

IP67 Sealed Illuminated Tactile

Specifications

Electrical Ratings	50mA @ 12VDC	Dielectric Strength	250Vrms min
Electrical Life	500,000 cycles	Insulation Resistance	$\geq 1000\text{M}\Omega$ min
Contact Resistance	$\leq 50\text{m}\Omega$ initial	Operating Temperature	-40°C to +85°C
Actuation Force	200 $\pm$ 80gF; 450 $\pm$ 150gF	Storage Temperature	-40°C to +85°C
Actuation Travel	0.25 $\pm$ 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							Units
		R	Y	G	B	PG	W	O	
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 $V_R = 5\text{V}$	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) $I_F = 20\text{mA}$	V_F	2	2	2.1	3.3	3.2	3.3	2.1	V
Forward Voltage (max) $I_F = 20\text{mA}$	V_F	2.5	2.5	2.5	4.0	4	4.0	2.5	V
Wavelength at Peak Emission, $I_F = 20\text{mA}$	λ_P	650	590	574	648	520	n/a	601	nm
Spectral Line Half-Width, $I_F = 20\text{mA}$	$\Delta\lambda$	28	20	20	25	35	n/a	29	nm
Luminous Intensity, $I_F = 20\text{mA}$	LI	230	160	50	80	150	300	320	mcd
Viewing Angle	Θ	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 1O = White Opaque, for use with laser etching 2O = 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						

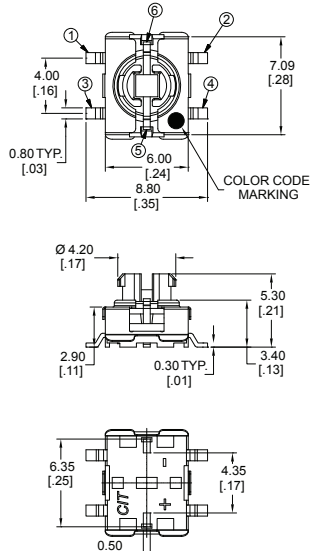
TJ, Standard



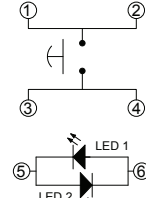
IP67 Sealed Illuminated Tactile

Dimensions

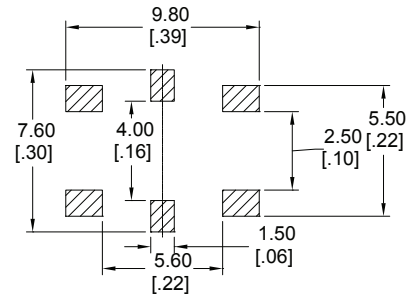
TJS, Surface Mount



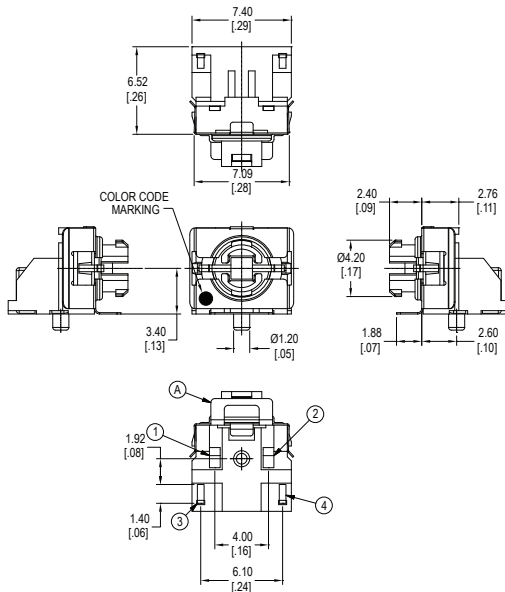
Schematic



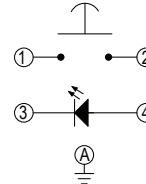
PCB Layout



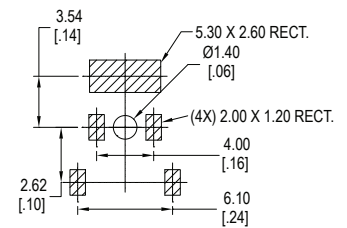
TJSV, Right Angle Surface Mount



Schematic

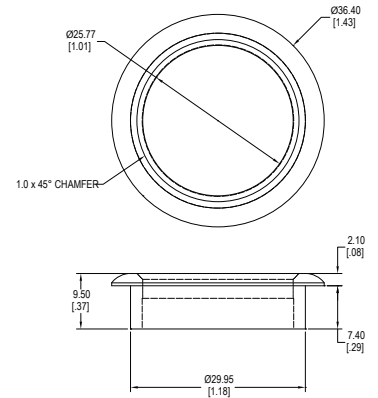
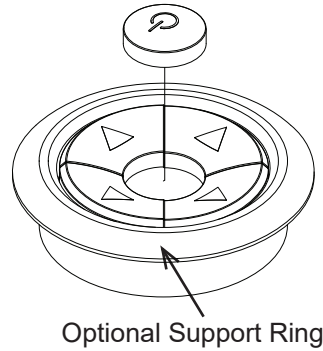
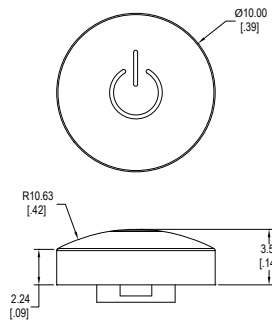


PCB Layout



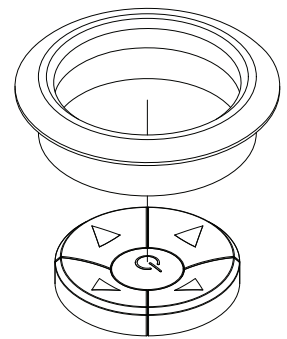
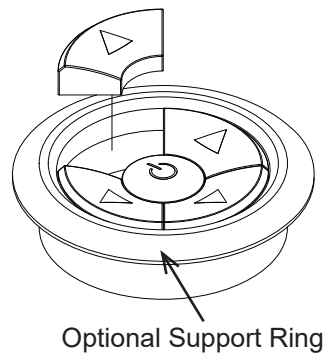
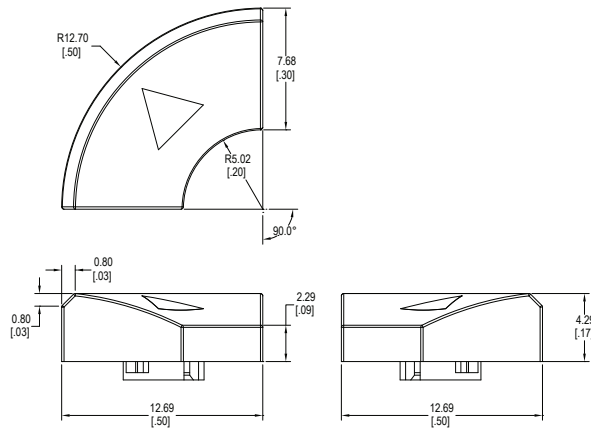
Caps

A Style, shown with E laser etching style

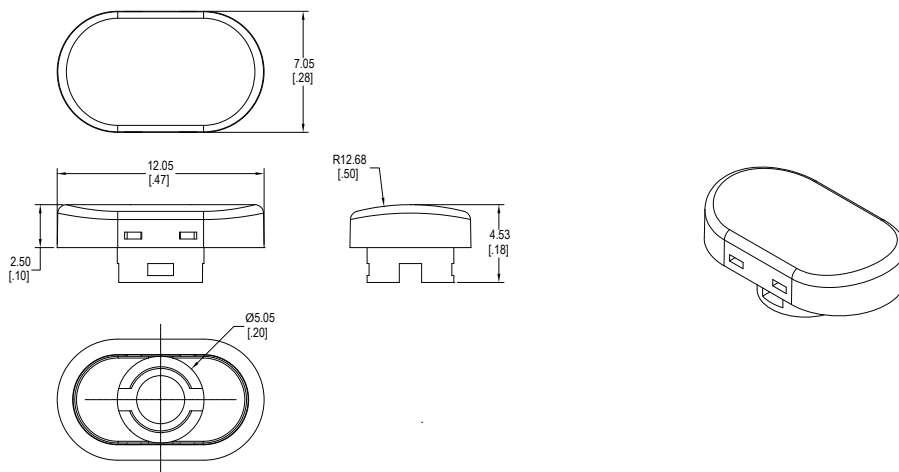


B Style, shown with F laser etching style

Support Ring



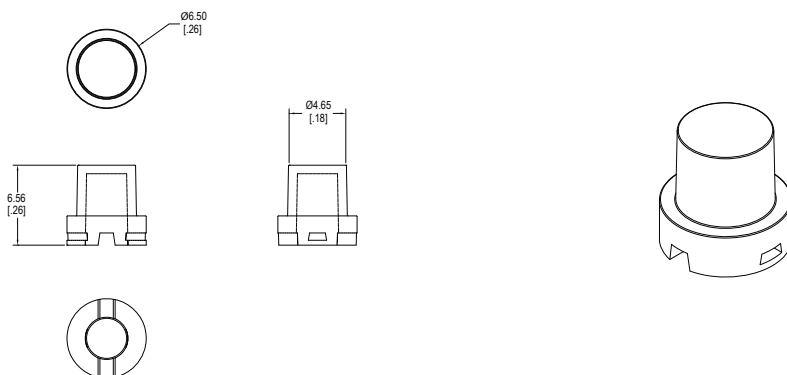
C Style



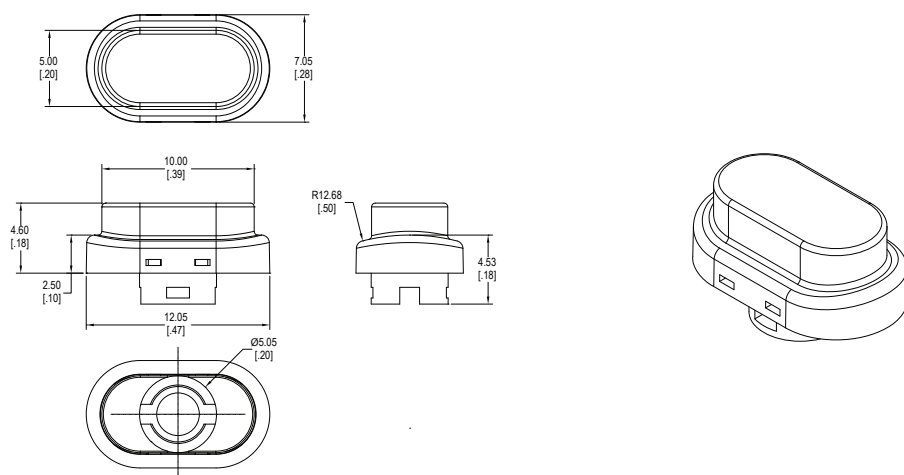
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Caps

D Style



E Style Cap



Laser Etching Styles

A Style



B Style



C Style



D Style



E Style



F Style



G Style



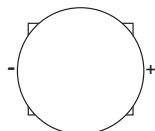
H Style



I Style

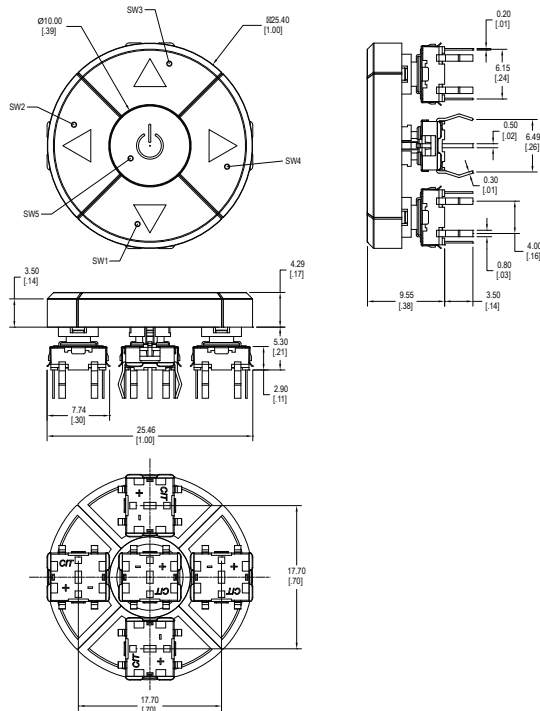


J Style

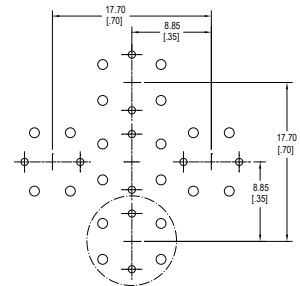


All laser etching styles will be orientated with the + terminal located on the right hand side with respect to the legend.

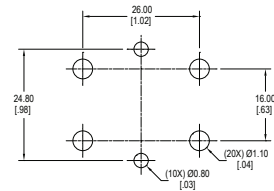
Assembly, Thru-Hole



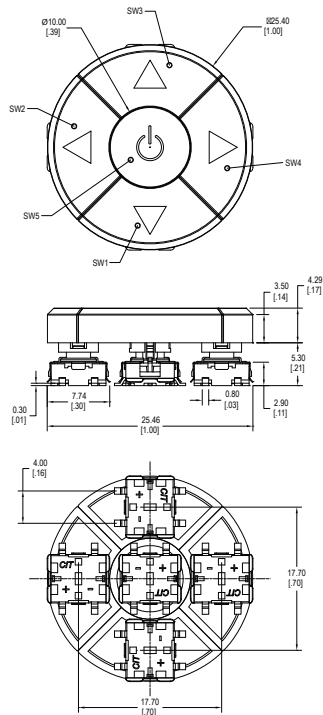
Schematic



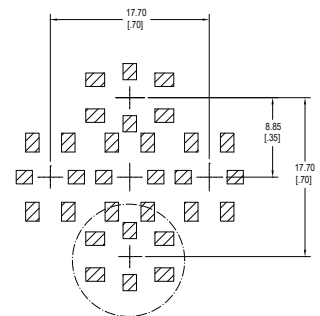
PCB Layout



Assembly, Surface Mount



Schematic



PCB Layout

