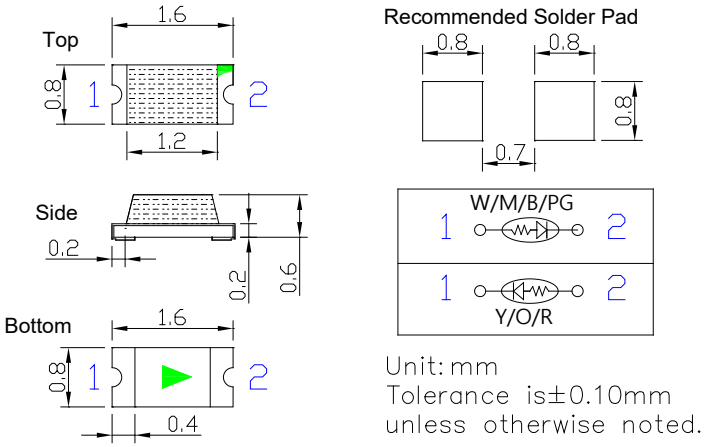
1.6 x 0.8mm Multi-Voltage DC3-15V Chip LED

OSXX0603C1E-VV

▪Features

- Single chip LED
- High luminous intensity
- Built-in resistor allows operation with a wide voltage range of DC 3-15V.
- Cost effective (Saves space and resistor cost)
- Compact package outline (LxWxT) of 1.6x0.8x0.6mm
- Compatible with IR reflow soldering.

▪Outline Dimension



Unit: mm
Tolerance is±0.10mm
unless otherwise noted.

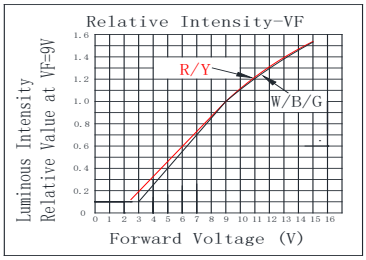
▪Applications

- Backlighting (switches, keys, etc.)
- Marker lights
- (e.g. steps, exit ways, etc.)

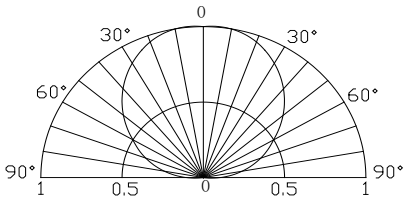
▪Absolute Maximum Rating (Ta=25℃)

Item	Symbol	Value	Unit
DC Forward Voltage	V_F	16	V
Reverse Voltage	V_R	12	V
Power Dissipation	P_D	208	mW
Operating Temperature	Topr	-40 ~ +85	℃
Storage Temperature	Tstg	-40~ +85	℃
Lead Soldering Temperature	Tsol	260℃/10sec	-

▪Optical Characteristic Curves



▪Directivity



▪Electrical -Optical Characteristics (Ta=25℃)

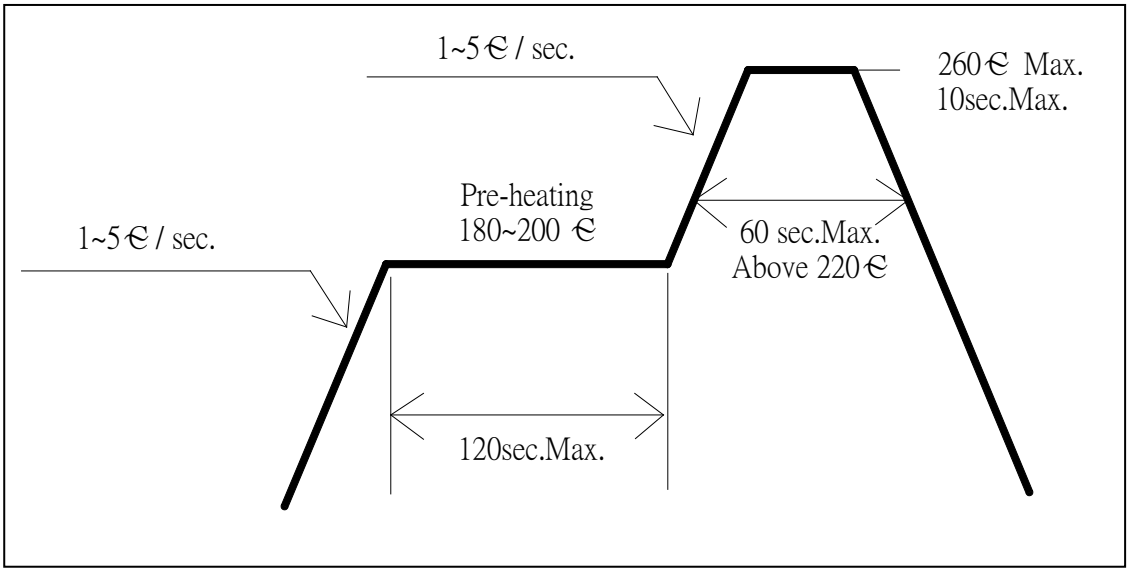
Part Number	Color		I_F (mA)			Iv(mcd)			λD(nm)/CCT(K)			2θ1/2(deg)
			Min	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Typ.
			V_F =9V			V_F =9V						
OSW50603C1E-VV	Cool White		-	7.5	13	400	450	-	8500-10000-18000K			120
OSM50603C1E-VV	Warm White		-	7.5	13	400	450	-	2700-3000-3300K			120
OSB50603C1E-VV	Blue		-	7.5	13	120	150	-	465	470	475	120
OSG50603C1E-VV	Pure Green		-	7.5	13	550	650	-	520	525	530	120
OSY50603C1E-VV	Yellow		-	8.0	13	120	150	-	585	590	595	120
OSO50603C1E-VV	Orange		-	8.0	13	120	150	-	600	605	610	120
OSR50603C1E-VV	Red		-	8.0	13	120	150	-	620	625	630	120

*1 Tolerance of measurements of Domi. wavelength is ±1nm
*2 Tolerance of measurements of chromaticity coordinate/CCT is ±10%
*3 Tolerance of measurements of luminous intensity is ±15%
*4 Tolerance of measurements of forward voltage is ±0.1V

■ Soldering Conditions

Reflow Soldering		Hand Soldering	
Pre-Heat	180 ~ 200°C	Temperature Soldering time	350°C Max. 3 sec. Max. (one time only)
Pre-Heat Time	120 sec. Max.		
Peak Temperature	260°C Max.		
Dipping Time	**10 sec. Max.**		
Condition	Refer to Temperature-profile		

• Reflow Soldering Condition(Lead-free Solder)



*Recommended soldering conditions vary according to the type of LED

*Although the recommended soldering conditions are specified in the above table, reflow, or hand soldering at the lowest possible temperature is desirable for the LEDs.

*A rapid-rate process is not recommended for cooling the LEDs down from the peak temperature.

•All SMD LED products are pb-free soldering available.

• Occasionally there is a brightness decrease caused by the influence of heat or ambient atmosphere during air reflow. It is recommended that the User use the nitrogen reflow method.

• Repairing should not be done after the LEDs have been soldered. When repairing is unavoidable a double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.

• Reflow soldering should not be done more than two times.

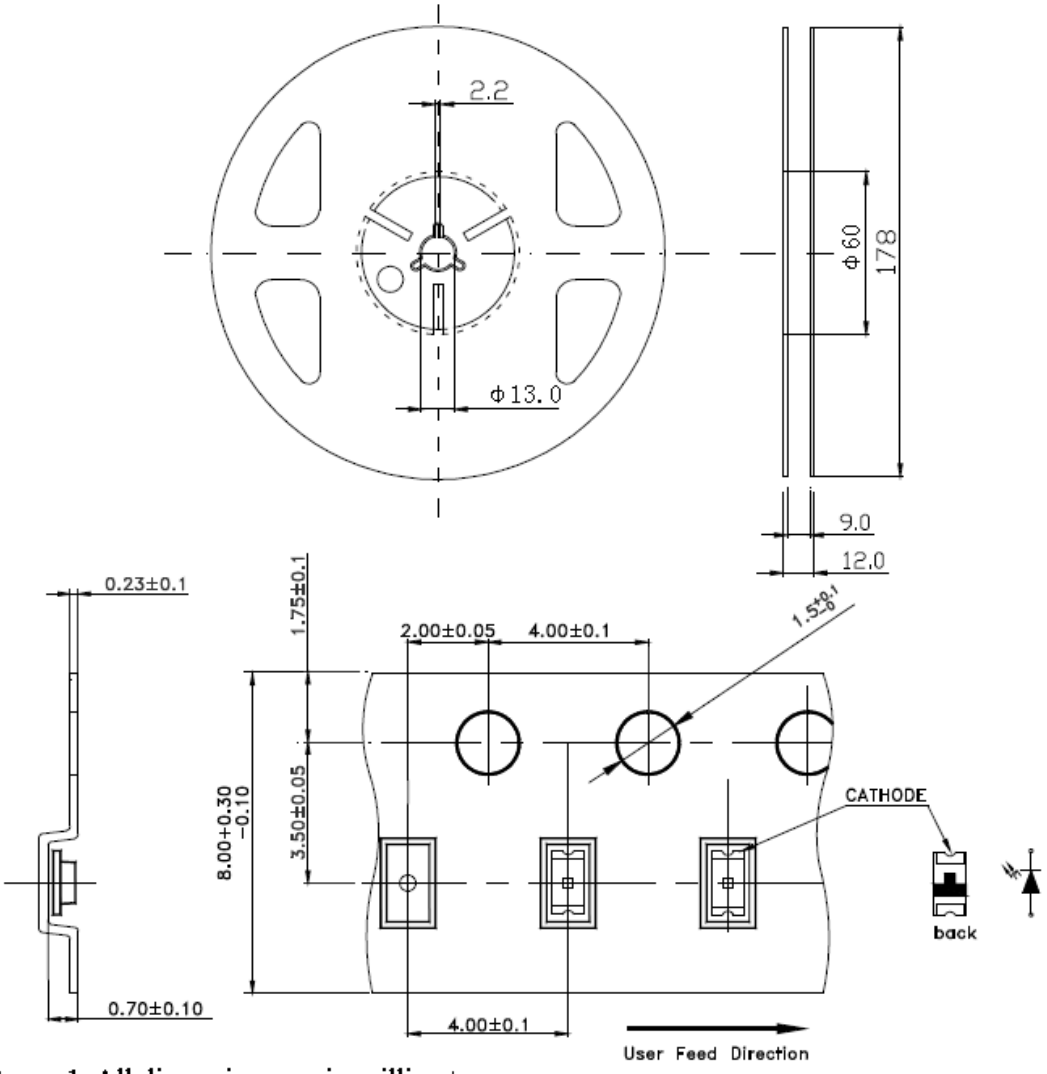
• When soldering, do not put stress on the LEDs during heating.

• After soldering, do not warp the circuit board.

■ Reel & Tape Dimensions

Quantity: **4,000** units/reel

Diameter: 178 mm



Notes: 1. All dimensions are in millimeters ;

■ Cautions:

1. After open the package, the LED´s floor life is 4 Weeks under 30℃ or less and 60%RH or less(MSL:2a).
2. Heat generation must be taken into design consideration when using the LED.
3. Power must be applied resistors for protection, over current would be caused the optic damage to the devices and wavelength shift.
4. Manual tip solder may cause the damage to Chip devices, so advised that heat of iron should be lower than 15W with temperature control under 5 seconds at 230-260 deg. C. (The device would be got damage in re working process, recommended under 5 seconds at 230-260 deg. C)
5. All equipment and machinery must be properly grounded. It is recommended to use a wristband or anti-electrostatic glove when handing the LED.
6. Use IPA as a solvent for cleaning the LED. The other solvent may dissolve the LED package and the epoxy, Ultrasonic cleaning should not be done.
7. Damaged LED will show unusual characteristics such as leak current remarkably increase, turn-on voltage becomes lower and the LED get unlight at low current.