

Sealed Illuminated Tactile

## Specifications

Electrical Ratings	50mA @ 12VDC	Dielectric Strength	250Vrms min
Electrical Life	500,000 cycles	Insulation Resistance	≥1000MΩ min
Contact Resistance	≤50mΩ initial	Operating Temperature	-40°C to +85°C
Actuation Force	200 ± 80gF; 450 ± 150gF	Storage Temperature	-40°C to +85°C
Actuation Travel	0.25 ± 0.10mm	Sealing Degree	IP67

## Materials

Cover, Metal	Stainless Steel
Actuator	6T Nylon
Base	6T Nylon
Seal	Rubber, Silicone
Contact, Dome	Stainless Steel, Silver Plated
Terminals	Copper Alloy, Silver Plated

## LED Characteristics

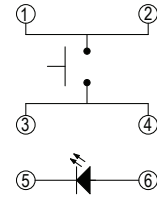
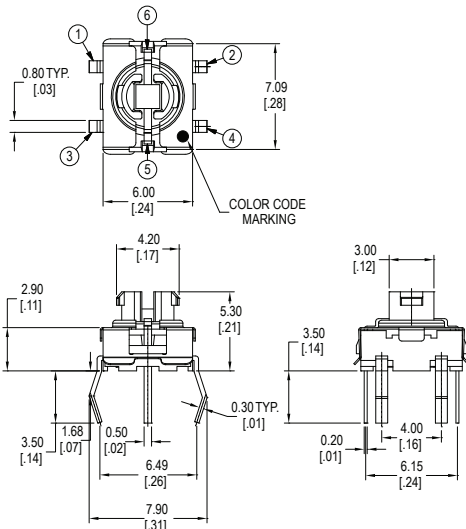
LED Ratings		Color							
		R	Y	G	B	PG	W	O	Units
Reverse Voltage	$V_R$	5	5	5	5	5	5	5	V
Forward Current (avg)	$I_F$	30	30	30	30	30	30	30	mA
Forward Current (peak)	$I_{FS}$	185	175	150	150	100	150	195	mA
Reverse Current $V_R = 5V$	$I_R$	10	10	10	10	10	10	10	μA
Power Dissipation	$P_T$	75	75	75	120	120	120	75	mW
Operating & Storage Temperature	$T_A$	-40 ~ +85							°C
Forward Voltage (typ) $I_F = 20mA$	$V_F$	2	2	2.1	3.3	3.2	3.3	2.1	V
Forward Voltage (max) $I_F = 20mA$	$V_F$	2.5	2.5	2.5	4.0	4	4.0	2.5	V
Wavelength at Peak Emission, $I_F = 20mA$	$\lambda_P$	650	590	574	648	520	n/a	601	nm
Spectral Line Half-Width, $I_F = 20mA$	$\Delta\lambda$	28	20	20	25	35	n/a	29	nm
Luminous Intensity, $I_F = 20mA$	LI	230	160	50	80	150	300	320	mcd
Viewing Angle	$\Theta$	145	145	145	145	145	145	145	deg

## Ordering Information

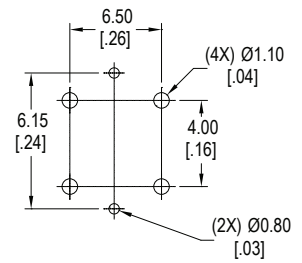
1. Series	TJ	F200	RG	A	20	E
TJ TJV = Right Angle TJS = SMD TJSV = SMD, Right Angle						
2. Actuation Force F200 = 200gF F450 = 450gF						
3. LED Color X = No LED R = Red Y = Yellow G = Green B = Blue PG = Pure Green W = White O = Orange			RY = Red / Yellow dual LED RG = Red / Green dual LED RB = Red / Blue dual LED YG = Yellow / Green dual LED YB = Yellow / Blue dual LED GB = Green / Blue dual LED			
4. Cap Style A B C D E						
5. Cap Colors X = No cap 0 = Clear Semi-Transparent 1 = White Semi-Transparent 3 = Red Semi-Transparent 4 = Yellow Semi-Transparent 5 = Green Semi-Transparent 7 = Blue Semi-Transparent			0T = Clear Transparent 1T = White Transparent 3T = Red Transparent 4T = Yellow Transparent 5T = Green Transparent 7T = Blue Transparent 10 = White Opaque, for use with laser etching 20 = Black Opaque for use with laser etching MS = Misty Silver Opaque for use with laser etching			
6. Laser Etching Styles Blank = No laser etching A B C D E						F G H I J

## Dimensions

### TJ

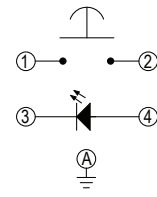
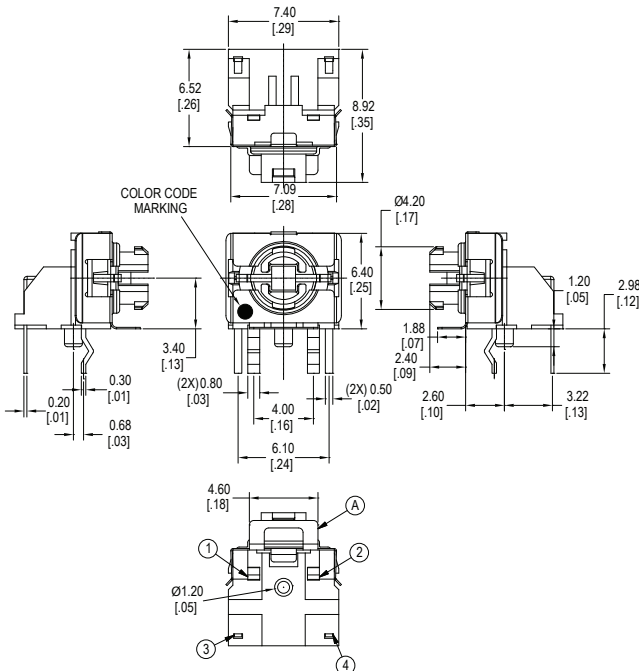


Schematic

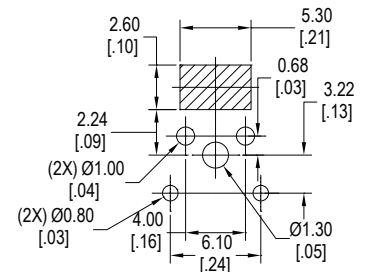


PCB Layout

### TJV



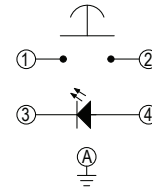
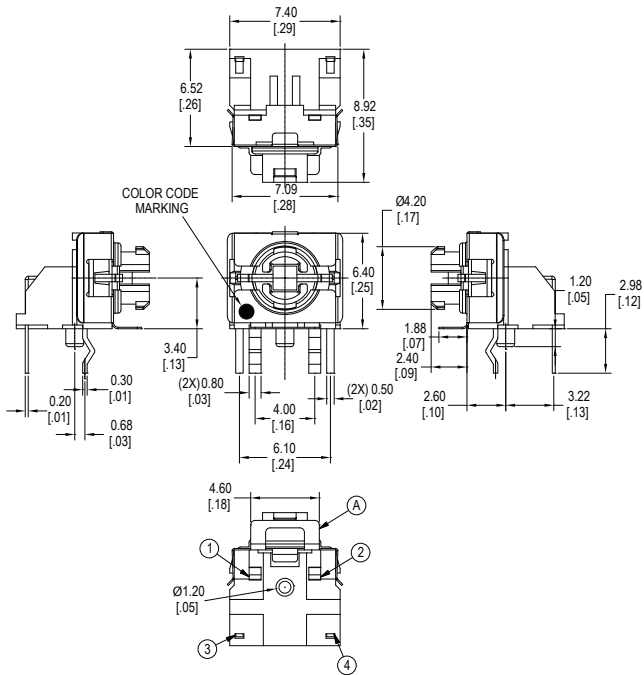
Schematic



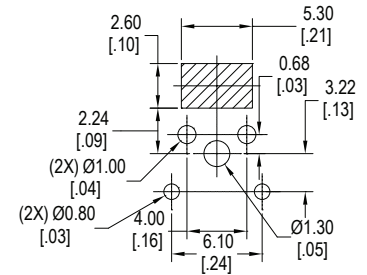
PCB Layout

## Dimensions

### TJV

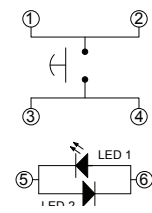
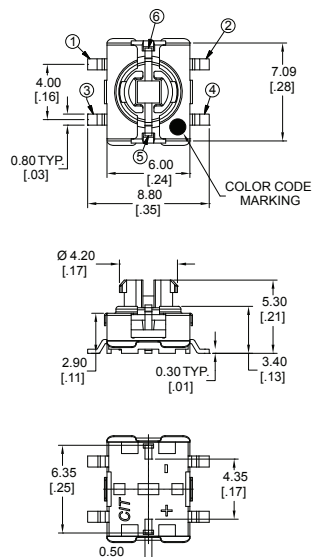


Schematic

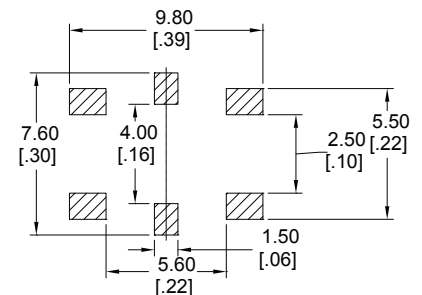


PCB Layout

### TJS



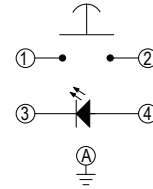
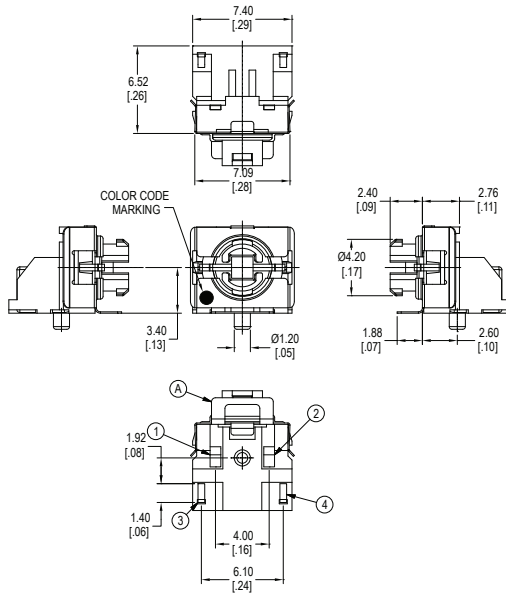
Schematic



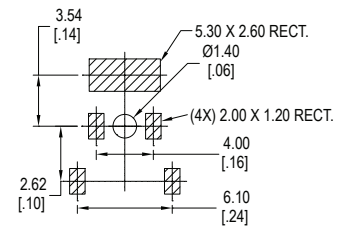
PCB Layout

## Dimensions

### TJSV



Schematic



PCB Layout

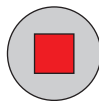
## Laser Etching Styles



A



B



C



D



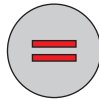
E



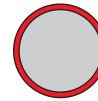
F



G



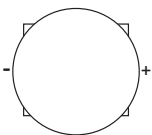
H



I

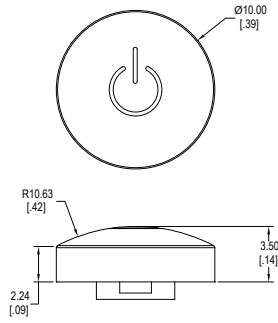


J

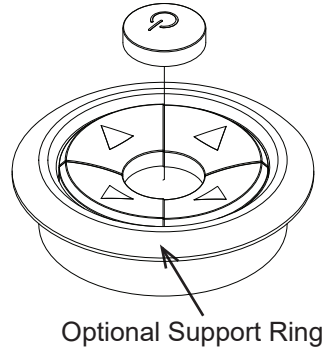


All laser etching styles will be orientated with the + terminal located on the right hand side with respect to the legend.

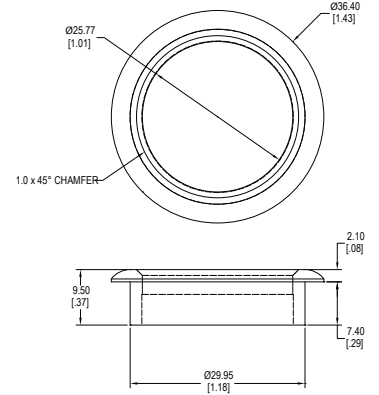
**Caps**



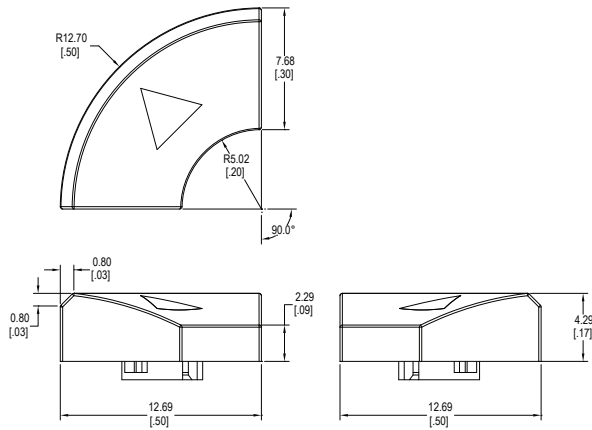
**A Style Cap - Shown with E Laser Etching Style**



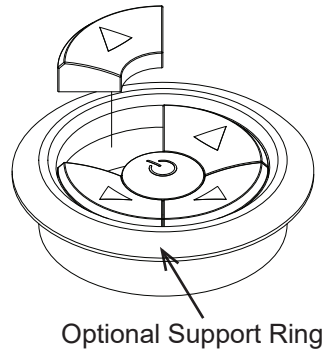
Optional Support Ring



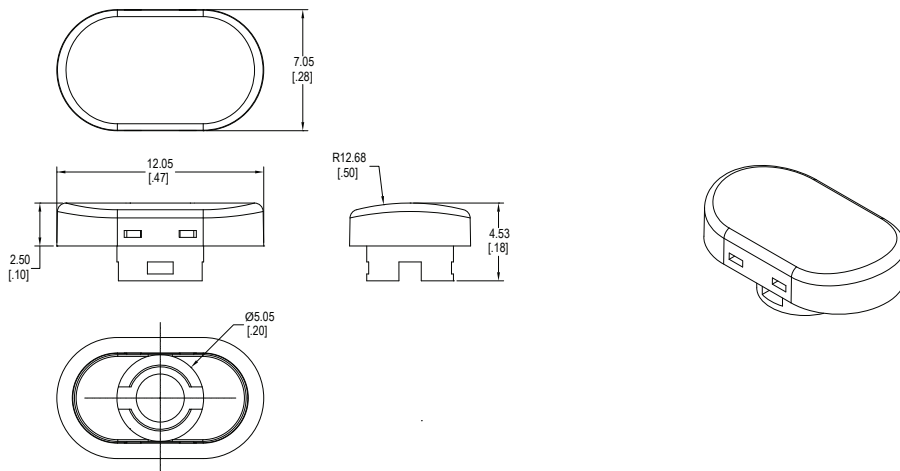
**Support Ring**



**B Style Cap - Shown with F Laser Etching Style**

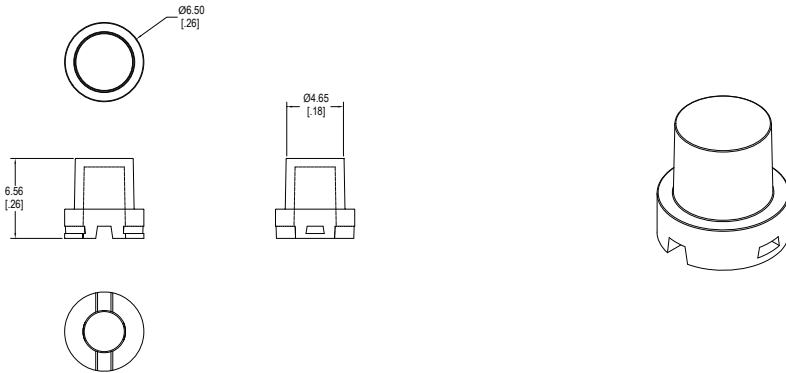


Optional Support Ring

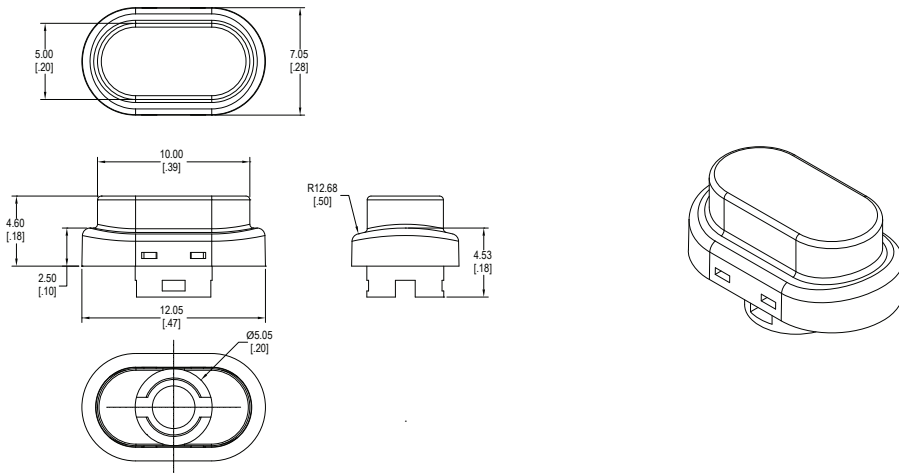


**C Style Cap**

**Caps**

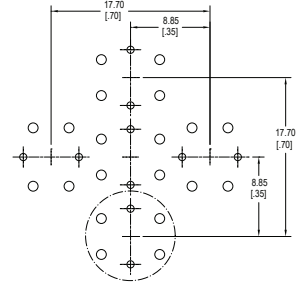
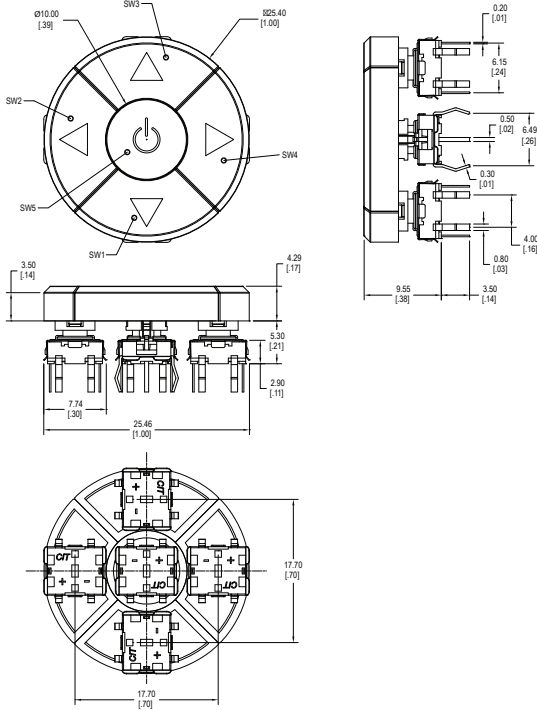


**D Style Cap**

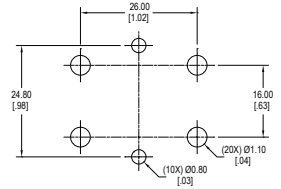


**E Style Cap**

## Assembly, Thru-Hole

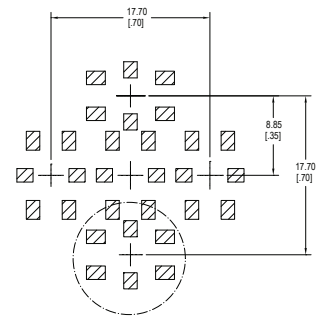
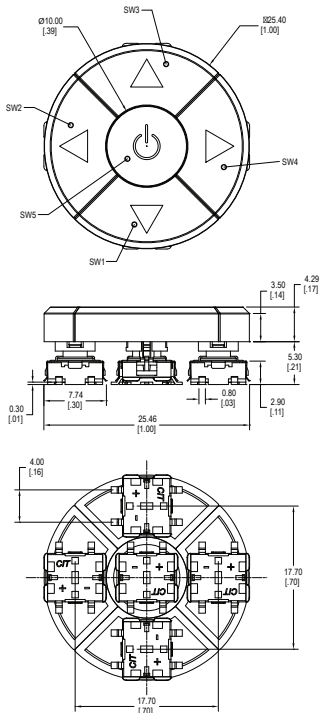


Schematic

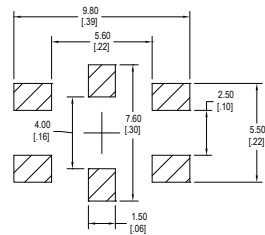


PCB Layout

## Assembly, Surface Mount



Schematic



PCB Layout