



Miniature Illuminated Pushbutton

Features

Electrical Ratings	100mA @ 12VDC	Contact Resistance	≤ 100mΩ initial
Electrical Life	1,000,000 cycles typical	Dielectric Strength	500Vrms min between contact
Mechanical Life	5,000,000 cycles typical	Insulation Resistance	≥ 100MΩ min @ 250VDC
Actuation Force	250 ± 50gF	Operating Temperature	-20°C to 70°C
Actuator Travel	4.5 ± .5mm; 3.5 ± .5mm	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

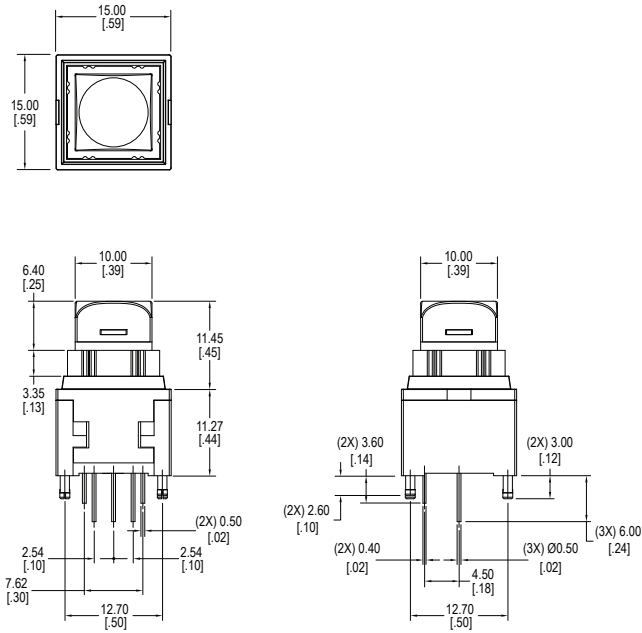
Miniature Illuminated Pushbutton

Ordering Information

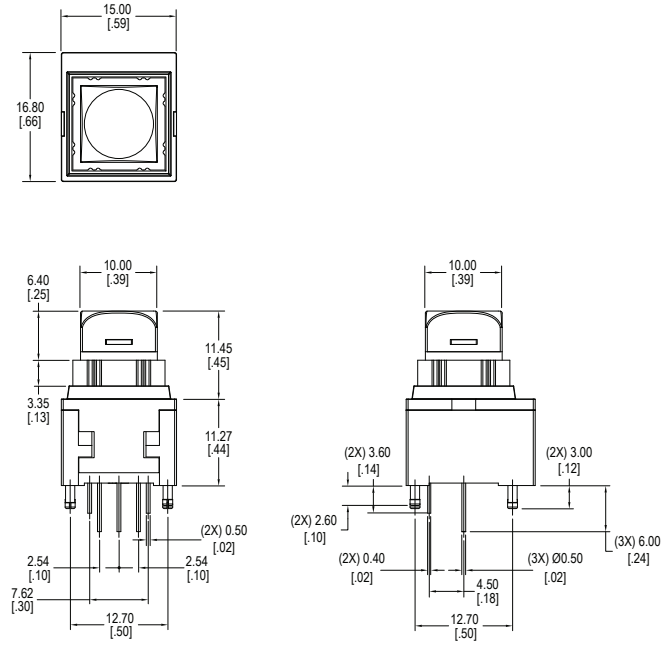
1. Series	AD	01	NT	BV	RR	R	10	BJ
AD								
2. Switch Function 01 = 4.5mm total travel (standard) 02 = 3.5mm total travel								
3. Switch Function NT = SPST Off-(On) (momentary, tactile) NN = SPST Off-(On) (momentary, non-tactile) NC = SPST Off-(On) (momentary, with click sound) L = SPST Off-On (latching)								
4a. Actuator Options A = 10.0mm square B = 12.0mm square C = 15.0mm square D = 17.4mm square			4b. Actuator Options 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 1 = White (standard) 3 = Red 4 = Yellow 5 = Green 7 = Blue			7a. Cap Color Options 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 Blank = No etching color MS = Misty Silver B = Black			8a. Laser Etching Styles 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

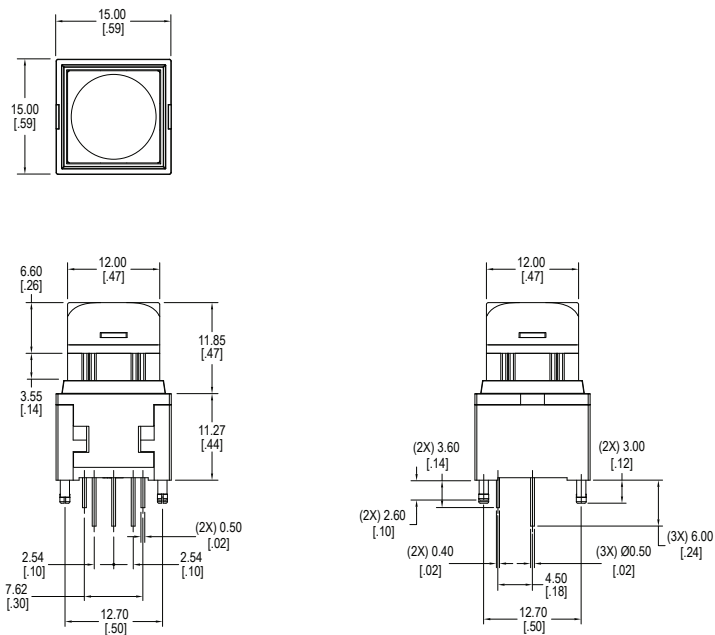
AV, sculptured square, 10.0mm, momentary



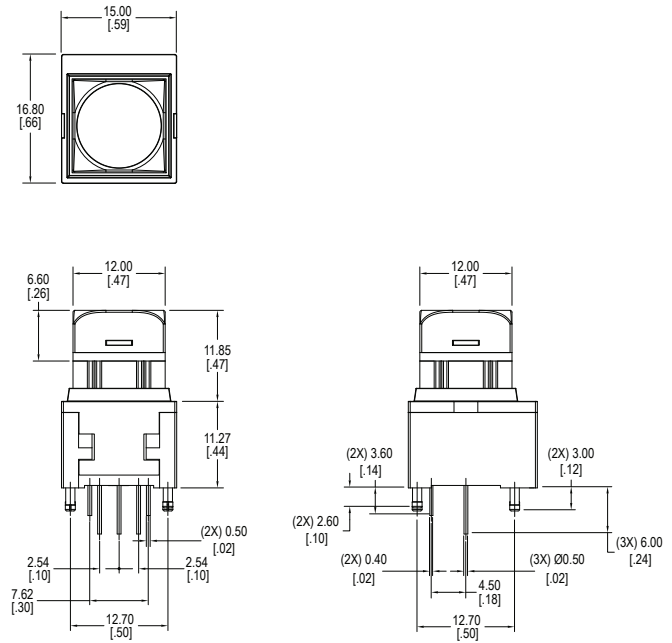
AV, sculptured square, 10.0mm, latching



BV, sculptured square, 12.0mm, momentary

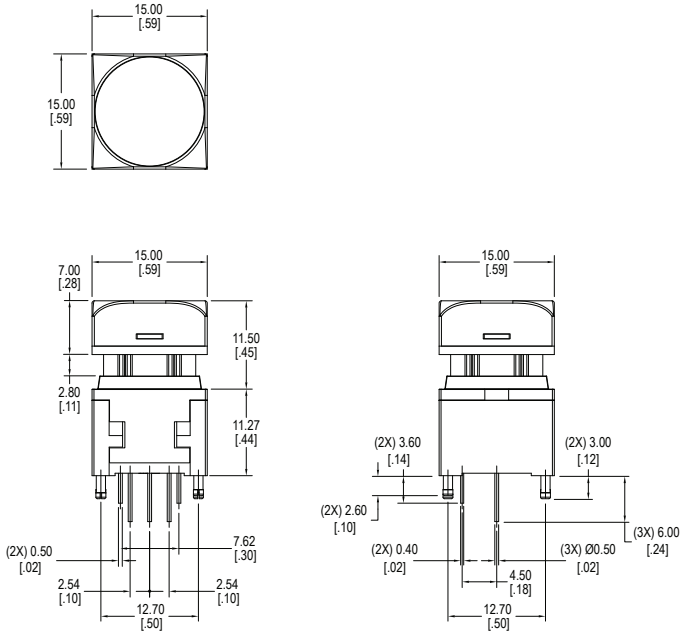


BV, sculptured square, 12.0mm, latching

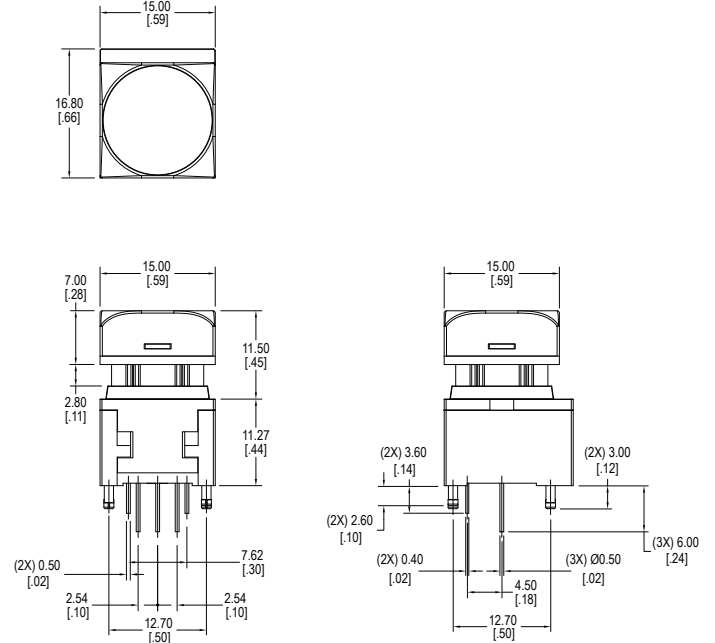


Dimensions

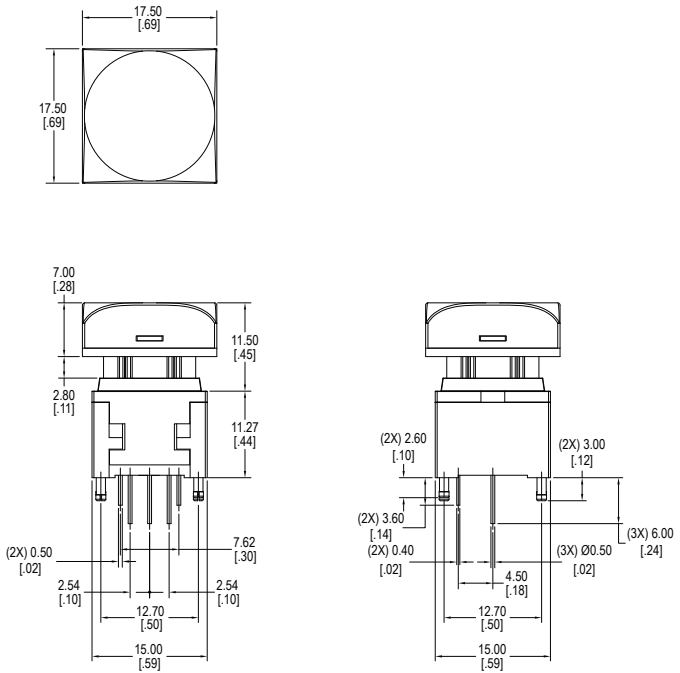
CV, sculptured square, 15.0mm, momentary



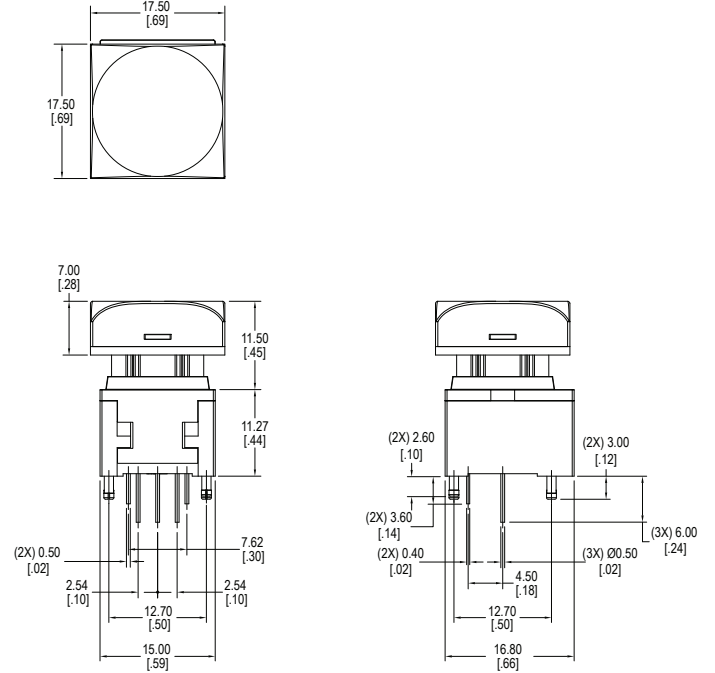
CV, sculptured square, 15.0mm, latching



DV, sculptured square, 17.5mm, momentary

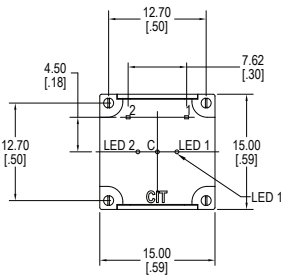
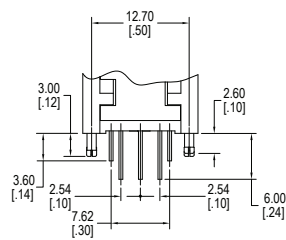


DV, sculptured square, 17.5mm, latching

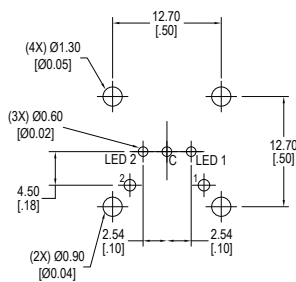


PCB Layouts & Schematics

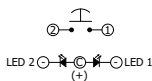
Single or Dual color LED
PCB layout, bottom view



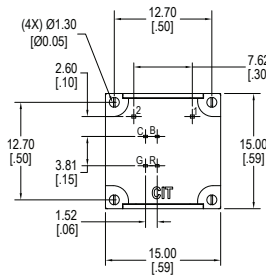
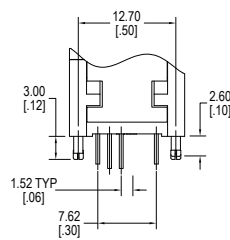
PCB layout, top view



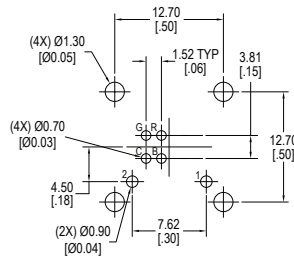
Schematic, bottom view



RGB LED
PCB layout, bottom view



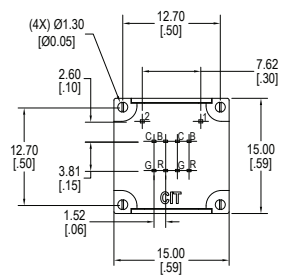
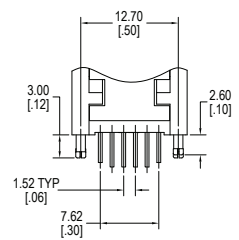
PCB layout, top view



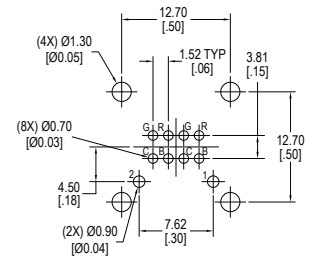
Schematic, bottom view



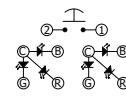
2 RGB LEDs
PCB layout, bottom view



PCB layout, top view




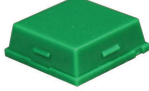





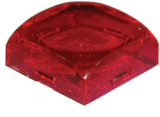
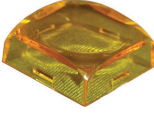
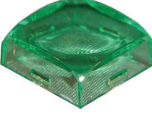
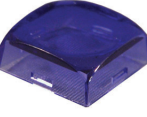


Schematic, bottom view




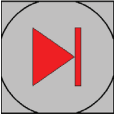
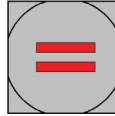
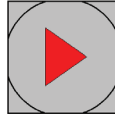
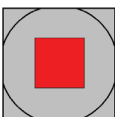
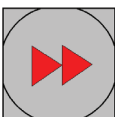
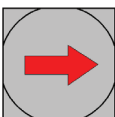

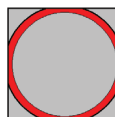
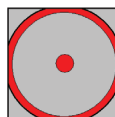


Miniature Illuminated Pushbutton

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

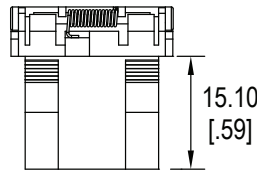
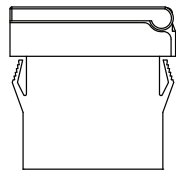
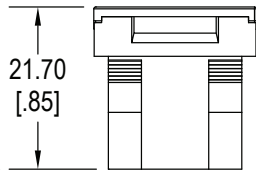
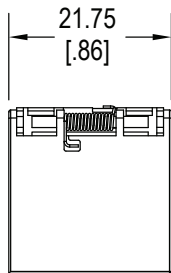
A Style 	B Style 	C Style 	D Style 	E Style 	F Style 
G Style 	H Style 	I Style 	J Style 	K Style 	L Style 

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			$^{\circ}C$
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, $I_F = 20mA$	$\Delta\lambda$	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

