

RoHS Compliant

Miniature Pushbutton

## Specifications

Electrical Ratings	50mA @ 35VDC
Electrical Life	100,000 cycles typical
Contact Resistance	<50mΩ initial
Actuation Force	130 ± 50gF
Actuation Travel	.50 ± .1mm

Dielectric Strength	500Vrms min
Insulation Resistance	>100MΩ min
Operating Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C

## Materials

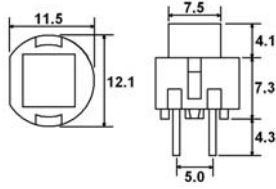
Cover	Poly Carbonate (PC)
Base	Valox
Contacts	Copper Alloy, Silver Plated
Terminals	Copper Alloy, Silver Plated

## Ordering Information

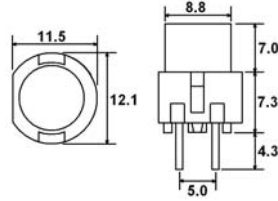
1. Series	SH	B	L	B	A	MS
SH						
2. Actuator Options	<p>A = Square B = Round C = Flat D = Post E = Large Square Cap</p>					
3. Actuator Color	<p>Non-Illuminated Options      Illuminated Options</p> <p>1 = White    6 = Orange      L = LED Option - Clear Actuator Color</p> <p>2 = Black    7 = Blue          L1 = LED Option - With Laser Etching Style</p> <p>3 = Red      8 = Dark Gray      ** LED only available with A &amp; B actuators</p> <p>4 = Yellow    9 = Beige</p> <p>5 = Green</p>					
4. LED Color	<p>Blank = No LED      Bi-Color LED Color</p> <p>R = Red              RG = Red/Green</p> <p>G = Green            RY = Red/Yellow</p> <p>Y = Yellow            YG = Yellow/Green</p> <p>B = Blue              GB = Green/Blue</p> <p>W = White            RB = Red/Blue</p> <p>                            YB = Yellow/Blue</p>					
5. Laser Etching Styles	<p>Blank = No Laser Etching      ** Laser etching styles are only available with the A or B actuator. A colored film is applied to the actuator and is laser etching to allow the LED to shine through the pattern.</p> <p>A    D    G    K</p> <p>B    E    H</p> <p>C    F    J</p>					
6. Laser Etching Colors	<p>Blank = No Laser Etching Color      ** A colored film is applied to the actuator and is laser etched to allow the standard color of the actuator or the LED to shine through the pattern</p> <p>MS = Misty Silver</p> <p>BS = Bright Silver</p> <p>BG = Bright Gold</p>					
7. Caps	<p>Blank = No Cap      C15      C22      Cap Colors</p> <p>C11                    C16      C26      ** See Cap Options for color availability</p> <p>C12                    C17      C27      ** Caps available with D actuator only</p> <p>C13                    C18      C28</p> <p>C14                    C19</p>					

## Miniature Pushbutton

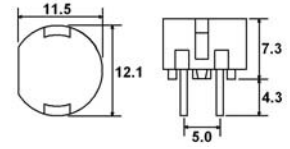
### Dimensions



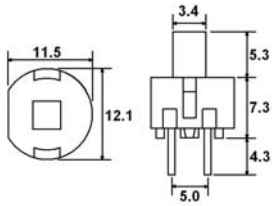
**A - Square**



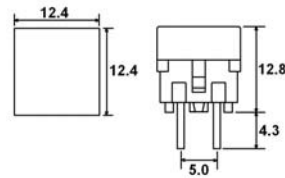
**B - Round**



**C - Flat**

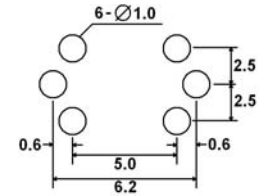
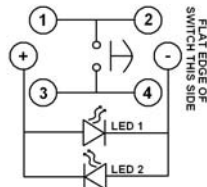
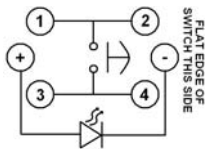


**D - Post**



**E - Square Cap**

### Schematic & PC Layout



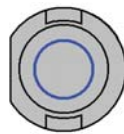
### LED Characteristics

LED Ratings		Color					Units
		R	G	Y	B	W	
Reverse Voltage	$V_R$	5	5	5	5	5	V
Forward Current (avg / peak)	$I_F$	30 / 125	30 / 125	30 / 125	30 / 125	30 / 125	mA
Reverse Current $V_R = 5V$	$I_R$	10	10	10	10	10	$\mu A$
Power Dissipation	$P_T$	69	75	75	120	120	mW
Forward Voltage (typ / max) $I_F = 20mA$	$V_F$	1.8 / 2.3	2.0 / 2.5	2.0 / 2.5	3.5 / 4.0	3.5 / 4.0	V
Wavelength at Peak Emmission, $I_F = 20mA$	$\lambda_P$	660	572	595	455	n/a	nm
Spectral Line Half-Width, $I_F = 20mA$	$\Delta\lambda$	20	20	20	30	na/	nm
Luminous Intensity, $I_F = 20mA$	LI	20	20	80	40	200	mcd
Viewing Angle	$\Theta$	150	150	150	150	150	deg

### Laser Etching Styles



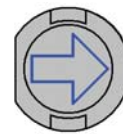
**A**



**B**



**C**



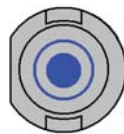
**D**



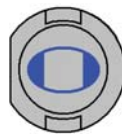
**E**



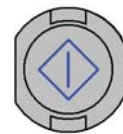
**F**



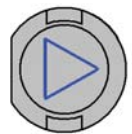
**G**



**H**

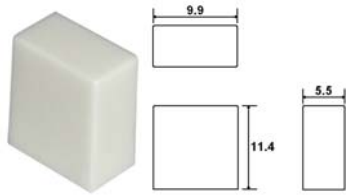


**J**



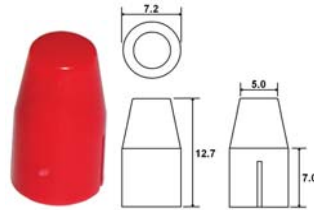
**K**

**Cap Options for D Acuator**



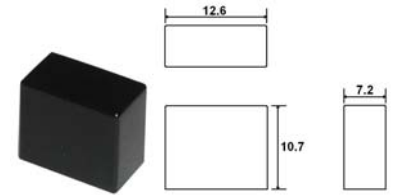
**C11\_**

1 = White, 2 = Black, 3 = Red, 9 = Light Gray  
 Contact Factory for other available colors



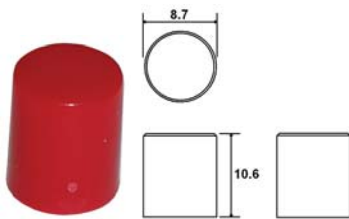
**C12\_**

1 = White, 2 = Black, 3 = Red, 9 = Light Gray  
 Contact Factory for other available colors



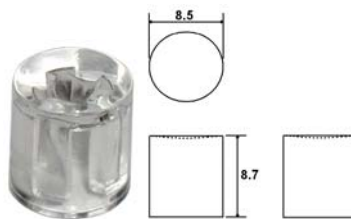
**C13\_**

1 = White, 2 = Black, 3 = Red, 9 = Light Gray  
 Contact Factory for other available colors



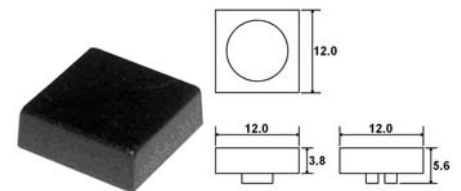
**C14\_**

1 = White, 2 = Black, 3 = Red, 9 = Light Gray  
 Contact Factory for other available colors



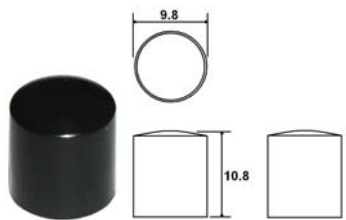
**C15\_**

2 = Black, 0 = Clear  
 Contact Factory for other available colors



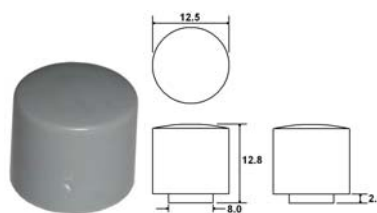
**C16\_**

1 = White, 2 = Black, 3 = Red, 7 = Blue  
 Contact Factory for other available colors



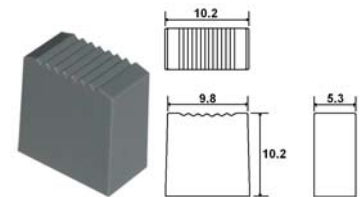
**C17\_**

2 = Black, 0 = Clear  
 Contact Factory for other available colors



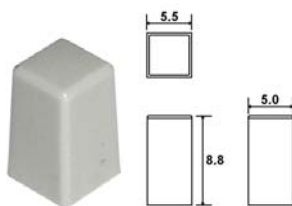
**C18\_**

1 = White, 2 = Black, 9 = Light Gray  
 Contact Factory for other available colors



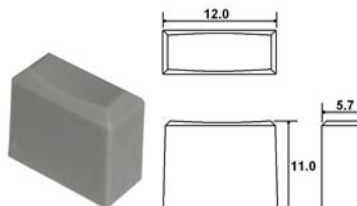
**C19\_**

1 = White, 2 = Black, 3 = Red, 8 = Dark Gray  
 Contact Factory for other available colors



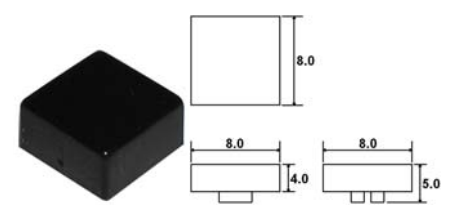
**C22\_**

2 = Black, 8 = Dark Gray, 9 = Light Gray  
 Contact Factory for other available colors



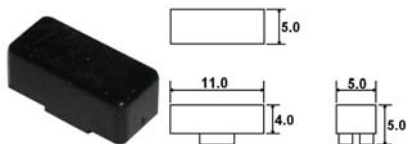
**C26\_**

1 = White, 2 = Black, 3 = Red, 9 = Light Gray  
 Contact Factory for other available colors



**C27\_**

1 = White, 2 = Black, 3 = Red, 7 = Blue  
 Contact Factory for other available colors



**C28\_**

1 = White, 2 = Black, 3 = Red, 7 = Blue  
 Contact Factory for other available colors