

3.5x2.8x1.7mm Cool White SMD LED**2377628****■Features**

- High Luminous PLCC2 Top SMD LEDs
- 3.5x2.8x1.7mm Standard Directivity
- Long Lifetime Operation
- UV Resistant Silicone
- Water Clear Type

■Applications

- Automotive Dashboard Lighting
- Traffic Signal Lamp
- Back Lighting
- Other Lighting

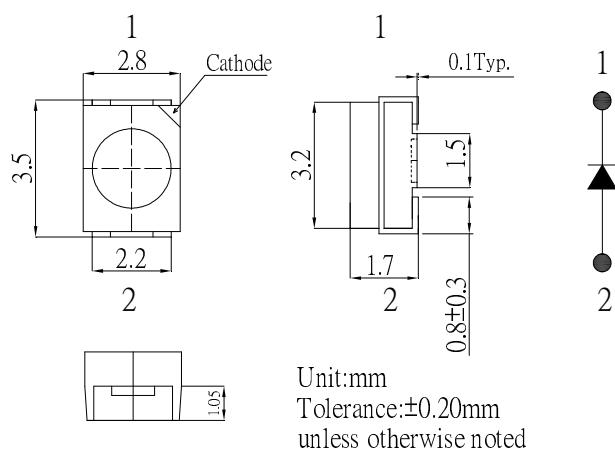
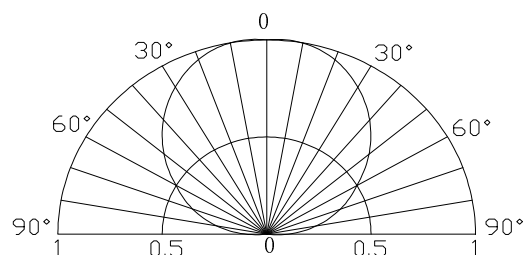
■Absolute Maximum Rating**(Ta=25°C)**

Item	Symbol	Value	Unit
DC Forward Current	I_F	30	mA
Pulse Forward Current#	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_d	102	mW
Operating Temperature	T_{opr}	-30 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Lead Soldering Temperature	T_{sol}	260°C/10sec	-

#Pulse width Max.10ms Duty ratio max 1/10

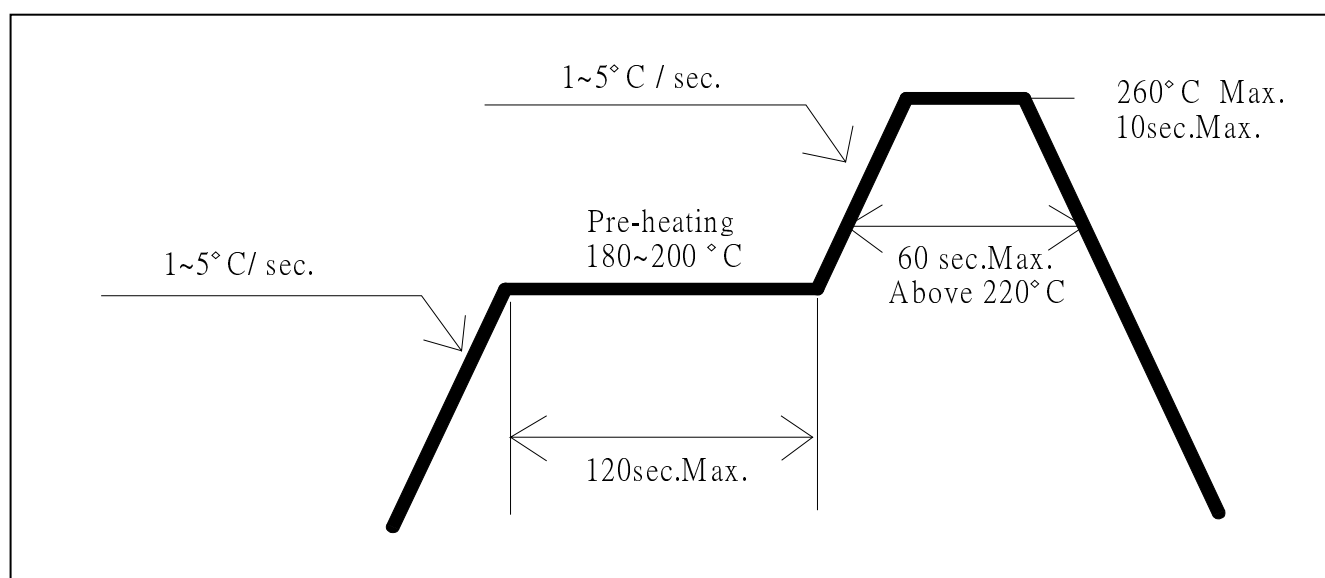
■Electrical -Optical Characteristics**(Ta=25°C)**

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
DC Forward Voltage*1	V_F	$I_F=20mA$	-	3.1	3.6	V
DC Reverse Current	I_R	$V_R=5V$	-	-	10	μA
Luminous Intensity*2	I_v	$I_F=20mA$	1560	1900	-	mcd
Color Temperature*3	CCT	$I_F=20mA$	8500	10000	18000	K
Chromaticity Coordinates*4	x	$I_F=20mA$	-	0.27	-	
	y	$I_F=20mA$	-	0.28	-	
50% Power Angle	$2\theta_{1/2}$	$I_F=20mA$	-	120	-	deg

*1 Tolerance of measurements of forward voltage is $\pm 0.1V$ *2 Tolerance of measurements of luminous intensity is $\pm 15\%$ *3 Tolerance of measurements of color temperature is $\pm 10\%$ *4 Tolerance of measurements of chromaticity coordinates is $\pm 10\%$ **■Outline Dimension****■Directivity**

■ 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.

Precautions in Use for Surface Mount Diode

■ Storage

· Storage Conditions

Before opening the package:

The LEDs should be kept at 30°C or less and 60%RH or less. The LEDs should be used within a year. When storing the LEDs, moisture proof packaging with absorbent material (silica gel) is recommended.

· After opening the package:

Soldering should be done right after opening the package (within 24hrs).

Keeping of a fraction, sealing and Temperature: 5~30°C Humidity: Less than 30%.

If the package has been opened more than 24 Hours, components should be dried for 12hrs, at $60 \pm 5^{\circ}\text{C}$.

· LED electrode sections are comprised of a silver plated copper alloy. The silver surface may be affected by environments which contain corrosive gases and so on. Please avoid conditions which may cause the LED to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the User use the LEDs as soon as possible.

· Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.