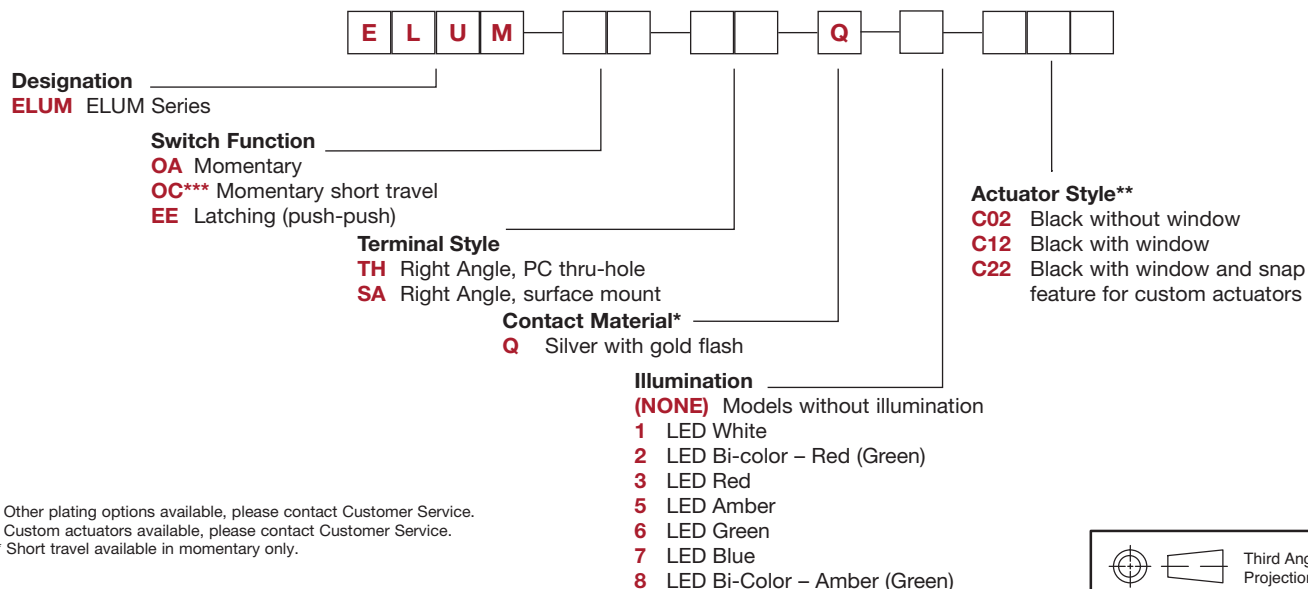SHEAR TEST (SWITCH/PCB): > 40 N

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.
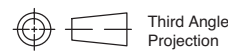
Third Angle Projection

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

C&K

STANDARD OPTIONS

ELUMEESAQ7C12

SURFACE MOUNT

.100 TYP.
(2,53)

.040 TYP.
(1,02)

.197
(5,01)

.450
(11,43)

.292
(7,42)

.070 TYP.
(1,78)

.300
(7,62)

.095 DIA.
(2,41ø)

.120
(3,04)

.810
(20,58)

.157
(3,99)

.005
(0,12)

PCB SURFACE

.824
(20,94)

.854
(21,7)

.237
(6,01)

ACTUATOR SHOWN EXTENDED POSITION

ELUMOATHQ6C12

PC THRU-HOLE

.100 TYP.
(2,53)

.040 TYP.
(1,02)

.197
(5,01)

.450
(11,43)

.292
(7,42)

.300
(7,62)

.095 DIA.
(2,41ø)

.115
(2,92)

.810
(20,58)

.203
(5,16)

.157
(3,99)

PCB SURFACE

.068 TYP.
(1,73)

.033 TYP.
(0,84)

.824
(20,94)

ACTUATOR SHOWN EXTENDED POSITION

ELUMEESAQ3C22

SURFACE MOUNT

.450
(11,43)

.200
(5,08)

.131 DIA.
(3,33ø)

.160
(4,06)

.810
(20,58)

.237
(6,01)

.824
(20,94)

.854
(21,7)

ACTUATOR SHOWN EXTENDED POSITION

DESIGNATION   E L U M - □□ - □□ - □ - □ - □□□

ELUM ELUM SERIES, Illuminated Latching Pushbutton

SWITCH FUNCTION

OPTION CODE	NO. OF POLES	POSITION 1		POSITION 2		SCHEMATIC
		SWITCH FUNCTION	CONNECTED TERMINALS	SWITCH FUNCTION	CONNECTED TERMINALS	
OA / OC	SP Momentary	ON	3 – 4	ON (Mom.)	3 – 2	
EE	SP Latching (Push-Push)	ON	3 – 4	ON	3 – 2	

SPDT
3 C
4 NC   NO 2
5 ———— 1
+ Anode   – Cathode

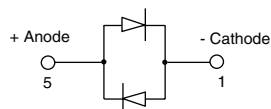For SPST N.O. function, only terminals 3 & 2 are used.
For SPST N.C. function, only terminals 3 & 4 are used.
Circuit: Make before break

LED pins 1 & 5 are independent of switch function.

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

+ Anode   - Cathode
5   1

Third Angle Projection

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

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www.ckswitches.com

ELUM™ Series
Right Angle Illuminated Latching Pushbutton

TERMINAL STYLE

SA RIGHT ANGLE, SURFACE MOUNT

REF. SURFACE

.428 (10,86)

.174 TYP. (4,42)

.011 (2,73)

.862 (21,89)

.080 SQ. TYP. (2,03)

PCB MOUNTING

REF. SURFACE

.120 (3,04)

PCB SURFACE

.824 (20,94)

Terminal 5 = LED Anode

TH RIGHT ANGLE, PC THRU-HOLE

REF. SURFACE

.062 DIA. TYP. (1,57ø)

.174 TYP. (4,42)

.348 (8,84)

.070 (1,78)

.738 (18,74)

REF. SURFACE

.115 (2,92)

.068 TYP (1,73)

PCB SURFACE

.006 (0,15)

.745 (18,92)

Terminal 5 = LED Anode
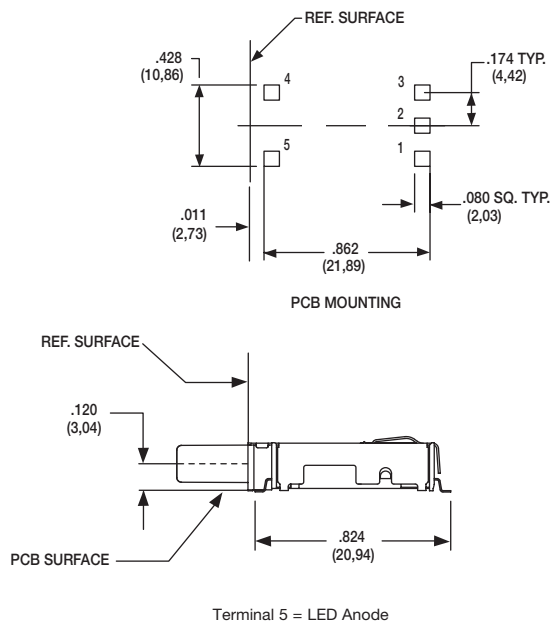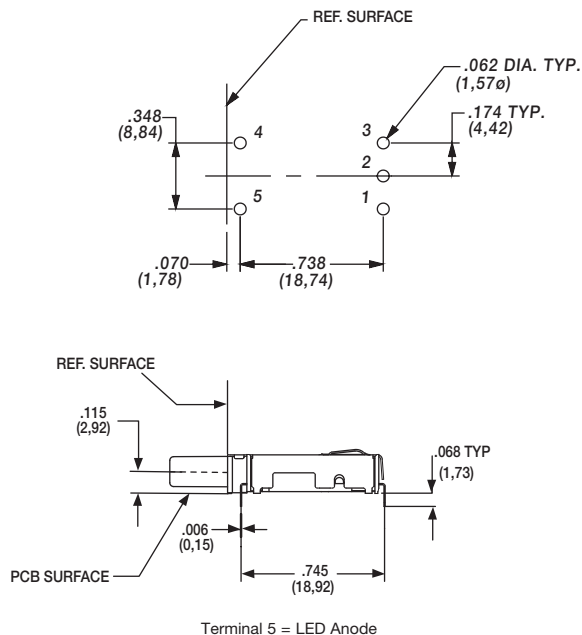
CONTACT MATERIAL

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.
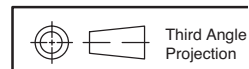
ILLUMINATION

OPTION CODE	ILLUMINATION TYPE	TYPICAL INTENSITY*		PEAK WAVELENGTH	Vf Forward Voltage
		MIN	MAX		
		(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

C&K®

ACTUATOR STYLE*

C02   BLACK WITHOUT WINDOW

.197
(5,00)

.300
(7,62)

.157
(3,99)

← REF. SURFACE

C12   BLACK WITH WINDOW

.197
(5,00)

.095 DIA.
(2,41ø)

.300
(7,62)

.157
(3,99)

← REF. SURFACE
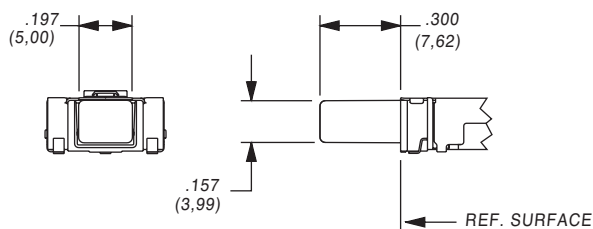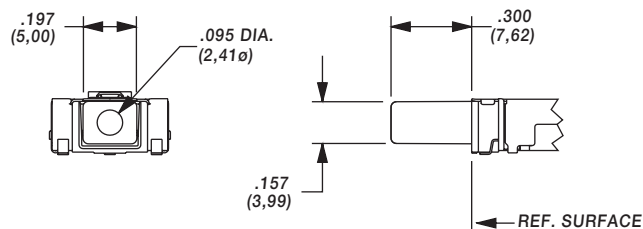
C22   BLACK WITH WINDOW AND SNAP FEATURE TO ACCEPT CUSTOM CAP

SNAP DETAIL

.080
(2,03)

.025
(0,63)

.080
(2,03)

.125
(3,18)

0.035
(0,89)

SNAP ON REF.
SURFACE
see cap detail

0.030
(0,76)

.045
(1,14)

.160
(4,06)

.200
(5,08)

.131 DIA.
(3,33ø)

.090
(2,29)

.190
(4,83)

REF. SURFACE

0.378
(9,60)
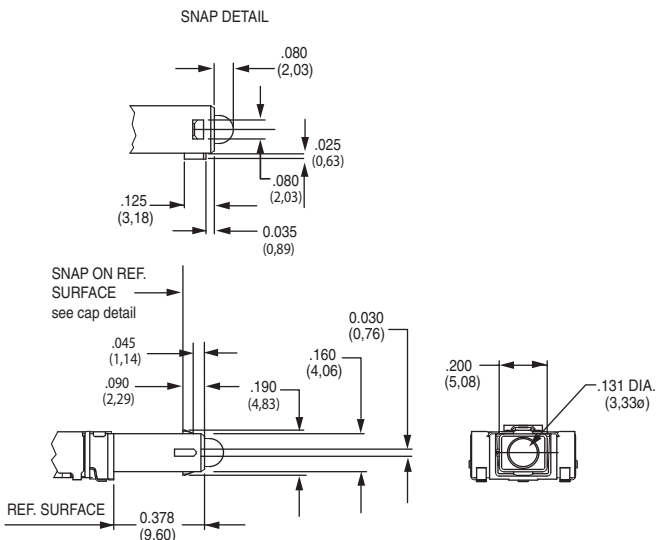
* Custom actuators available, please contact Customer Service.

FORCE TRAVEL DIAGRAM

FORCE

FULL
ACTUATION
FORCE
250g ± 75g

NO ACTUATION   SWITCH   LATCH   FULL ACTUATION   TRAVEL

N.C.
1
0

N.O.
1
0

A →
B →
C →
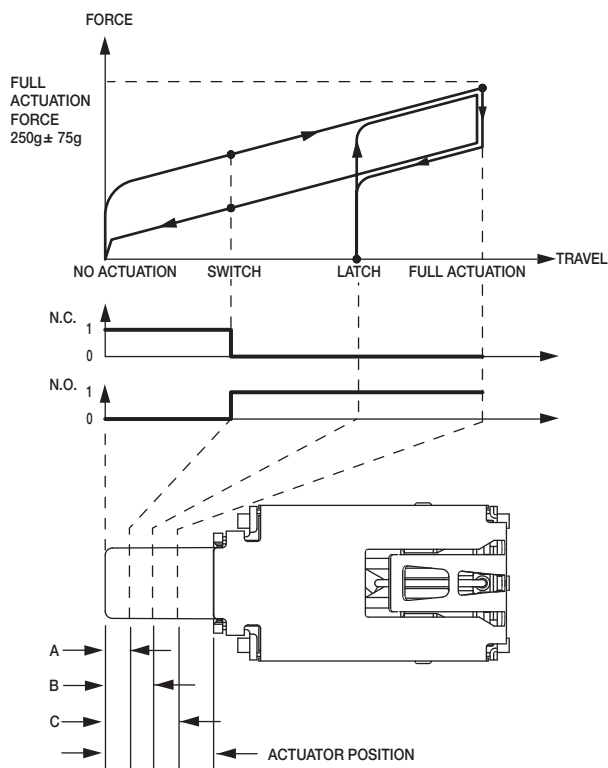
← ACTUATOR POSITION

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
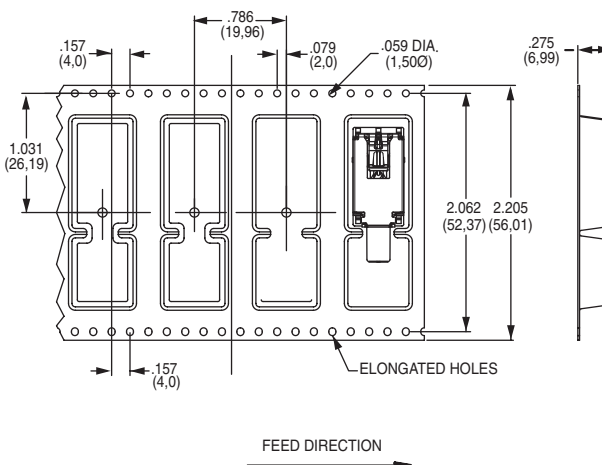
.157
(4,0)

.786
(19,96)

.079
(2,0)

.059 DIA.
(1,50Ø)

.275
(6,99)

1.031
(26,19)

2.062
(52,37)

2.205
(56,01)

.157
(4,0)

← ELONGATED HOLES

FEED DIRECTION →

Third Angle
Projection

C&K

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

.486
(12,33)

.050
(1,27)

.270
(6,86)

.120
(3,05)

.050
(1,27)

SNAP ON REF.
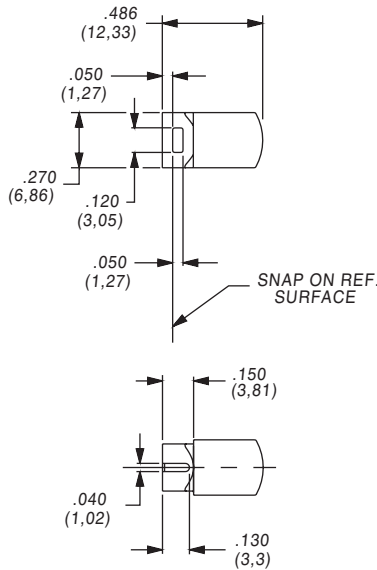SURFACE

.150
(3,81)

.040
(1,02)

.130
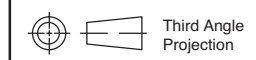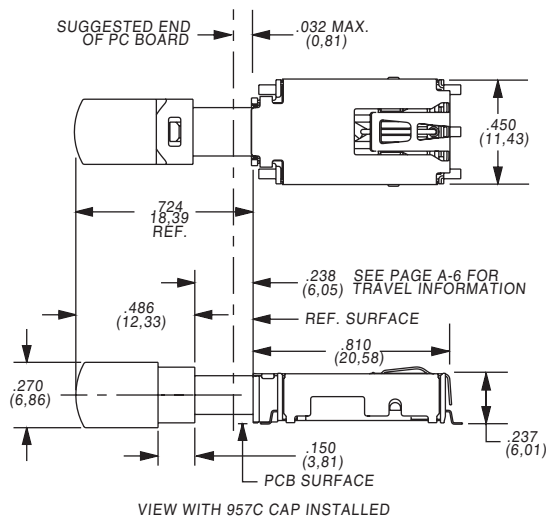(3,3)

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

SUGGESTED END
OF PC BOARD

.032 MAX.
(0,81)

.450
(11,43)

.724
18,39
REF.

.238 SEE PAGE A-6 FOR
(6,05) TRAVEL INFORMATION

REF. SURFACE

.810
(20,58)

.486
(12,33)

.270
(6,86)

.237
(6,01)

.150
(3,81)

PCB SURFACE

VIEW WITH 957C CAP INSTALLED

⊕ ⊏ Third Angle
Projection

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

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