SMD ▪ Power Top LEDs with Lens
EAPL3529YA0

Features

- PLCC-3 package.
- High flux output.
- High current capability.
- White package.
- Optical indicator.
- Ideal for backlight and light pipe application.
- Inter reflector.
- Wide viewing angle.
- Suitable for automatic placement equipment.
- Suitable for reflow and wave solder processes.
- Available on tape and reel (8mm Tape).
- Pb-free.
- The product itself will remain within RoHS compliant version.

Description

The EAPL3529 series is available in soft orange, green,blue and yellow. Due to the package design, the LED has wide viewing angle and optimized light coupling by inter reflector. This feature makes ideal for light pipe application. The low current requirement makes this device ideal for portable equipment or any other application where power is at a premium.

Applications

- Indicator and backlight for audio and video equipment.
- Indicator and backlight in office and family equipment.
- Flat backlight for LCD's, switches and symbols.
- Light pipe application.
- General use.

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Device Selection Guide

Chip Materials	Emitted Color	Resin Color
AlGaInP	Brilliant Yellow	Diffused

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	12	V
Forward Current	I_F	70	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	100	mA
Power Dissipation	Pd	196	mW
Junction Temperature	T_j	125	℃
Operating Temperature	T_{opr}	-40 ~ +85	℃
Storage Temperature	Tstg	-40 ~ +90	℃
Thermal Resistance	Rth $_{J-A}$	300	K/W
	Rth $_{J-S}$	150	K/W
ESD (Classification acc. AEC Q101)	ESD_{HBM}	2000	V
	ESD_{MM}	200	V
Soldering Temperature	T_{sol}	Reflow Soldering : 260 ℃ for 10 sec. Hand Soldering : 350 ℃ for 3 sec.	

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Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I_V	7100	-----	22400	mcd	I_F=50mA
Viewing Angle	$2\theta_{1/2}$	-----	30	-----	deg	I_F=50mA
Peak Wavelength	λp	-----	589	-----	nm	I_F=50mA
Dominant Wavelength	λd	583	----	595	nm	I_F=50mA
Spectrum Radiation Bandwidth	$\Delta\lambda$	-----	20	-----	nm	I_F=50mA
Forward Voltage	V_F	1.8	----	2.8	V	I_F=50mA
Reverse Current	I_R	-----	-----	10	µA	V_R=12V

Note:
1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength: ±1nm
3. Tolerance of Forward Voltage: ±0.1V

Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
EA	7100	9000		
EB	9000	11200		
FA	11200	14000	mcd	I_F =50mA
FB	14000	18000		
GA	18000	22400		

Note:
Tolerance of Luminous Intensity: ±11%

Bin Range of Dominant Wavelength

Bin Code	Min.	Max.	Unit	Condition
A5	583	586		
A6	586	589	nm	I_F =50mA
A7	589	592		
A8	592	595		

Note:
Tolerance of Dominant Wavelength: ±1nm

Typical Electro-Optical Characteristics Curves
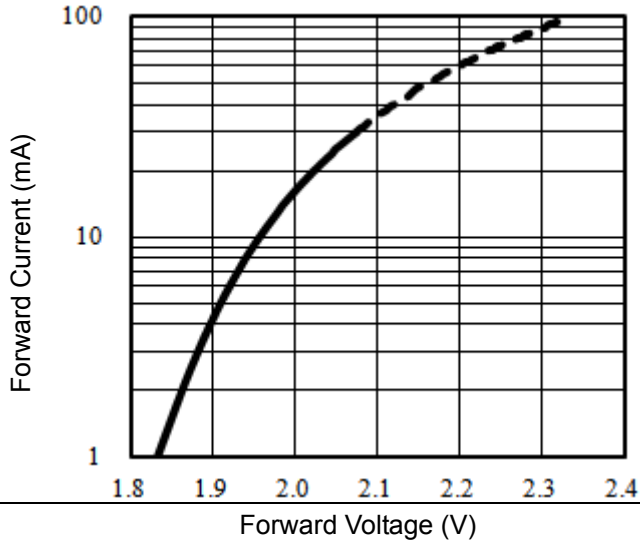
Typical Curve of Spectral Distribution
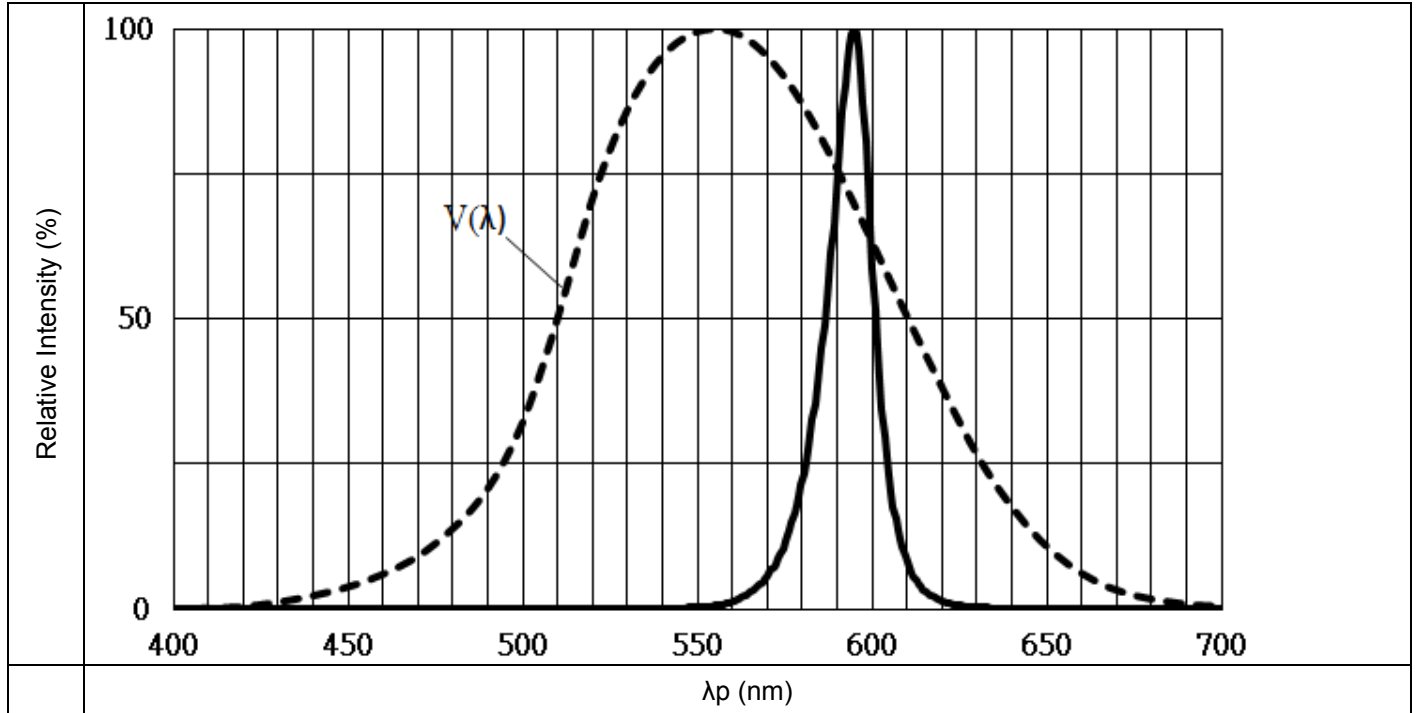
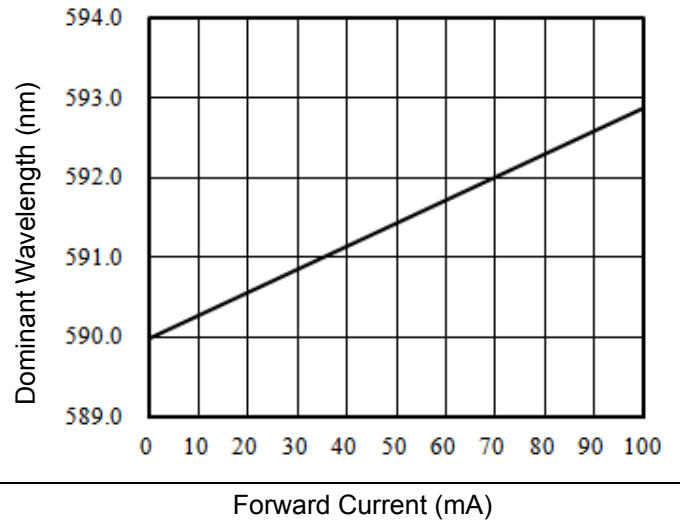Note: V(λ)=Standard eye response curve; I_F =50mA

Diagram Characteristics of Radiation
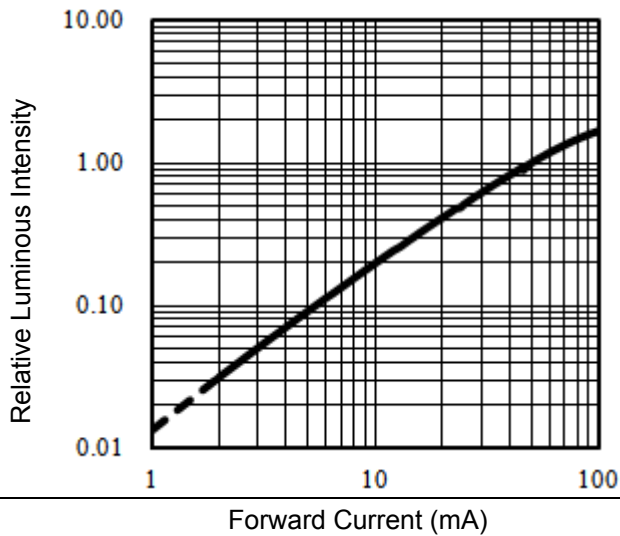

Relative Intensity
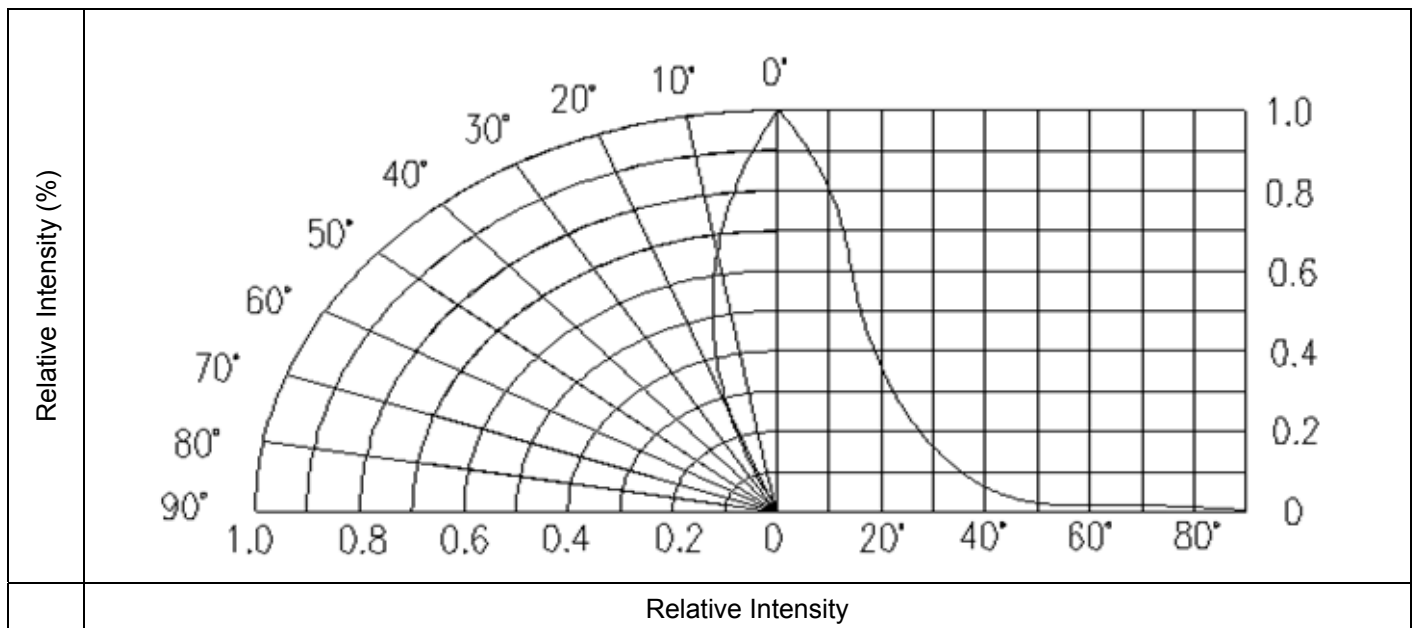
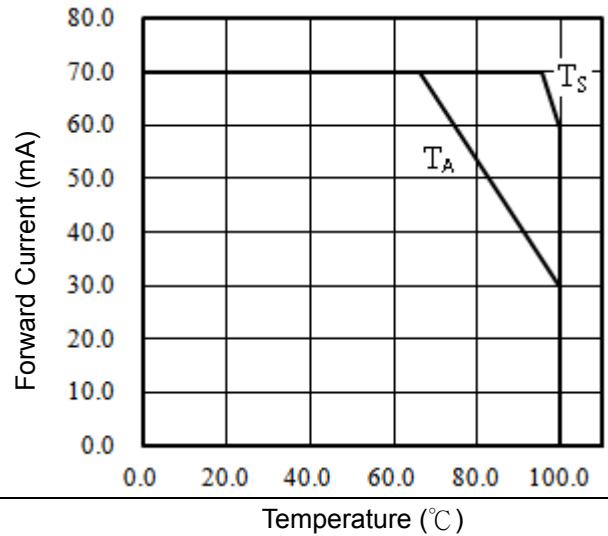**Forward Current vs. Forward Voltage (Ta=25℃)**

Dominant Wavelength vs. Forward Current (Ta=25℃)

Relative Luminous Intensity vs. Forward Current (Ta=25℃)

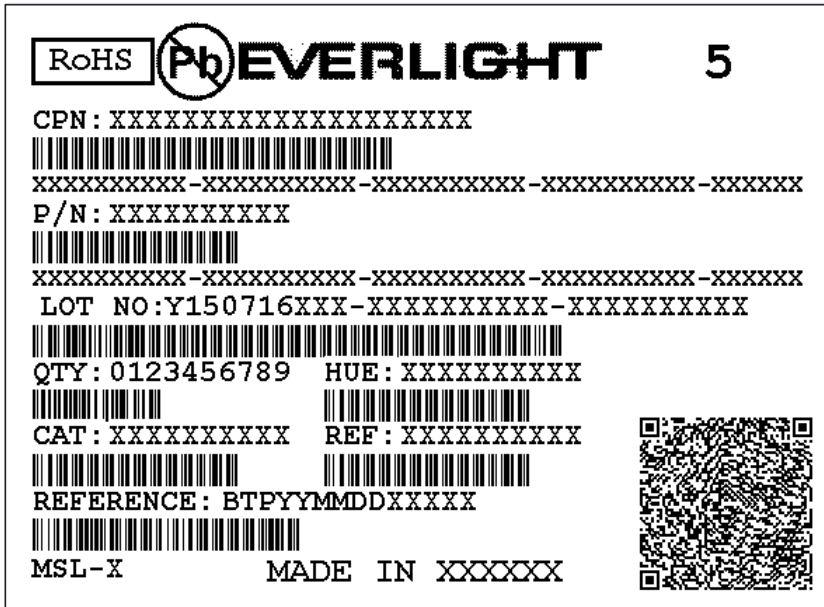**Max. Permissible Forwarded Current (Ta=25℃)**

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Package Dimension

Cathode Mark

Polarity

3.35±0.05

1.9±1.5
3.5±0.05

2.8±0.05

1.8±0.05

2.4±0.05

0.75±0.05

for reflow
solding (propose)

1.6   1.8

0.75

0.7

Note: Tolerances unless mentioned ±0.1mm. Unit = mm

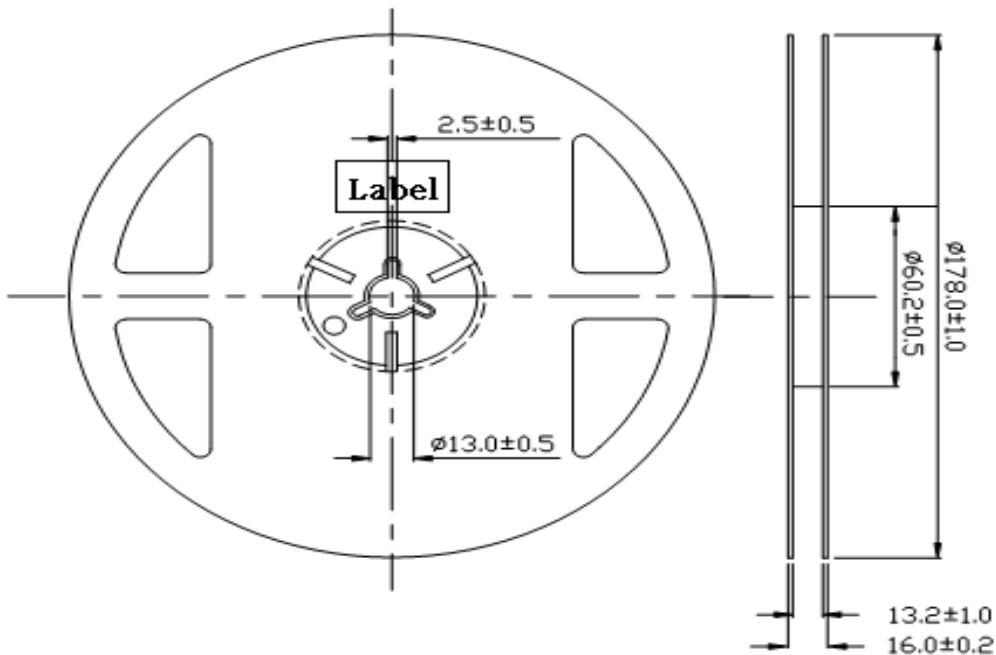www.everlightamericas .com

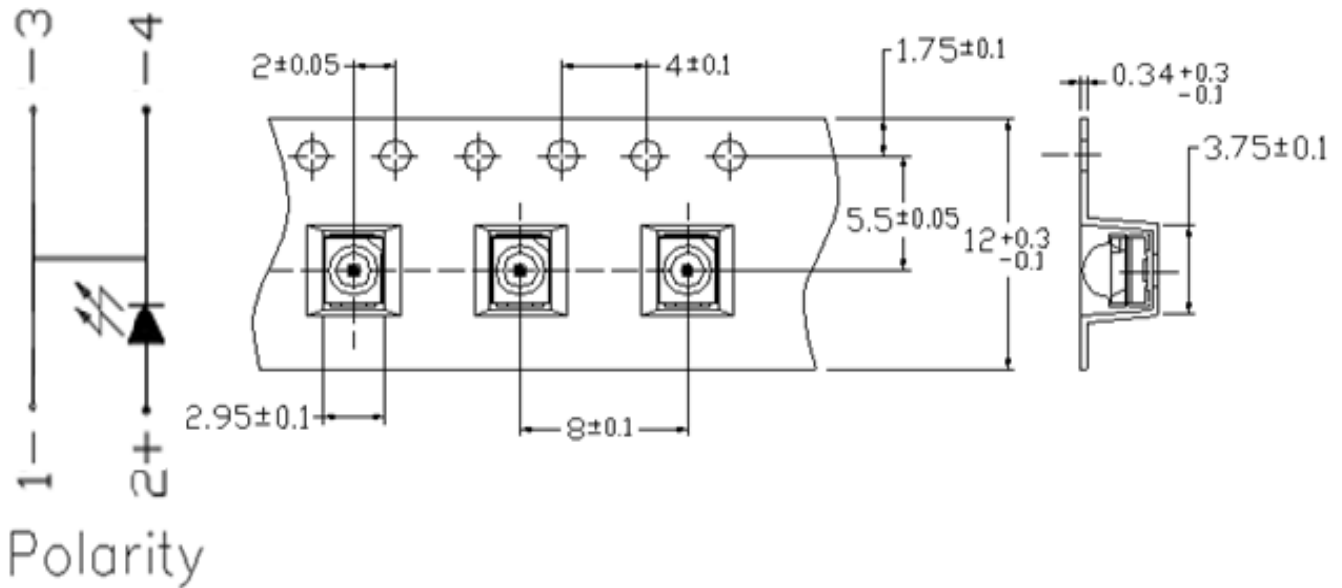## Moisture Resistant Packing Materials

Label Explanation

・CPN: Customer's Product Number
・P/N: Product Number
・QTY: Packing Quantity
・CAT: Luminous Intensity Rank
・HUE: Dom. Wavelength Rank
・REF: Forward Voltage Rank
・LOT No: Lot Number
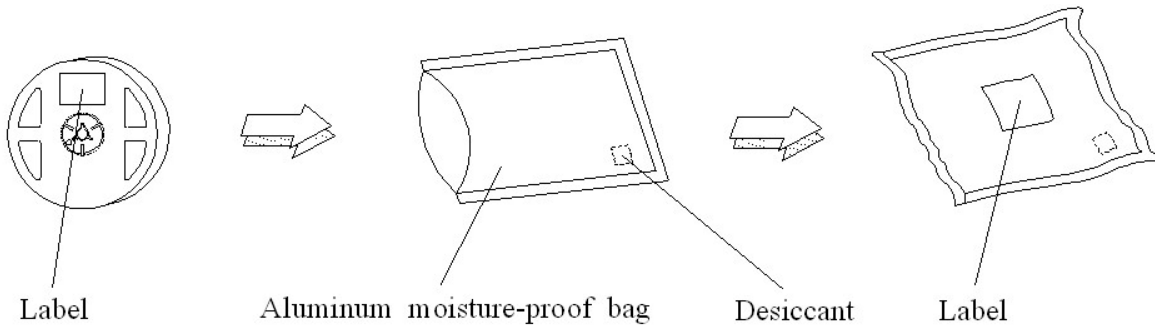
Reel Dimensions

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Carrier Tape Dimensions: Loaded Quantity 500 pcs Per Reel

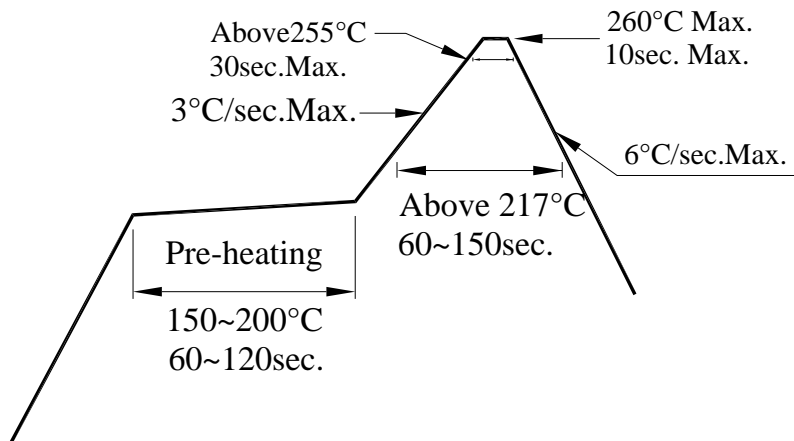Note: Tolerances unless mentioned ±0.1mm. Unit = mm

Moisture Resistant Packing Process

Note: Tolerances unless mentioned ±0.1mm. Unit = mm

Precautions for Use

1. Over-current-proof

　　1.1 Customer must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).

Above255°C
30sec.Max.

3°C/sec.Max.

260°C Max.
10sec. Max.

6°C/sec.Max.

Above 217°C
60~150sec.

Pre-heating

150~200°C
60~120sec.

2. Storage

2.1 Moisture proof bag should only be opened immediately prior to usage.

2.2 Environment should be less than 30℃ and 60% RH when moisture proof bag is opened.

2.3 After opening the package MSL Conditions stated on page 1 of this spec should not be exceeded.

2.4 If the moisture sensitivity card indicates higher than acceptable moisture, the component should be baked at min. 60deg +/-5deg for 24 hours.

3. Soldering Condition

3.1 Pb-free solder temperature profile

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

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

3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5. Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.

Application Restrictions

High reliability applications such as military/aerospace, automotive safety/security systems, and medical equipment may require different product. If you have any concerns, please contact Everlight before using this product in your application. This specification guarantees the quality and performance of the product as an individual component. Do not use this product beyond the specification described in this document.

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Revision History

Rev.	Modified date	File modified contents
1	2015/08/11	New Spec
2	2016/04/27	Approved

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