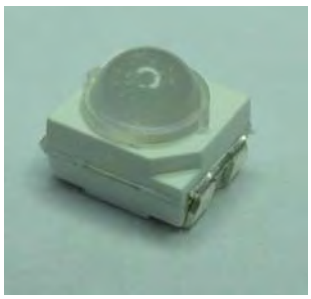
EVERLIGHT AMERICAS

DATASHEET

Power Top View LEDs with Lens
EAPL3529YA1



Features

Lead (Pb) Free Product - RoHS Compliant

- P-LCC-3 package.
- Colored diffused resin.
- Wide viewing angle 30°.
- Inner reflector and white package.
- Soldering methods: IR reflow soldering.
- Compliance with EU REACH

Applications

- Backlight: LCD, switches, symbol, mobile phone and illuminated advertising.
- Ideal for coupling into light guides.
- Substitution of traditional light.
- General applications.
- Optical indicator.

Device Selection Guide

Type	Chip Materials	Emitted Color	Resin Color
YD	AlGaInP	Brilliant Yellow	Diffused

Absolute Maximum Ratings (Ta=25℃)

Parameter	**Symbol**	**Rating**	**Unit**
Forward Current	I_F	70	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	100	mA
Power Dissipation	Pd	210	mW
Junction Temperature	T_j	125	℃
Operating Temperature	T_{opr}	-40 ~ +100	℃
Storage Temperature	Tstg	-40 ~ +110	℃
Thermal Resistance	Rth $_{J-A}$	350	K/W
	Rth $_{J-S}$	250	K/W
ESD (Classification acc. AEC Q101)	ESD_{HBM}	2000	V
	ESD_{MM}	200	V
Soldering Temperature	T_{sol}	Reflow Soldering : 260 ℃ for 30 sec. Hand Soldering : 350 ℃ for 3 sec.	

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	Iv	11200	---	28000	mcd	I_F= 70mA
Viewing Angle	$2\theta_{1/2}$	---	30	---	deg	
Dominant Wavelength	λd	587	---	596	nm	
Forward Voltage	V_F	1.7	---	3.05	V	
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
FA	11200	14000	mcd	I_F= 70mA
FB	14000	18000		
GA	18000	22400		
GB	22400	28000		

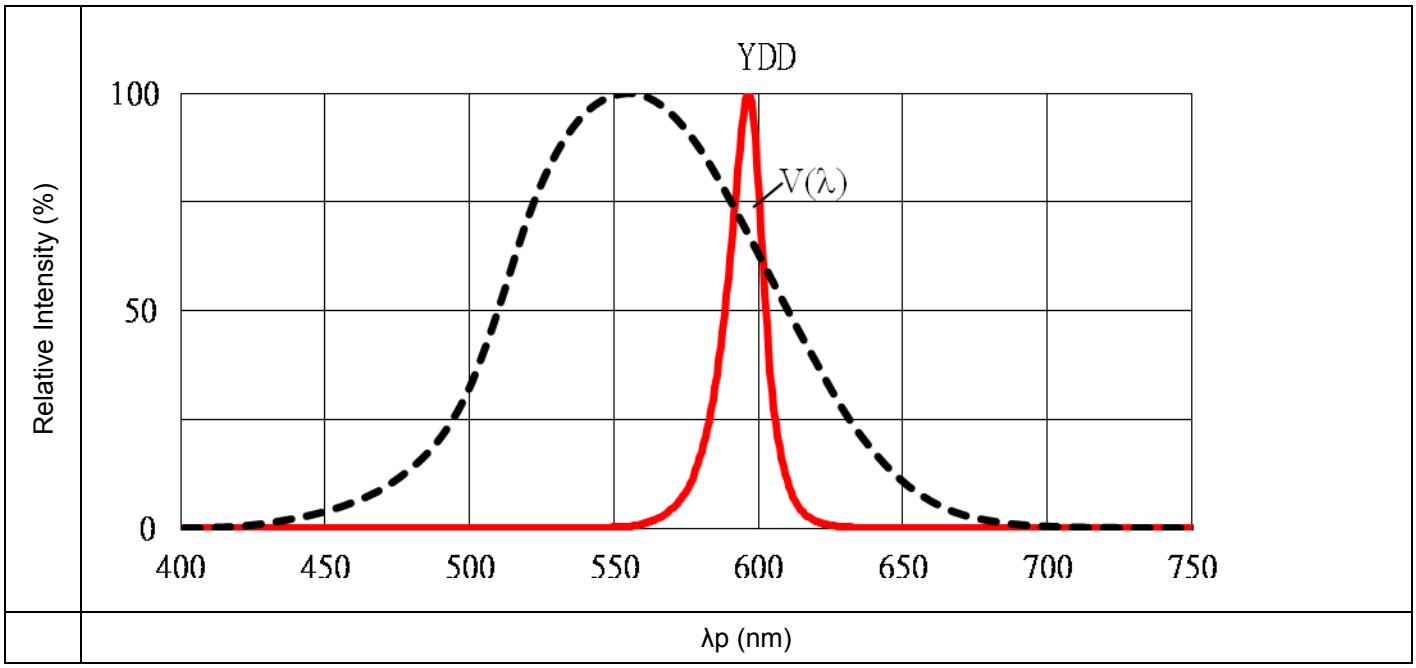
Bin Range of Dominant Wavelength

Group	Bin Code	Min.	Max.	Unit	Condition
5P	B7	587	590	nm	I_F= 70mA
	B8	590	593		
	B9	593	596		

Note:
1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Dominant Wavelength: ±1nm

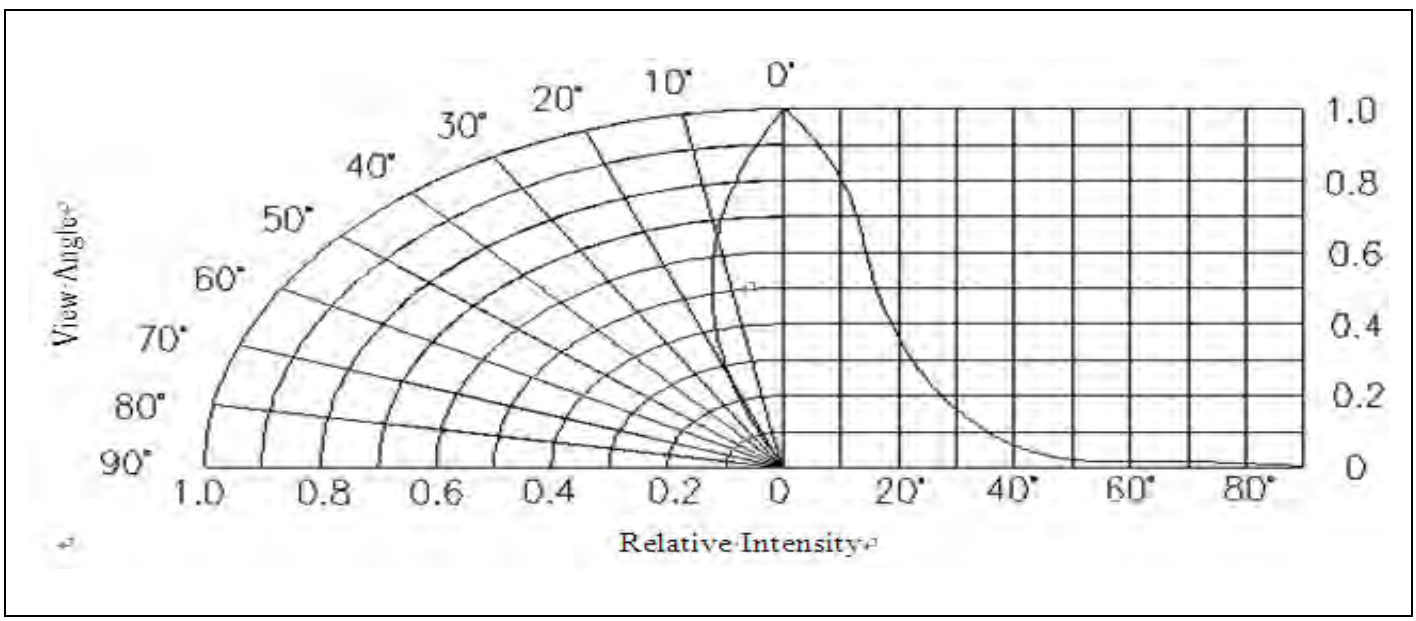
Typical Electro-Optical Characteristics Curves

Typical Curve of Spectral Distribution



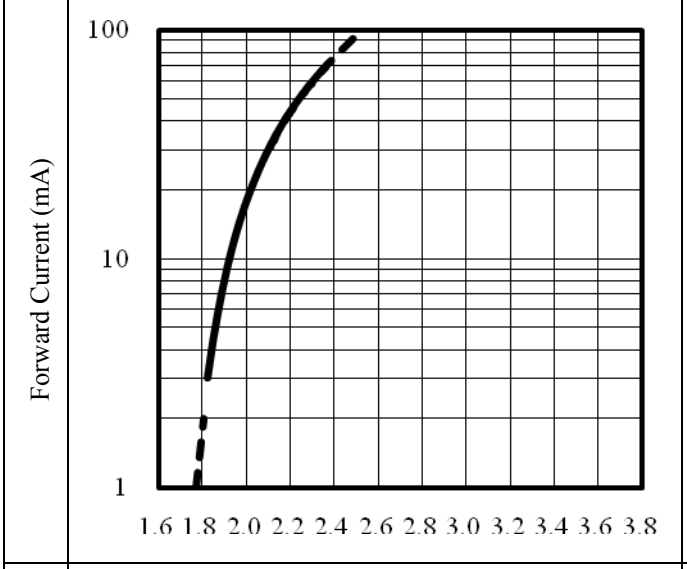
Note: V(λ)=Standard eye response curve;

Diagram Characteristics of Radiation

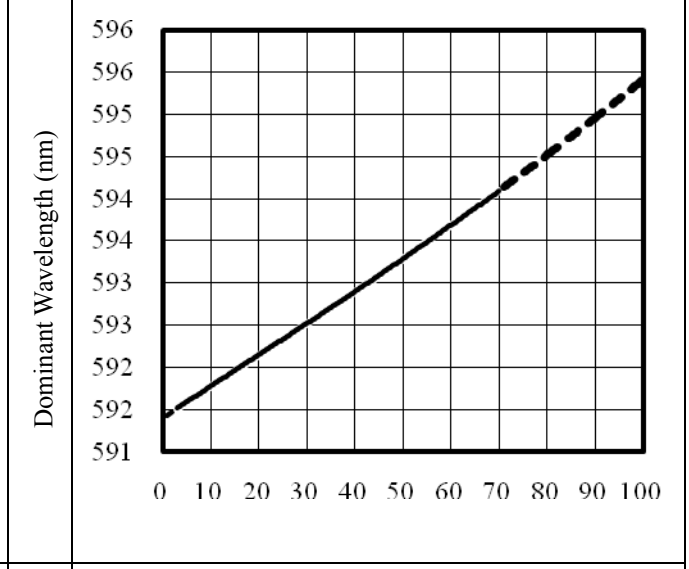


Typical Electro-Optical Characteristics Curves

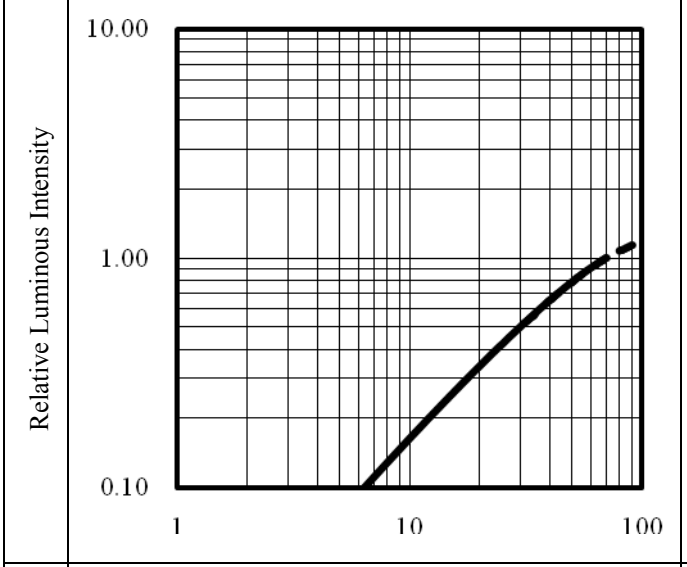
Forward Current vs. Forward Voltage (Ta=25℃)



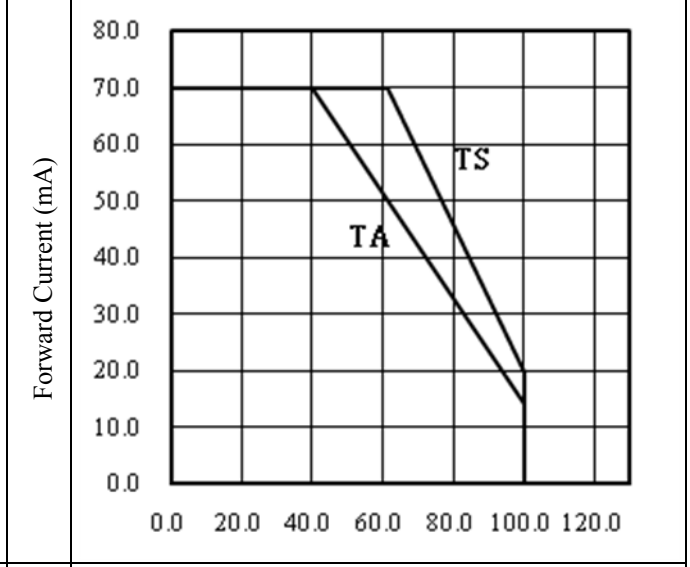
Dominant Wavelength vs. Forward Current (Ta=25℃)



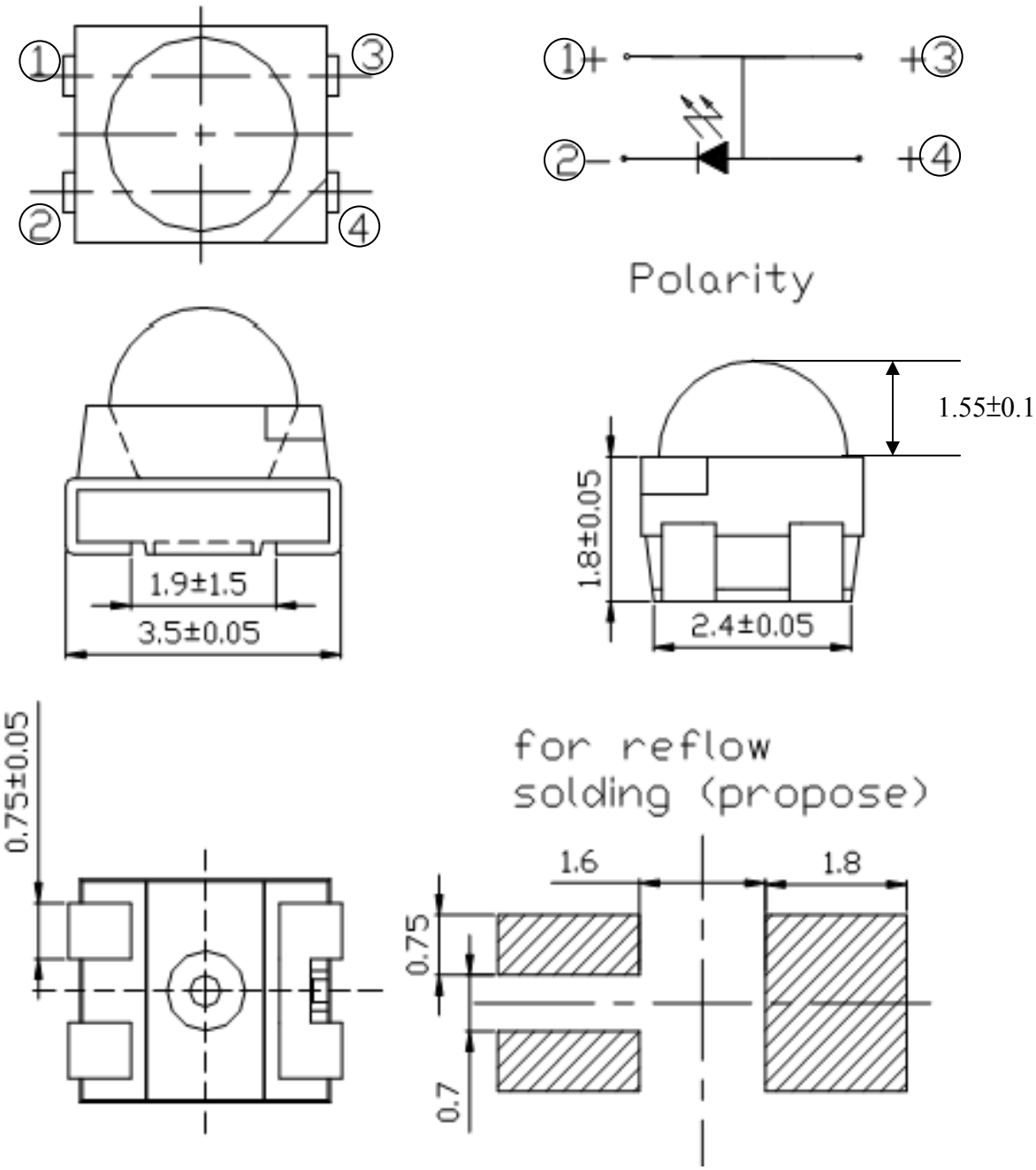
Relative Luminous Intensity vs. Forward Current (Ta=25℃)



Forward current vs. Ambient and Solder Temperature



Package Dimension



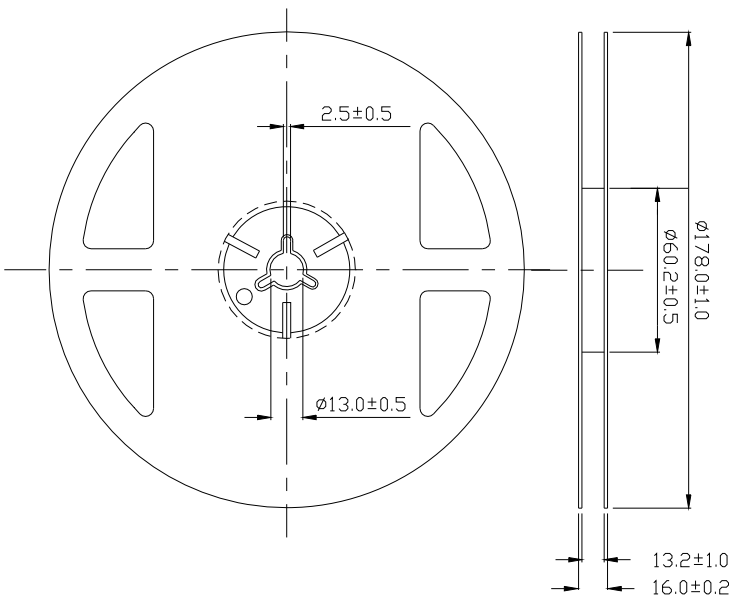
Note: Tolerances unless mentioned ±0.1mm. Unit = mm

Moisture Resistant Packing Materials

Label Explanation

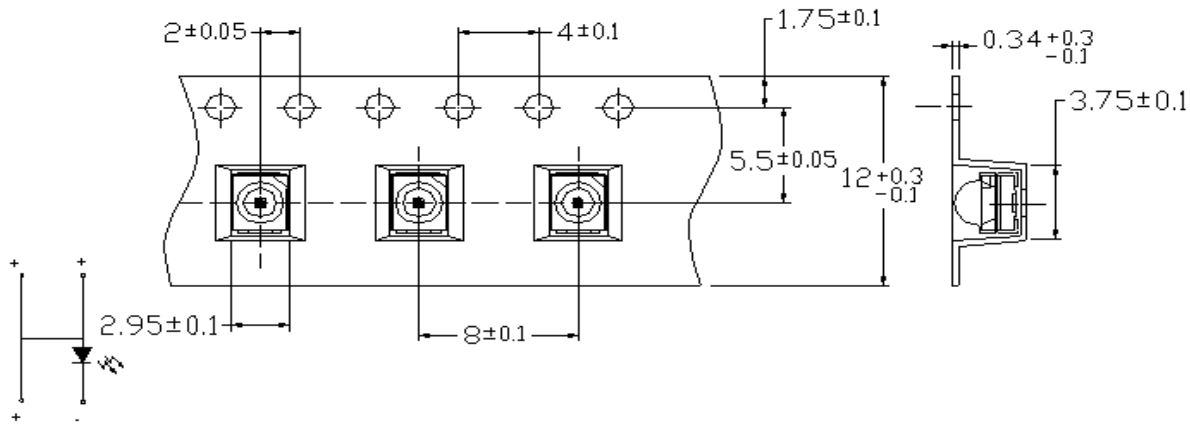
- CPN: Customer's Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Luminous Intensity Rank
- HUE: Dom. Wavelength Rank
- REF: Forward Voltage Rank
- LOT No: Lot Number

Reel Dimensions



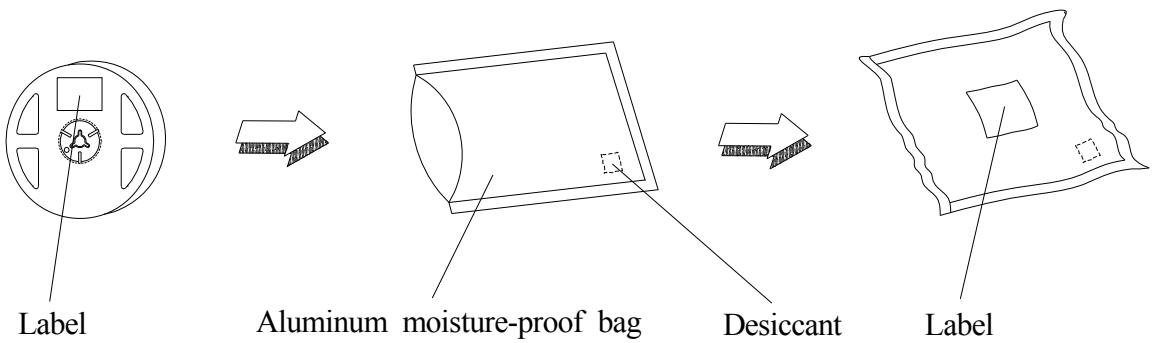
Note: Unit = mm

Carrier Tape Dimensions: Loaded Quantity 500 pcs Per Reel



Note:
1.The tolerances unless mentioned is : ±0.1mm,Unit = mm
2.Minimum packing amount is 250/500 pcs per reel

Moisture Resistant Packing Process



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

Precautions For Use

1. Over-current-proof

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

2. Storage

   2.1 Do not open moisture proof bag before the products are ready to use.

   2.2 Before opening the package: The LEDs should be kept at 30℃ or less and 90%RH or less.

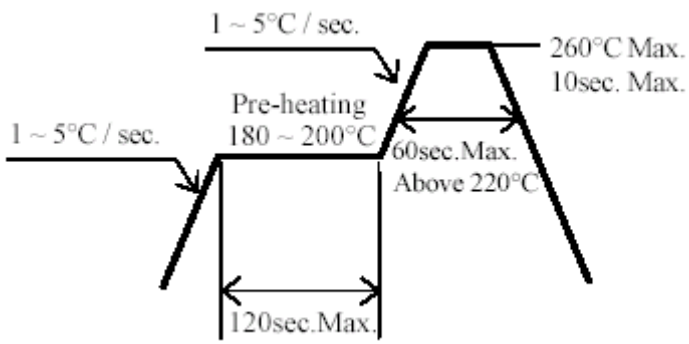
   2.3 After opening the package: The LED's floor life is 168 hours under 30 deg C or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.

   2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.

   Baking treatment : 60±5℃ 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.