



Illuminated Pushbutton

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

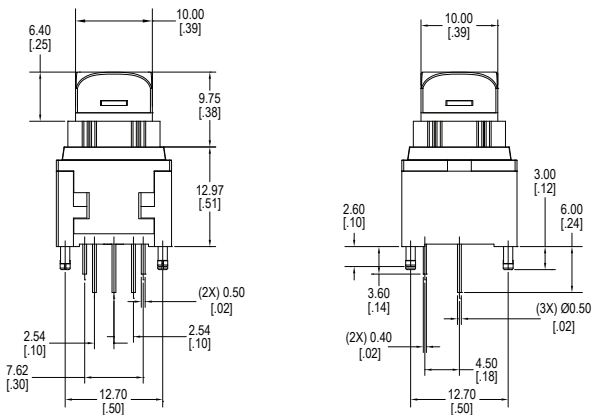
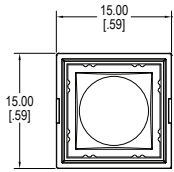
Materials

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

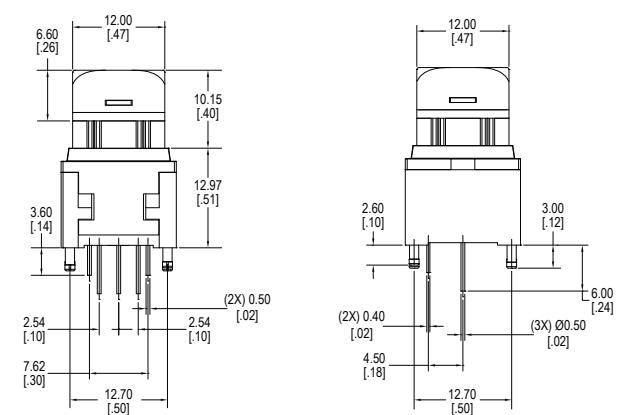
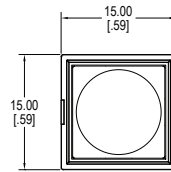
Ordering Information

1. Series	AD	01	NT	BV	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) NC = SPST Off-(On) (momentary, with click sound) L = SPST Off-On (latching)							
4a. Actuator Options	4b. Actuator Options A = 10.0mm square B = 12.0mm square C = 15.0mm square D = 17.4mm square V = Sculptured (standard) F = Flat H = Home key							
5. LED Color	RR = Red GG = Green YY = Yellow BB = Blue WW = White RY = Red/Yellow RG = Red/Green RB = Red/Blue YG = Yellow/Green BY = Yellow/Blue GB = Green/Blue RGB = RGB LED 2RGB = 2 RGB LEDs							
6. Contact Material	R = Gold							
7. Diffuser Color Options	7a. Cap Color Options 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 5 = Green semi-transparent 5T = Green transparent 7 = Blue semi-transparent 7T = Blue transparent							
8. Laser Etching Colors	8a. Laser Etching Styles Blank = No etching color MS = Misty Silver B = Black Blank = no etching style A G B H C I D J E K F L *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							
9. Pad Printing	Blank = No pad printing **Contact factory for custom printing options							

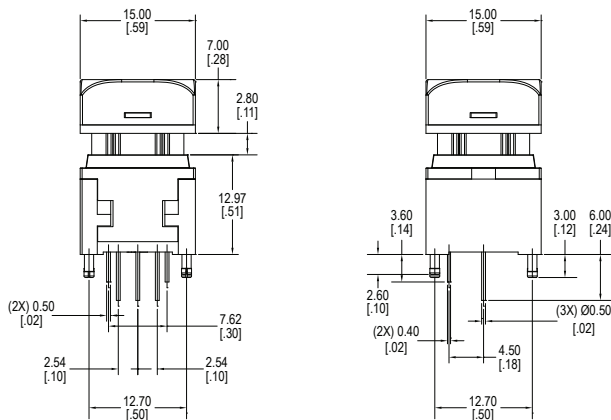
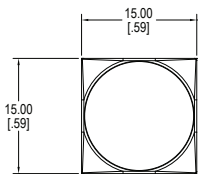
Dimensions



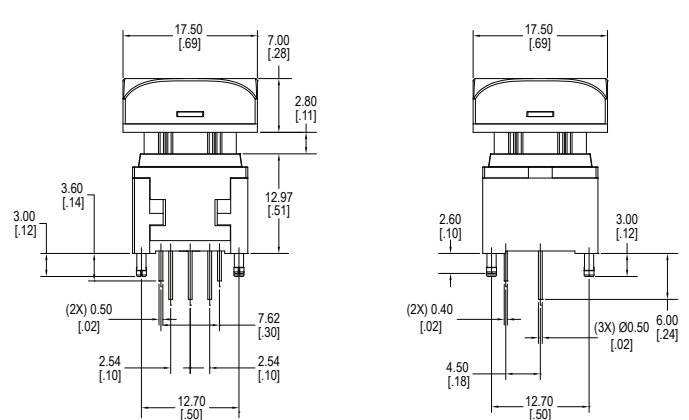
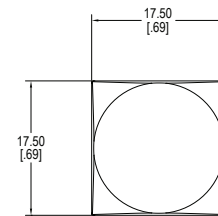
AV = 10.0mm Square Sculptured



BV = 12.0mm Square Sculptured



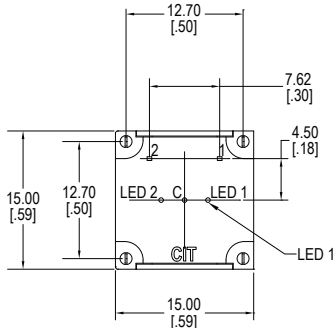
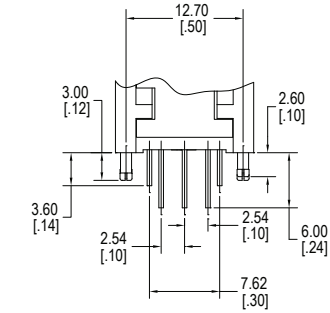
CV = 15.0mm Square Sculptured



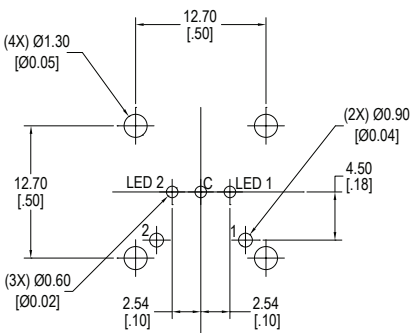
DV = 17.5mm Square Sculptured

PCB Layout & Schematic

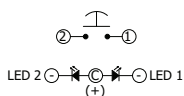
Single or Dual color LED



Bottom View

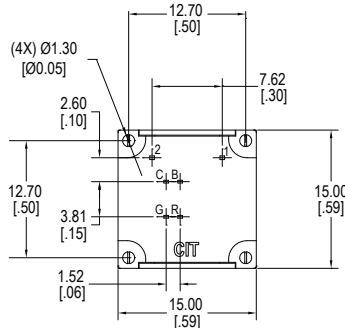
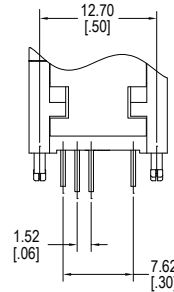


Suggested PCB Layout
Top View

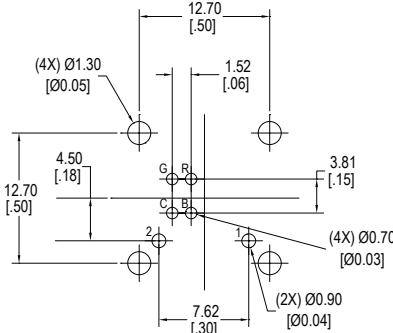


Schematic
Bottom View

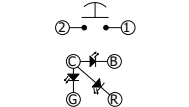
RGB LED



Bottom View

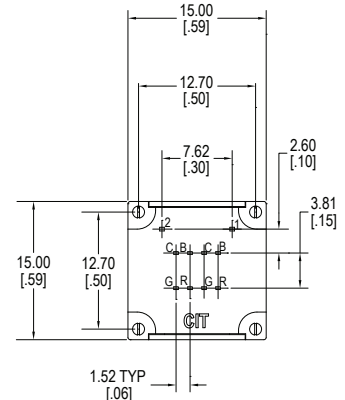
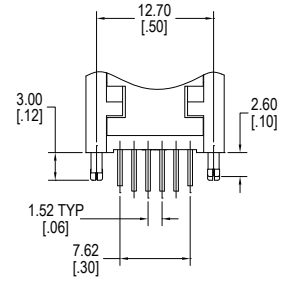


Suggested PCB Layout
Top View

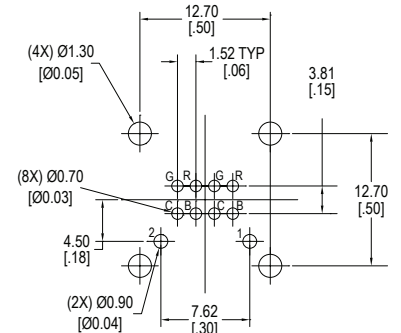


Schematic
Bottom View

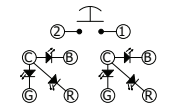
2 RGB LEDs



Bottom View



Suggested PCB Layout
Top View



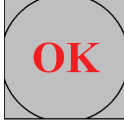
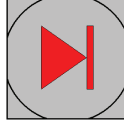
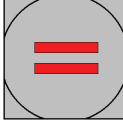
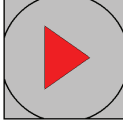
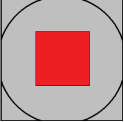
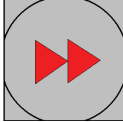
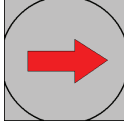
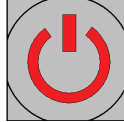
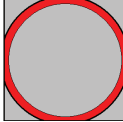
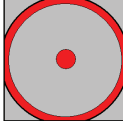


Schematic
Bottom View

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

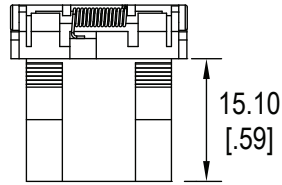
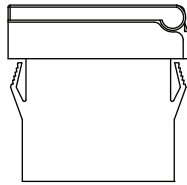
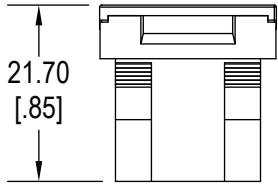
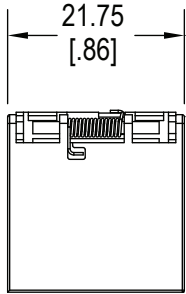
					
A	B	C	D	E	F
					
G	H	I	J	K	L

LED Characteristics

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

Switch Guard

With Spring Loaded Clear Cover



PANEL THK	L
0.75 - 1.25	20.1 - 20.3
1.25 - 2.0	20.3 - 20.5
2.0 - 3.0	20.5 - 20.7

