



Illuminated Through-Hole or SMT Tactile

## Specifications

Electrical Ratings	50mA @ 48VDC	Dielectric Strength	250Vrms min
Electrical Life	100,000 cycles typical	Insulation Resistance	>100MΩ min
Contact Resistance	<100mΩ initial	Operating Temperature	-40°C to 85°C
Actuation Force	160 ± 50gF	Storage Temperature	-40°C to 85°C
Actuation Travel	0.7 ± 0.2mm	Sealing Degree	IP67

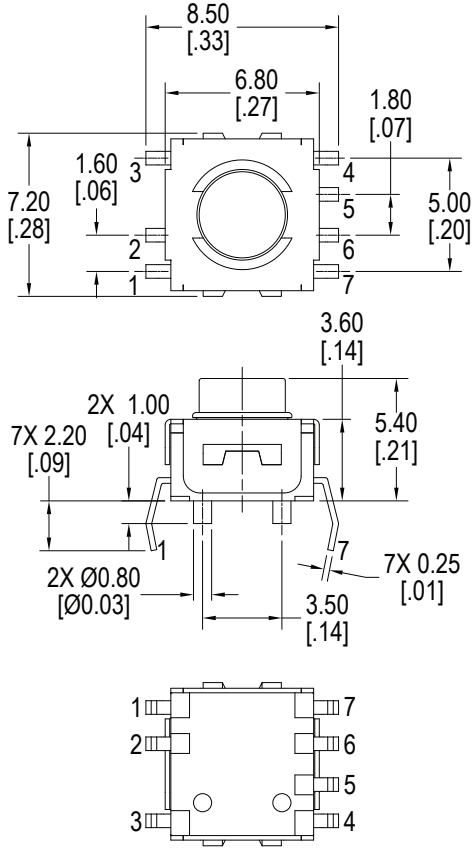
## Materials

Actuator	Silicone
Housing	PPA
Cover	Stainless Steel
Dome Contact	Stainless Steel, Silver Plated
Terminals	Brass, Silver Plated

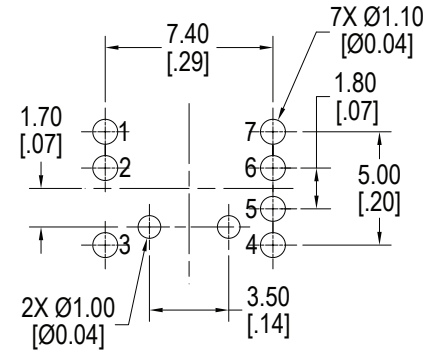
## Ordering Information

1. Series	CW	1.8	F160	RB	Q
CW = Through-Hole CWV = Right Angle CWS = SMD, Gull Wing CWJ = SMD, J Lead CWSV = SMD, Right Angle					
2. Actuator Height	1.8 = 1.8mm				
3. Actuator Force	F160 = 160gF				
4. LED Color	R = Red Y = Yellow G = Green B = Blue W = White PG = Pure Green A = Amber		<i>RGB (not available with Right Angle terminals)</i> RY = Red / Yellow dual LED RG = Red / Green dual LED RB = Red / Blue dual LED RW = Red / White dual LED RPG = Red / Pure Green dual LED RA = Red / Amber dual LED YG = Yellow / Green dual LED YB = Yellow / Blue dual LED YW = Yellow / White dual LED YPG = Yellow / Pure Green dual LED YA = Yellow / Amber dual LED		GB = Green / Blue dual LED GW = Green / White dual LED GA = Green / Amber dual LED BPG = Blue / Pure Green dual LED BA = Blue / Amber dual LED WA = White / Amber dual LED PGA = Pure Green / Amber dual LED
5. Contact Plating	Q = Silver				

**CW Dimensions**, Through-Hole

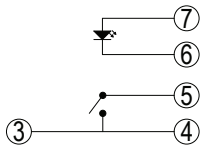


PC Layout, *bottom view*

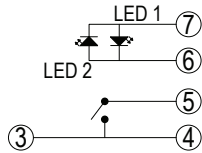


Schematics, *bottom view*

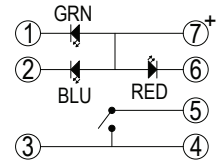
Single LED



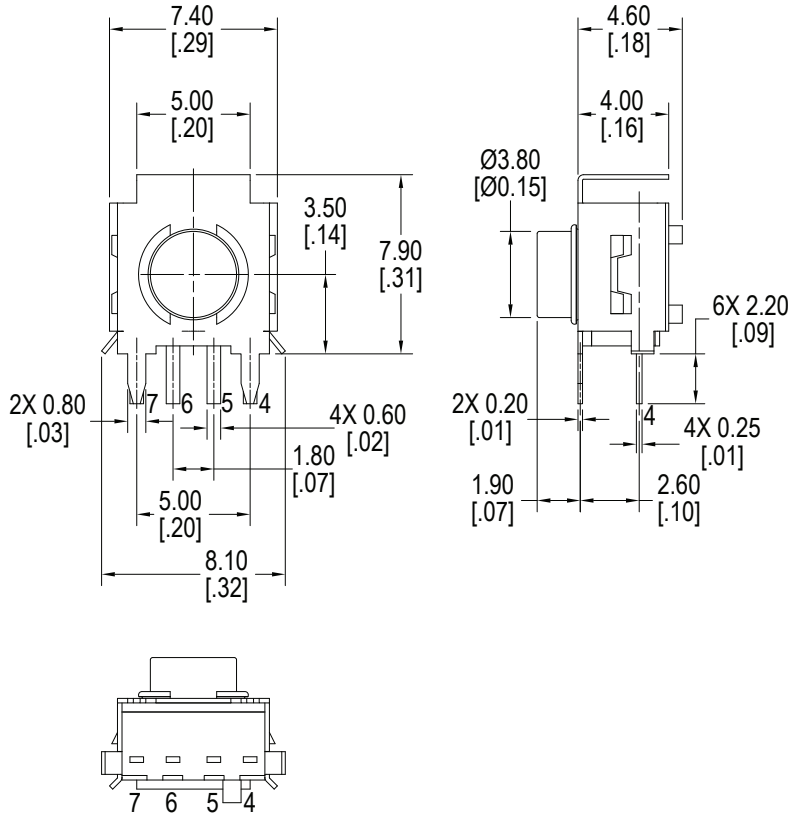
Dual LED



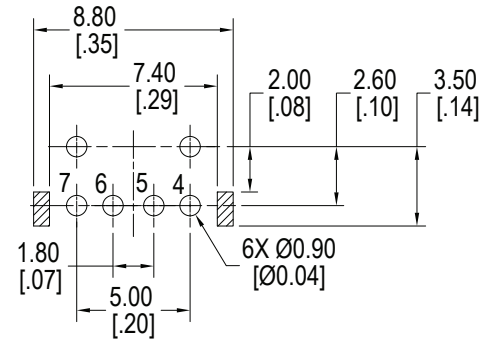
RGB LED



**CWV Dimensions**, Through-Hole Right Angle

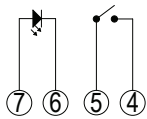


PC Layout, *bottom view*

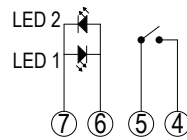


Schematics, *bottom view*

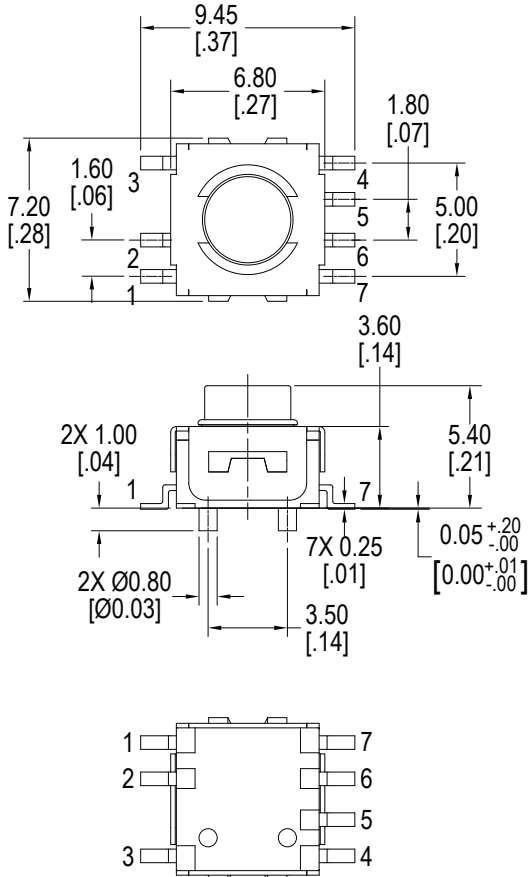
Single LED



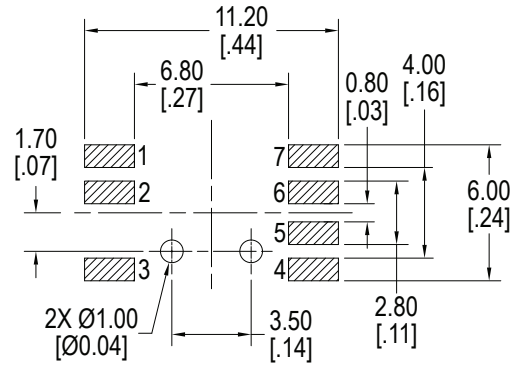
Dual LED



**CWS Dimensions, SMD Gull Wing**

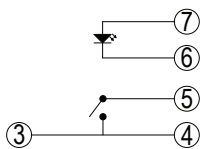


PC Layout, *bottom view*

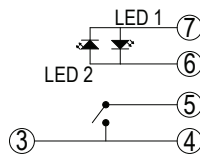


Schematics, *bottom view*

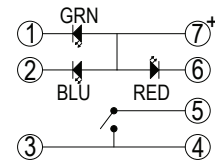
Single LED



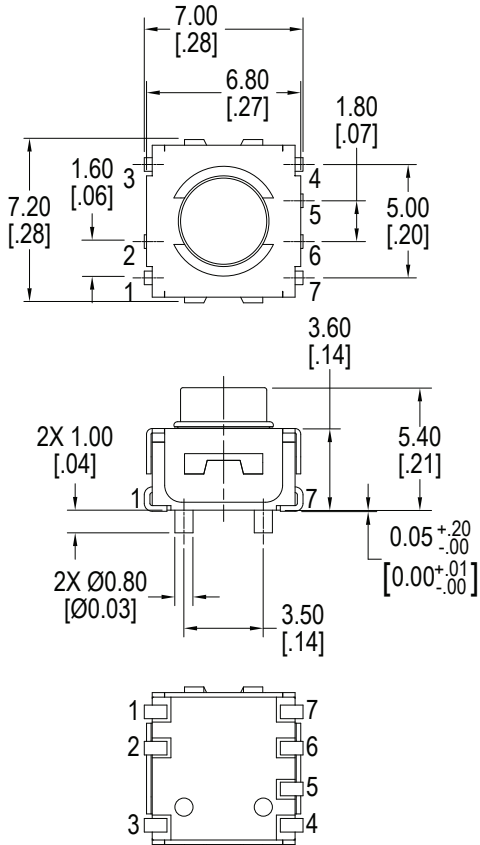
Dual LED



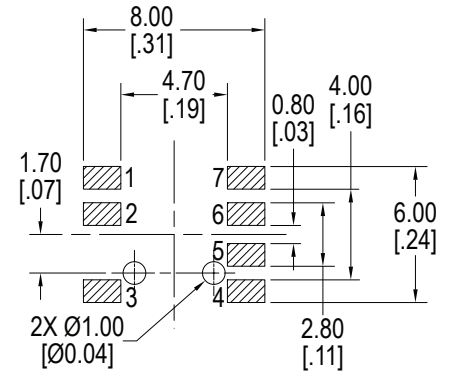
RGB LED



**CWJ Dimensions, SMD J Lead**

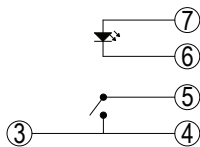


PC Layout, *bottom view*

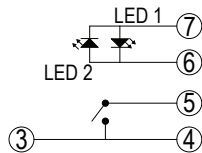


Schematics, *bottom view*

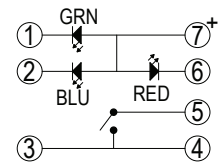
Single LED



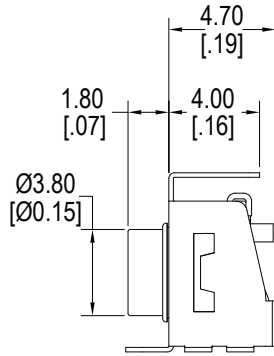
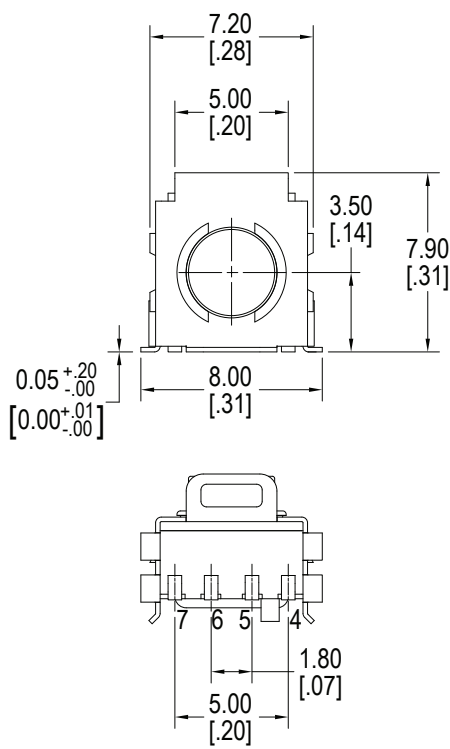
Dual LED



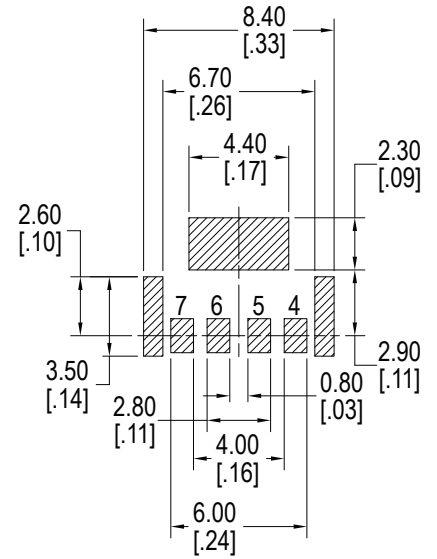
RGB LED



### CWSV Dimensions, SMD Right Angle

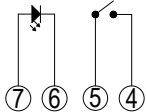


PC Layout, *bottom view*

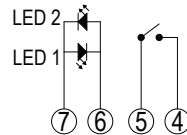


Schematics, *bottom view*

Single LED



Dual LED



### LED Characteristics

LED Ratings		RGB			LED Colors							Units
		R	G	B	W	B	A	PG	R	G	Y	
Reverse Voltage	$V_R$	5	5	5	5	5	5	5	5	5	5	V
Forward Current (avg)	$I_F$	30	30	30	30	30	30	30	30	30	30	mA
Forward Current (avg)	$I_{FS}$	125	125	125	125	125	125	125	125	125	125	mA
Reverse Current $V_R = 5V$	$I_R$	10	10	10	10	10	10	10	10	10	10	$\mu A$
Power Dissipation	$P_T$	75	111	111	111	111	75	111	75	75	75	mW
Operating & Storage Temperature	$T_A$	-40 ~ +85										$^{\circ}C$
Forward Voltage (typ) $I_F = 20mA$	$V_F$	2.0	3.2	3.0	3.1	3.1	2.0	3.0	2.0	2.1	2.0	V
Forward Voltage (max) $I_F = 20mA$	$V_F$	2.5	3.7	3.7	3.7	3.7	2.5	3.7	2.5	2.5	2.5	V
Wavelength at Peak Emmission, $I_F = 20mA$	$\lambda_P$	636	523	475	n/a	465	610	525	635	575	595	nm
Spectral Line Half-Width, $I_F = 20mA$	$\Delta\lambda$	19	34	21	n/a	23	19	36	22	18	17	nm
Luminous Intensity, $I_F = 20mA$	LI	200	2500	500	1250	200	400	1600	160	125	630	mcd
Viewing Angle	$\Theta$	120	120	120	120	120	120	120	120	120	120	deg