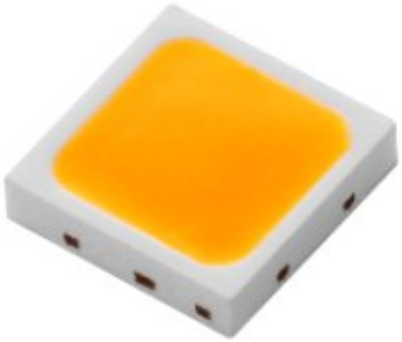
DATASHEET

XI3030EU-NAYAYBF5F92734Z35-H41D-AM



Features

- EMC package.
- Top view LED
- Wide viewing angle 115°
- High luminous intensity output
- Qualification according to AEC-Q101 rev C.
- Automotive reflow profile (IR reflow or wave soldering)
- Pb-free
- RoHS compliant
- ESD protection
- Compliance with EU REACH.

Description

The Everlight XI3030-AM series package has high efficacy, high power consumption, wide viewing angle and a compact form factor. These features make this package an ideal LED for all automobile lighting applications.

Applications

- Tail light
- Turning indicator light

Table of Contents

Product Nomenclature

The product name is designated as below:

XI3030AB – CDEFGHIJ – KLMN – AM

Designation:
XI3030 = family name.
A = internal code
B = coating layer[1]
C = color[2]
DE = color bin or CCT bin
FG = min./max. luminous flux (lm) or radiation power (mW) performance
HI = min./max. forward voltage
J = operation current[3]
KLMN = internal code
AM = application

1.Table of coating layer:

Symbol	Description
U	Gold
G	Silver

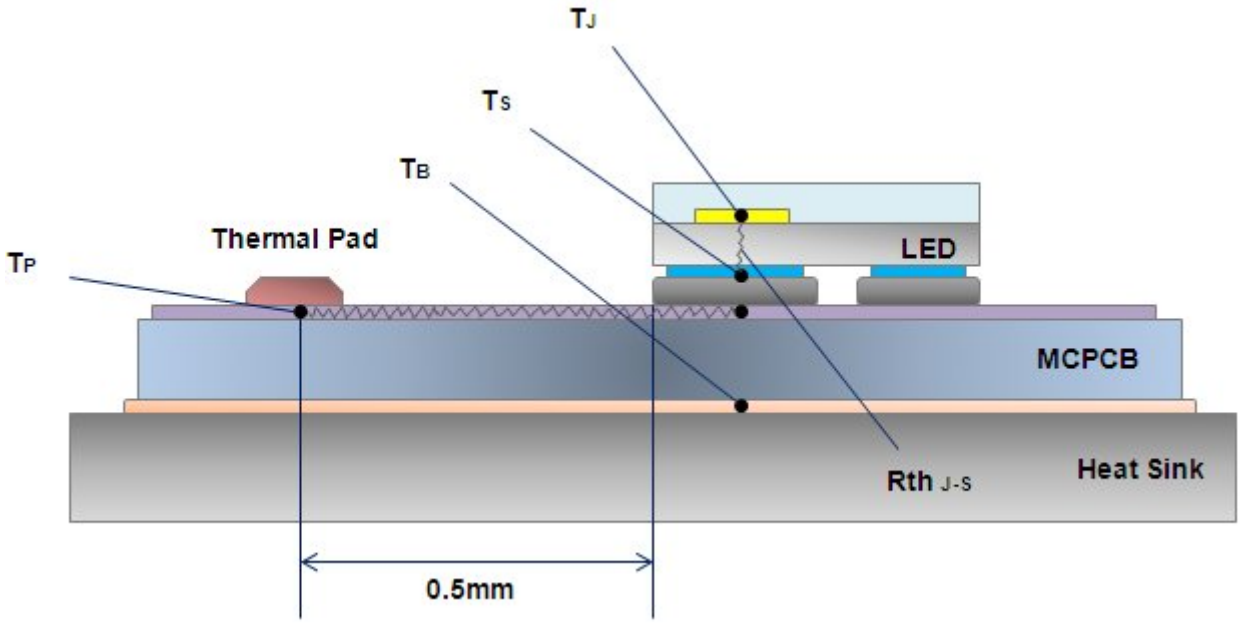
2.Table of color:

Symbol	Description
NP	White, CRI<80
KP	White, CRI>80
NA	PC-Amber
UR	Red

3.Table of operation current:

Symbol	Description
Z35	350mA

XI3030 Soldering Temperature Location on Sample Board



T_J = Temperature of Junction

T_S = Temperature of Solder Pad

T_B = Temperature of MCPCB

T_P = Temperature of Thermal Pad

Rth_{J-S} = Thermal Resistance from Junction to Solder Pad

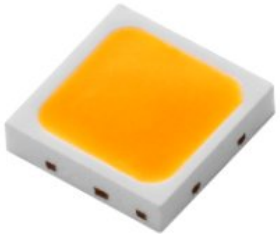
Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Reverse Voltage	V_R	Not designed for reverse operation	V
Max. DC Forward Current (mA)	I_F	700	mA
Max. Peak Pulse Current (mA)	I_{Pulse}	1000[1]	mA
Junction Temperature	T_J	130	°C
Thermal Resistance (Junction to Soldering)	R_{th}	11	°C/W
Operating Temperature	T_{opr}	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +125	°C
ESD Sensitivity	ESD_{HBM}	8000	V
Max. Soldering Temperature	T_{Sol}	260	°C
Max. Allowable Reflow Cycles	N/A	3	cycles

Notes:

1. Duty cycle = 1/10@1KHZ .

PN of the XI3030-AM series: LED



Order Code of XI3030	Minimum Luminous Flux (lm)	Typical Luminous Flux (lm)	Color Bin	Forward Voltage (V)	Current (mA)	Typical Viewing Angle (degrees) $2\theta_{1/2}$ i
XI3030EU-NAYAYBF5F92734Z35-H41D-AM	52	68	YA-YB	2.7-3.4	350	115

Notes:

1. Luminous flux measurement tolerance: ±8%.
2. The data of luminous flux measured at thermal pad=25℃
3. Typical luminous flux or light output performance is operated within the condition guided by this datasheet.

Product Binning

Luminous Flux Bins

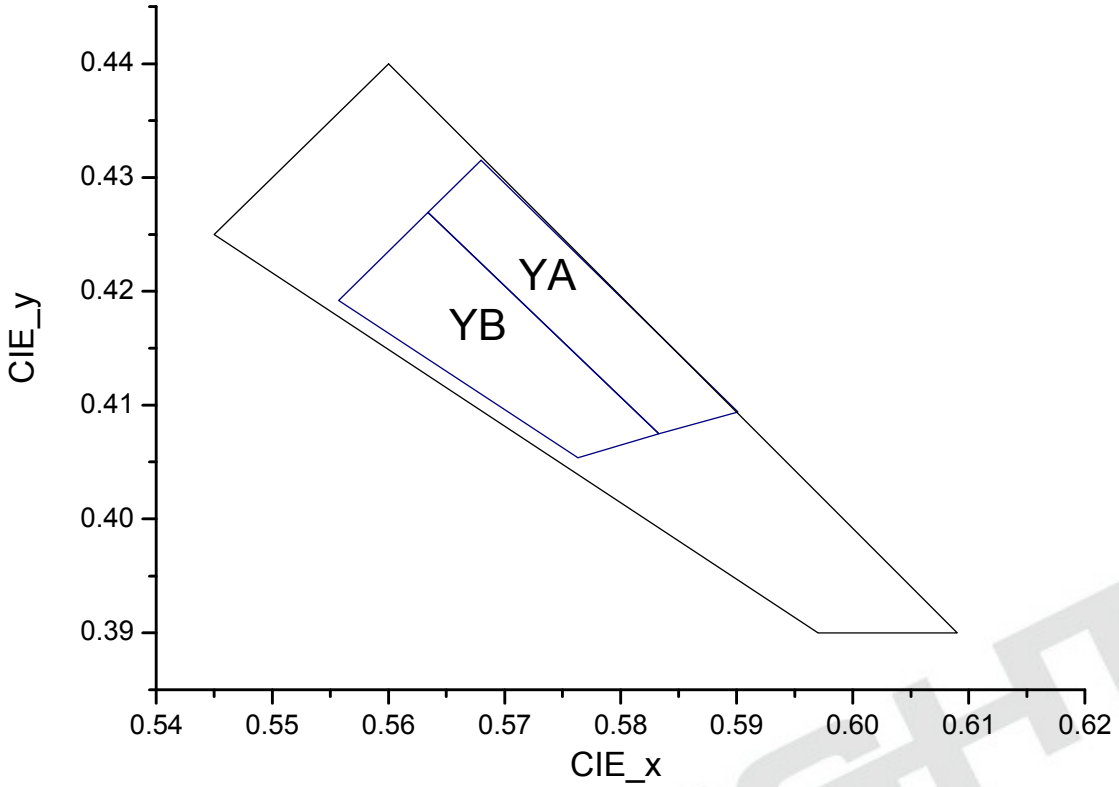
Group	Bin	Minimum Photometric Flux (lm)	Maximum Photometric Flux (lm)
E	1	4	5
	2	5	6
	3	6	8
	4	8	10
	5	10	13
	6	13	17
	7	17	20
	8	20	23
	9	23	27
F	1	27	33
	2	33	39
	3	39	45
	4	45	52
	5	52	60
	6	60	70
	7	70	80
	8	80	90
	9	90	100

Group	Bin	Minimum Photometric Flux (lm)	Maximum Photometric Flux (lm)
J	1	100	110
	2	110	120
	3	120	130
	4	130	140
	5	140	150
	6	150	160
	7	160	180
	8	180	200
	9	200	225
K	1	225	250
	2	250	275
	3	275	300
	4	300	325
	5	325	350
	6	350	375
	7	375	400
	8	400	425
	9	425	450

Notes:

1. Luminous flux measurement tolerance: ±8%.

Amber Bin Structure



Amber Bin Coordinates

Amber

Bin	CIE X	CIE Y
YA	0.5680	0.4315
	0.5634	0.4269
	0.5833	0.4075
	0.5901	0.4094

Bin	CIE X	CIE Y
YB	0.5763	0.4054
	0.5833	0.4075
	0.5634	0.4269
	0.5557	0.4192

Notes:

Color coordinates measurement allowance: ±0.01.

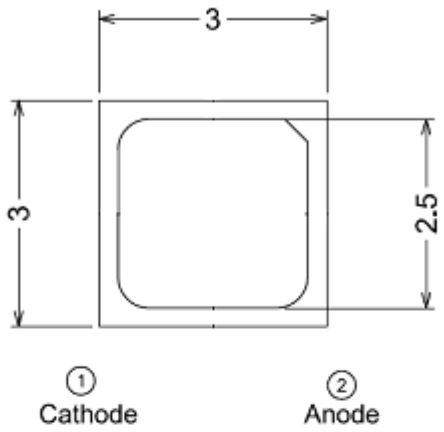
Forward Voltage Bins

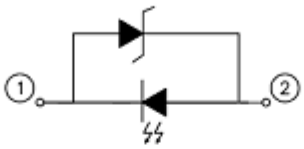
Group	Bin	Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
2734	A	2.7	3.0
	B	3.0	3.3
	C	3.3	3.4

Notes:

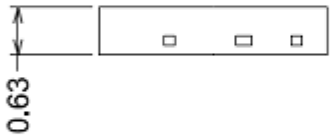
1. Forward voltage measurement tolerance: ±0.1V.
2. Forward voltage bins are defined at I_F=350mA operation.

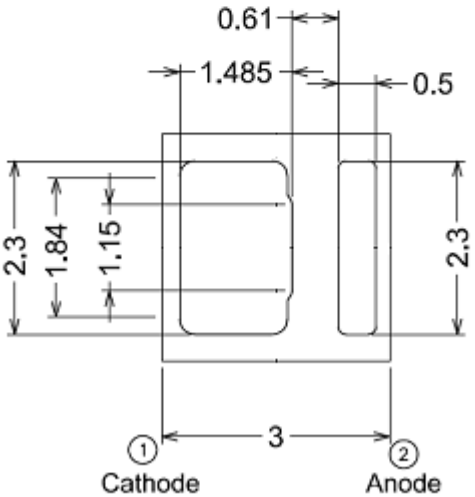
Mechanical Dimension



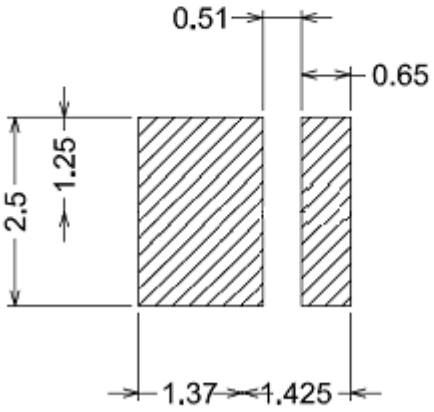


Polarity





Bot. view



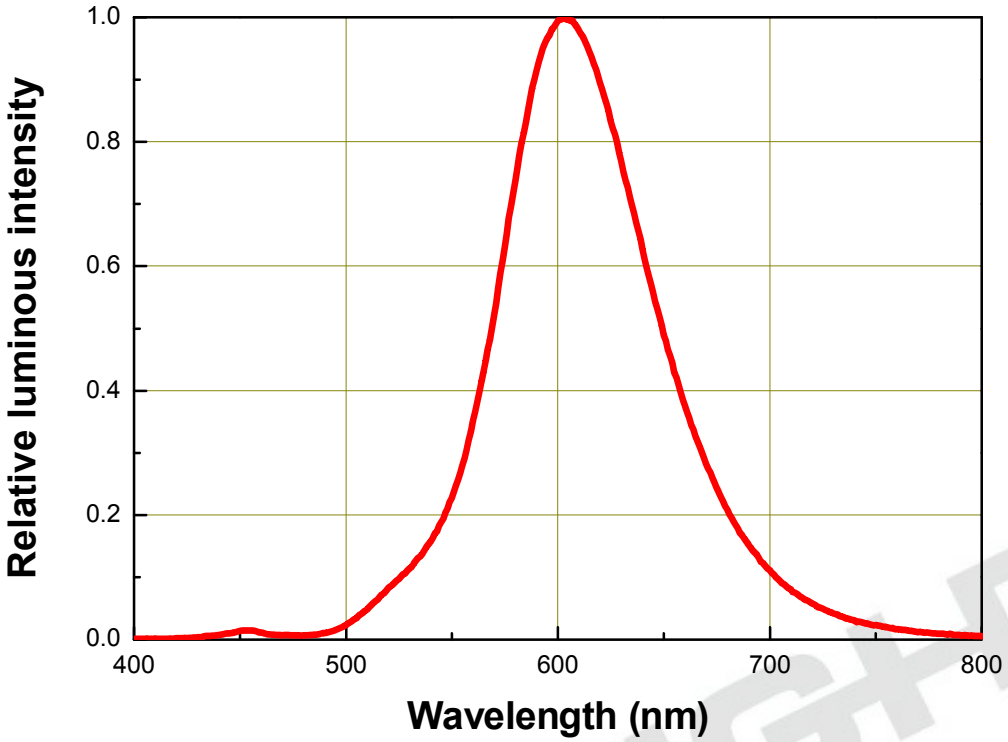
Soldering patterns

Notes:

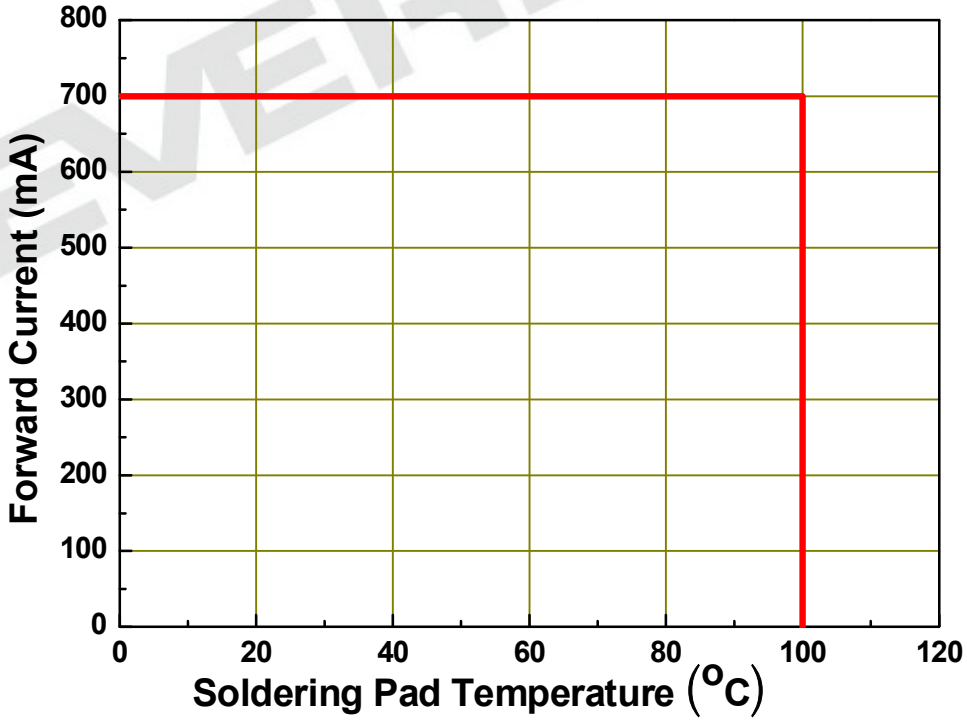
1. Dimensions are in millimeters.
2. Tolerances unless mentioned are ± 0.2mm.
3. The thermal pad is electrically unity from the Anode and contact pads.
4. Do not handle the device by the lens. Incorrect force applied to the lens may lead to the failure of devices.

Wavelength Characteristics

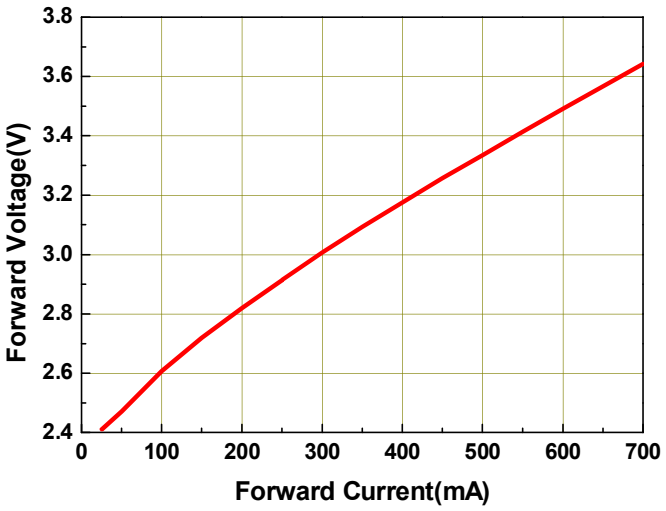
Relative Spectral Distribution
@ Solder Pad Temperature = 25℃



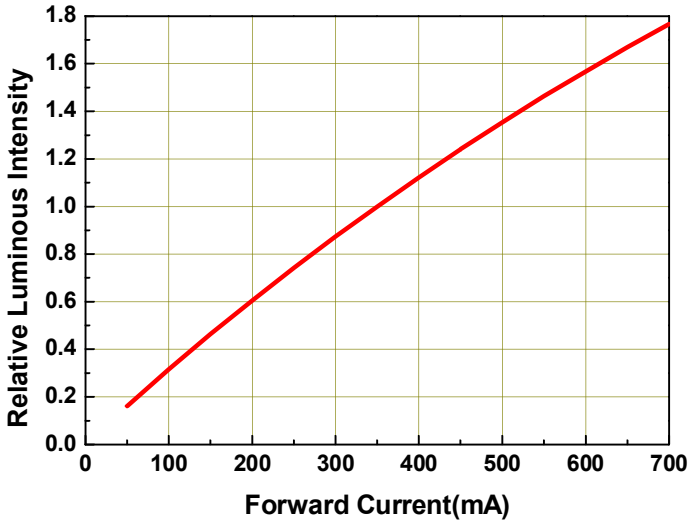
Forward Current Derating Curve
@ Junction Temperature <130℃



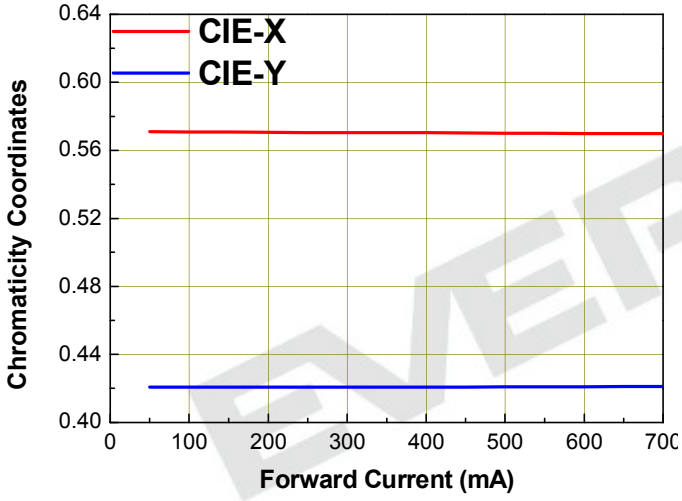
Forward Voltage vs. Forward Current @ Solder Pad Temperature = 25℃



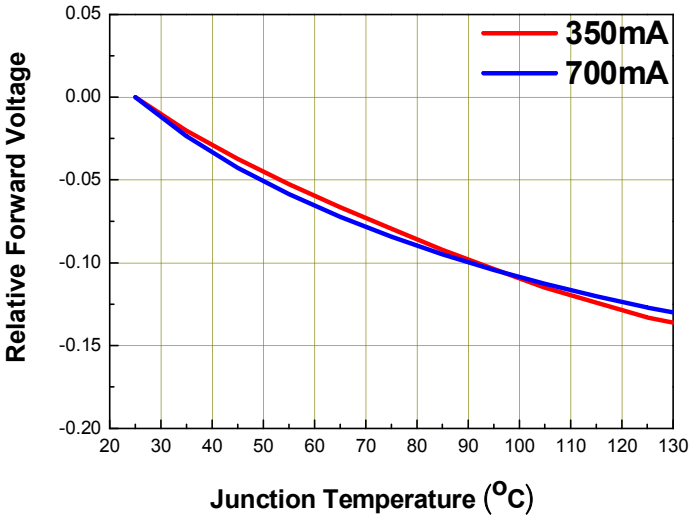
Luminous vs. Forward Current @ Solder Pad Temperature = 25℃



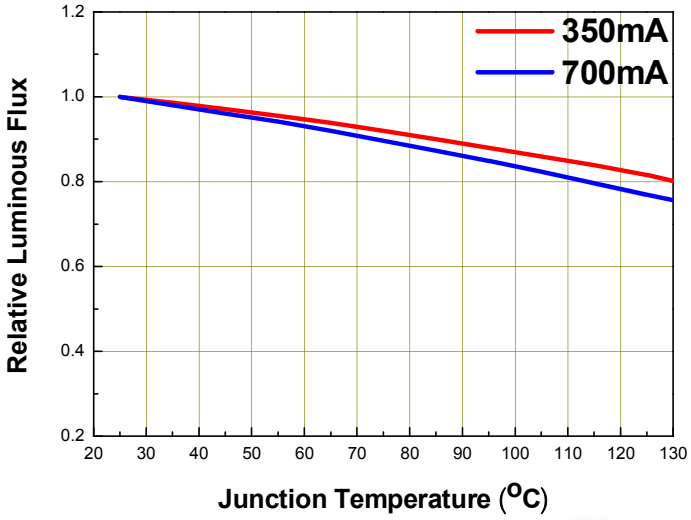
Chromaticity Coordinates Shift vs. Forward Current @ Solder Pad Temperature = 25℃



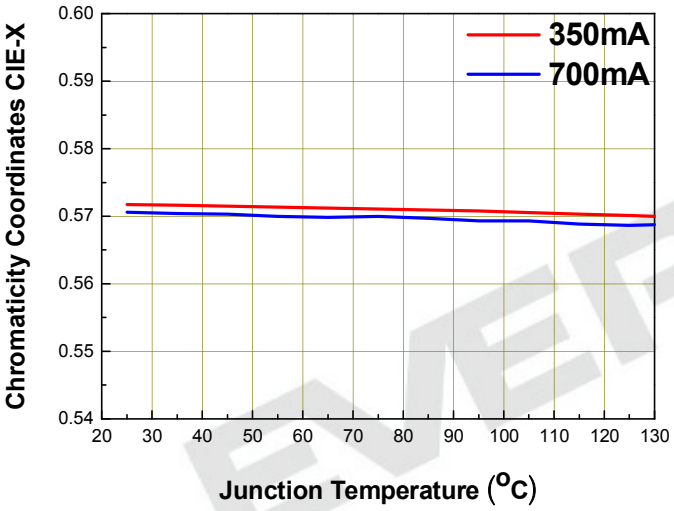
Relative Forward Voltage @Forward Current = 350mA/700mA



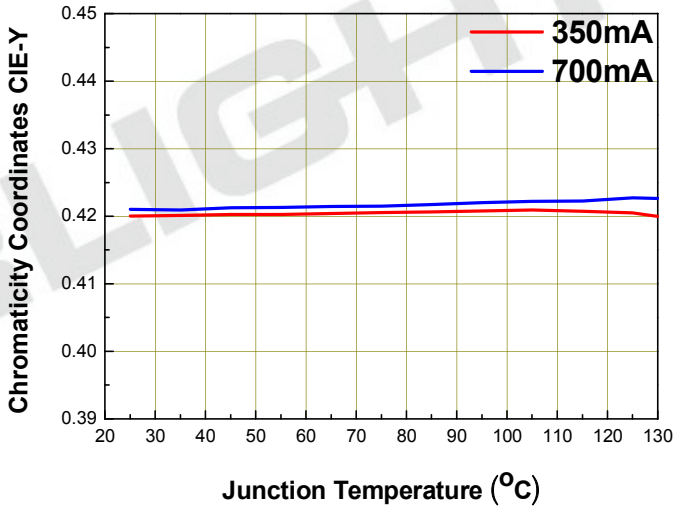
Relative Luminous Flux @Forward Current = 350mA/700mA



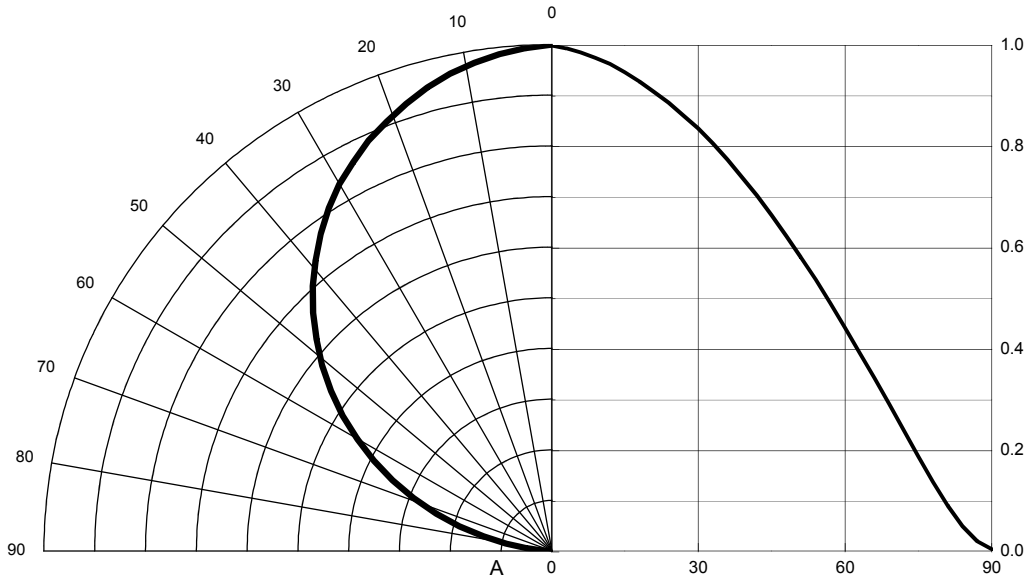
Chromaticity Coordinates Shift CIE-X @Forward Current = 350mA/700mA



Chromaticity Coordinates Shift CIE-Y @Forward Current = 350mA/700mA



XI3030 series: Typical Diagram Characteristics of Radiation



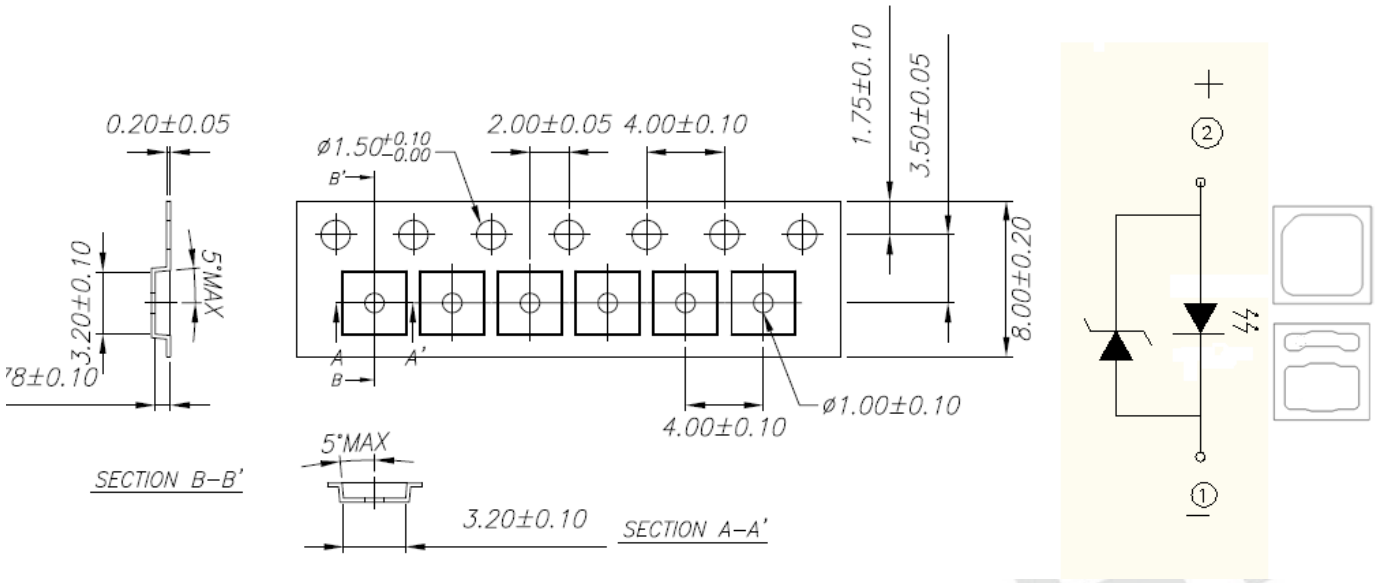
Notes:

1. $2\theta_{1/2}$ is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is ± 5° .

Emitter Tape Packaging

Carrier Tape Dimensions as the following:

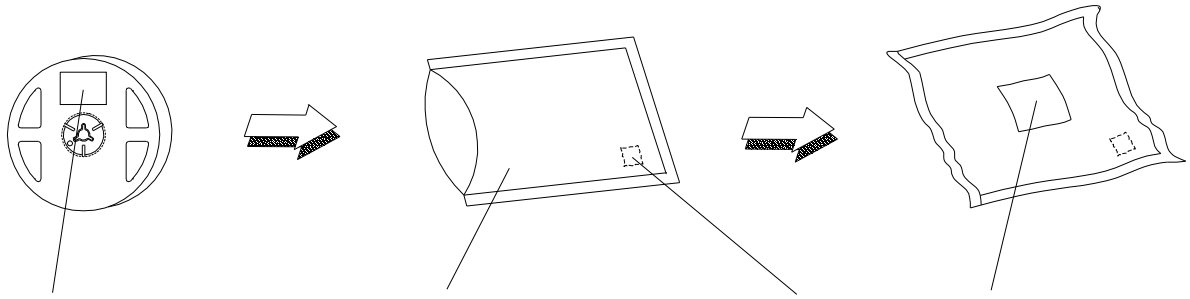
Loaded Quantity 1000 pcs Per Reel



Notes:

1.Tolerance unless mentioned is ±0.1mm; Unit = mm

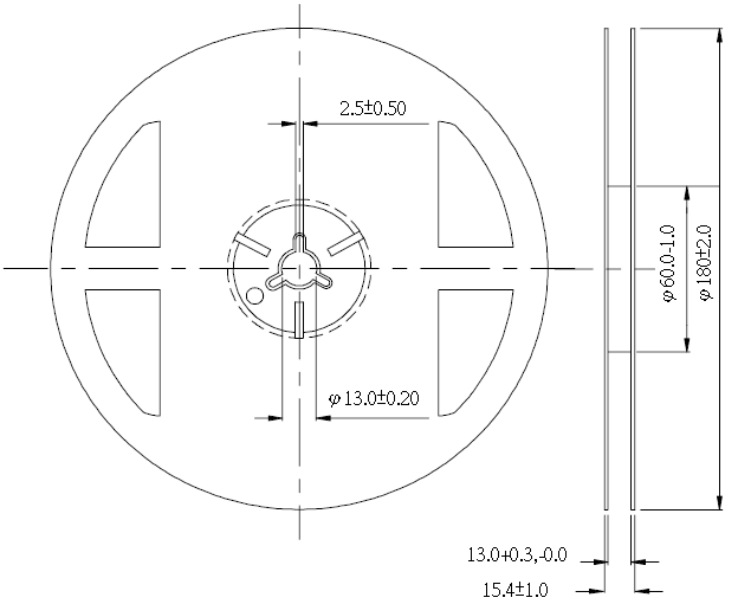
Moisture Resistant Packaging



Label **Aluminum moisture-proof bag** **Desiccant** **Label**

Emitter Reel Packaging

Reel Dimensions

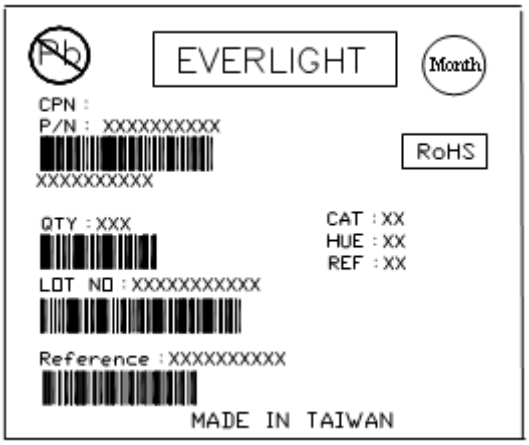


Notes:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are ±0.1mm.

Product Labeling

Label Explanation



CPN: Customer Specification (when required)

P/N : Everlight Production Number

QTY: Packing Quantity

CAT: Luminous Flux (Brightness) Bin

HUE: Color Bin

REF: Forward Voltage Bin

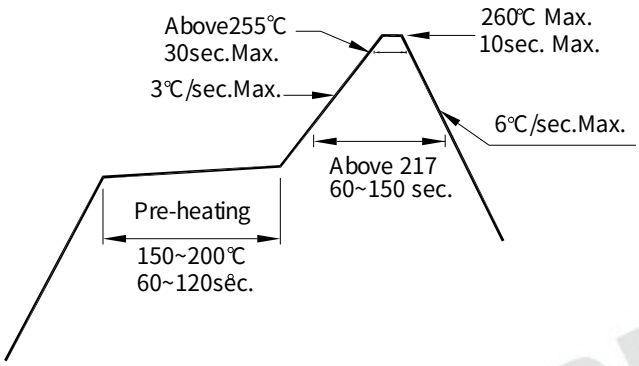
LOT No: Lot Number

MADE IN TAIWAN: Production Place

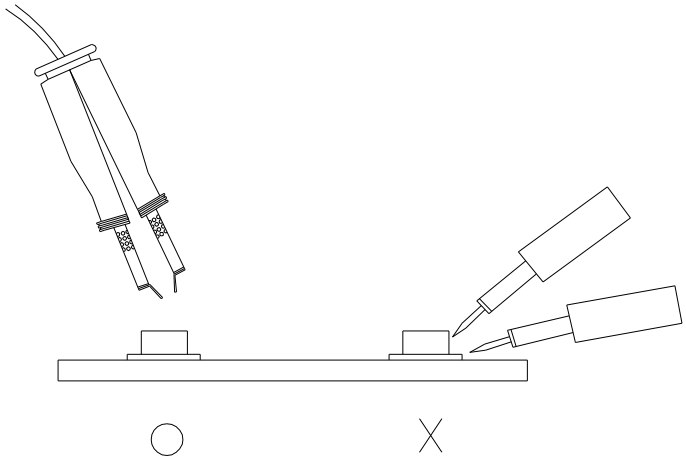
Precautions for Use

1. Over-current-proof
   Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).
2.Storge
   2.1 Before the package is opened: The LEDs should be stored at 30°C or less and 90%RH or less after being shipped from Everlight. The storage life is 18 months. If the LEDs are to be stored for more than 18 months, they should be stored in a sealed container with a nitrogen atmosphere and moisture absorbent material.
   2.2After opening the package: The LED's should be stored under 30℃ or less and 60%RH or less. The LED should be used within 168hrs (7days) after opening the package. If unused LEDs remain, they should be stored in moisture proof packages.
   2.3Before using LEDs: The LEDs should be baked under the following conditions: pre-curing at 60±5℃ for 24 hours.
   2.4Do not stack assemblies containing Everlight XI3030 LEDs to prevent damage to the optical surface of LEDs. Forces applied to the optical surface may result in the surface being damaged.

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°C 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.



Storage Conditions

- Before the package is opened. The LEDs should be stored at 30°C or less and 90%RH or less after being shipped from Everlight and the storage life limits are 18 months. The LEDs can be stored up to 3 years If in a sealed container with a nitrogen atmosphere and moisture absorbent material.
- After opening the package: The LED's floor life is 1 year under 30℃ or less and 60%RH or less. The LED should be soldered with 168hrs (7days) after opening the package. If unused LEDs remain, it should be stored in moisture proof packages.
- 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.

Revision History

Current version: 06.02.2015
Issue No: DSE-0013351
Version: 1
Created by: Betty Hong

Page	Subjects (major change in previous version)	Date of change