



## Specifications

Electrical Ratings	100mA @ 12VDC
Electrical Life	1,000,000 cycles typical
Mechanical Life	5,000,000 cycles typical
Actuation Force	250 ± 50gF
Actuator Travel	4.5 ± .5mm; 3.5 ± .5mm

Contact Resistance	≤ 100mΩ initial
Dielectric Strength	500Vrms min between contact
Insulation Resistance	≥ 100MΩ min @ 250VDC
Operating Temperature	-20°C to 70°C
Storage Temperature	-20°C to 70°C

## Materials

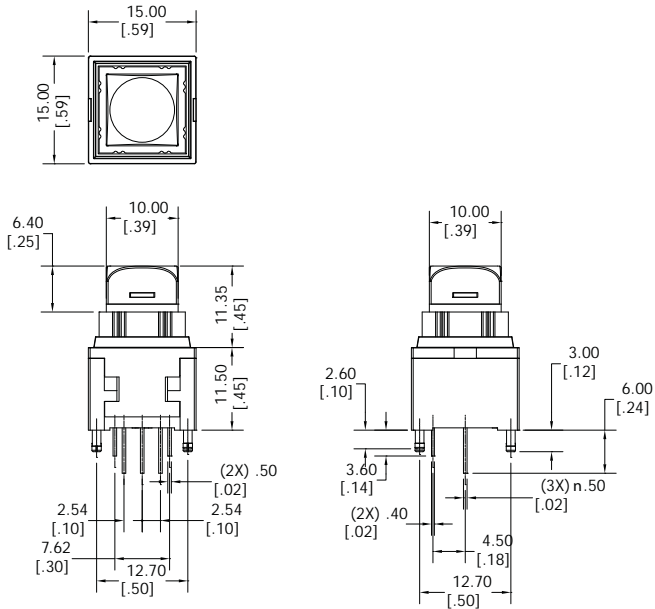
Actuator Cap	Polycarbonate (PC)
Actuator Diffuser	Polycarbonate (PC)
Actuator	Acetal Polyoxymethylene (POM), UL94V-0
Housing	Polymide (PA), UL94V-0
Terminal Base	Polymide (PA), UL94V-0
Contacts	Brass rivet, gold over nickel
Terminals	Brass, silver plated

## Ordering Information

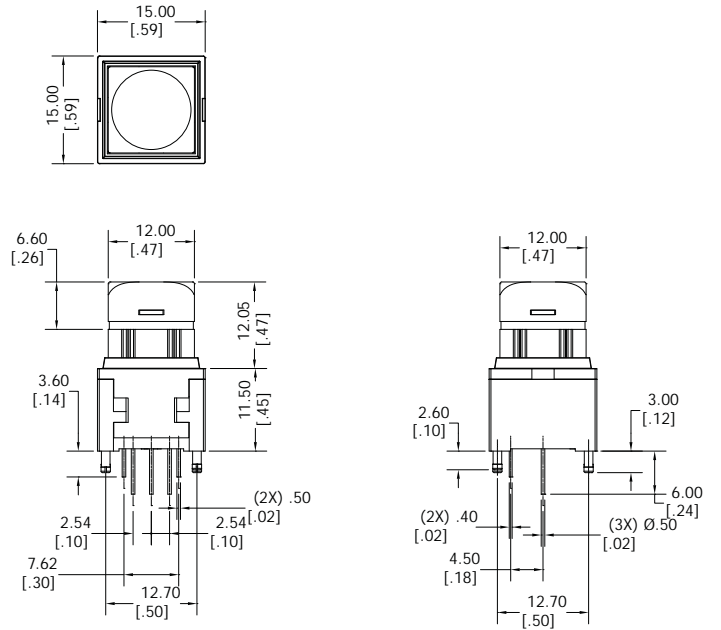
1. Series	AD	01	NT	B	RR	R	10	BJ
AD								
2. Switch Function	01 = 4.5mm total travel (standard) 02 = 3.5mm total travel							
3. Switch Function	NT = SPST Off-(On) (momentary, tactile) NN = SPST Off-(On) (momentary, non-tactile)							
4. Actuator Options	A = 10.0mm square      V = Sculptured (standard) B = 12.0mm square      F = Flat C = 15.0mm square      H = Home key D = 17.4mm square							
5. LED Color	RR = Red      WW = White      YG = Yellow/Green GG = Green      RY = Red/Yellow      BY = Yellow/Blue YY = Yellow      RG = Red/Green      GB = Green/Blue BB = Blue      RB = Red/Blue      RGB = RGB LED 2RBG = 2 RBG LEDs							
6. Contact Material	R = Gold							
7. Diffuser Color Options	7a. Cap Color Options		5 = Green semi-transparent 5T = Green transparent 7 = Blue semi-transparent 7T = Blue transparent					
1 = White (standard) 3 = Red 4 = Yellow 5 = Green 7 = Blue	0 = Clear transparent (standard) 3 = Red semi-transparent 3T = Red transparent 4 = Yellow semi-transparent 4T = Yellow transparent							
8. Laser Etching Colors	8a. Laser Etching Styles				*A colored film is applied to the actuator and is laser etched to allow the LED to shine through the pattern. Contact factory for custom styles or finishes			
Blank = No etching color MS = Misty Silver B = Black	Blank = no etching style A      D      G      J B      E      H      K C      F      I      L							
9. Pad Printing	Blank = No pad printing      **Contact factory for custom printing options							

## Illuminated Pushbutton

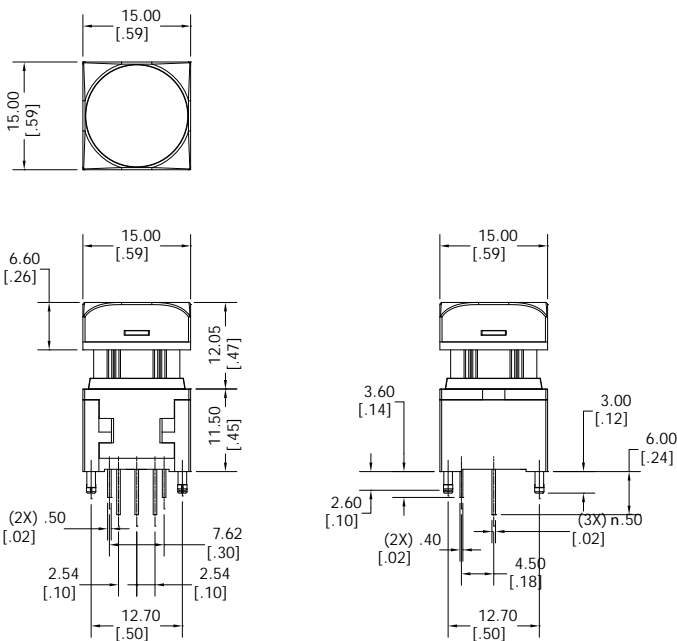
### Dimensions



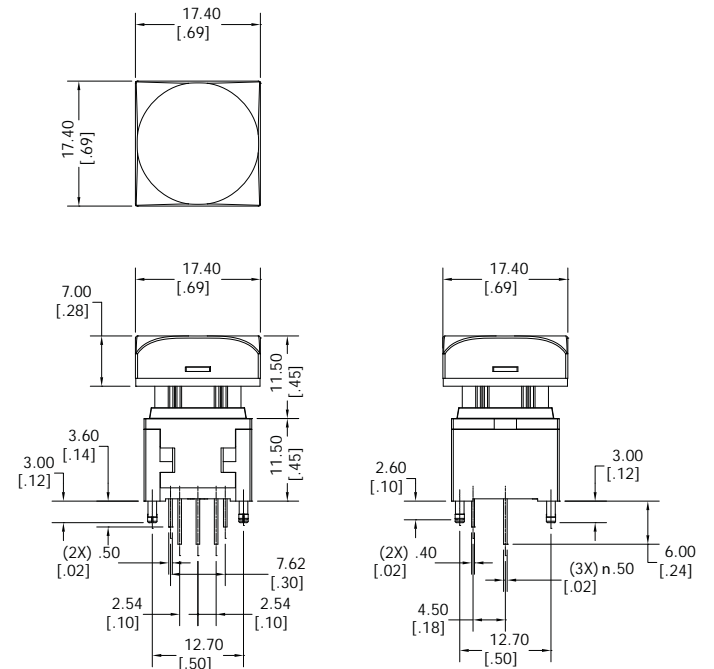
**A = 10.0mm Square Sculptured**



**B = 12.0mm Square Sculptured**



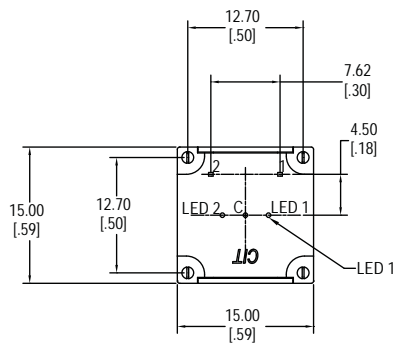
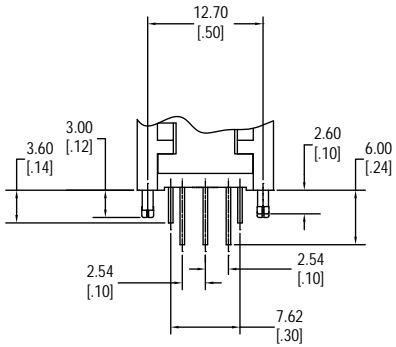
**C = 15.0mm Square Sculptured**



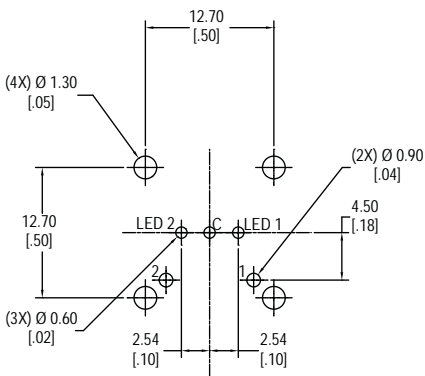
**D = 17.4mm Square Sculptured**

**PCB Layout & Schematic**

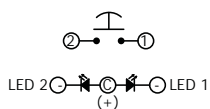
**Single or Dual color LED**



**Bottom View**

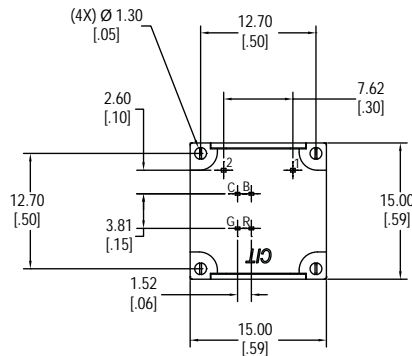
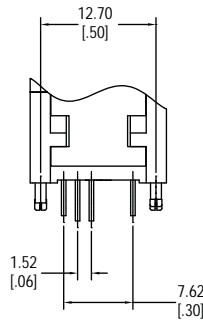


**Suggested PCB Layout Top View**

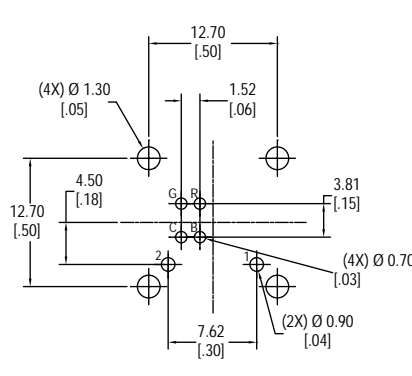


**Schematic Bottom View**

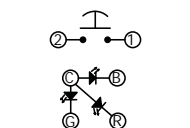
**RGB LED**



**Bottom View**

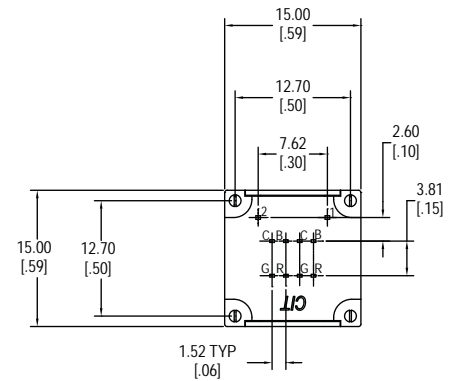
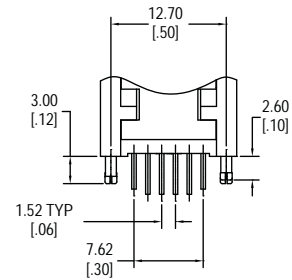


**Suggested PCB Layout Top View**

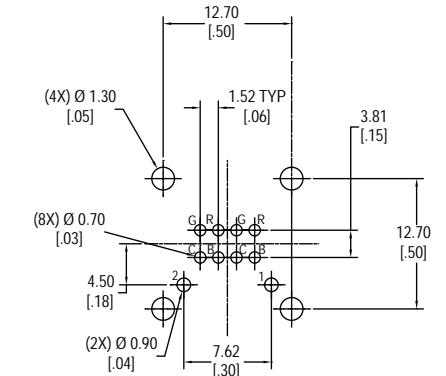


**Schematic Bottom View**

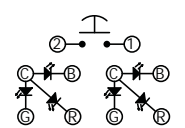
**2 RGB LEDs**



**Bottom View**



**Suggested PCB Layout Top View**






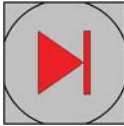
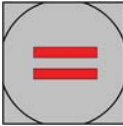

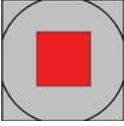
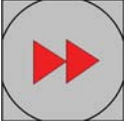
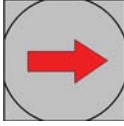

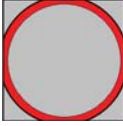
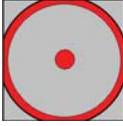
**Schematic Bottom View**

## Illuminated Pushbutton

### Actuators & Diffuser Styles

				
1 = White Diffuser	3 = Red Diffuser	4 = Yellow Diffuser	5 = Green Diffuser	7 = Blue Diffuser
				
	3 = Red Cap Semi-Transparent	4 = Yellow Cap Semi-Transparent	5 = Green Cap Semi-Transparent	7 = Blue Cap Semi-Transparent
				
0 = Clear Cap	3T = Red Cap Transparent	4T = Yellow Cap Transparent	5T = Green Cap Transparent	7T = Blue Cap Transparent

### Laser Etching Styles

					
A	B	C	D	E	F
					
G	H	I	J	K	L

### LED Characteristics

LED Ratings		Color								Units
		R	Y	B	W	PG	R	G	B	
Reverse Voltage	V <sub>R</sub>	5	5	5	5	5	5			V
Forward Current (avg)	I <sub>F</sub>	25	30	25	25	25	50	30	30	mA
Forward Current (peak)	I <sub>FS</sub>	60	80	100	100	100	195	150	150	mA
Reverse Current V <sub>R</sub> = 5V	I <sub>R</sub>	10	100	50	50	50	10			μA
Power Dissipation	P <sub>T</sub>	30	75	110	110	100	350			mW
Operating & Storage Temperature	T <sub>A</sub>	-40 ~ +85					-40 ~ +85			°C
Forward Voltage (typ) I <sub>F</sub> = 20mA	V <sub>F</sub>	1.7	2.0	2.6	2.7	3.1	1.8	2.8	2.7	V
Forward Voltage (max) I <sub>F</sub> = 20mA	V <sub>F</sub>	2.2	2.4	3.7	3.2	3.8	2.3	3.4	3.3	V
Wavelength at Peak Emmission, I <sub>F</sub> = 20mA	λ <sub>P</sub>	650	590	475	n/a	525	630	525	470	nm
Spectral Line Half-Width, I <sub>F</sub> = 20mA	Δλ	20	16	20	n/a	15	25	35	25	nm
Luminous Intensity, I <sub>F</sub> = 20mA	LI	140	70	28.5	112	250	177	598	93.6	mcd
Viewing Angle	Θ	100	130	120	110	130	120			deg