EVERLIGHT AMERICAS

DATASHEET

SMD ▪ HP
EAHP3030WD0



Features

- Top view white LED
- High luminous intensity output
- Typical Viewing Angle:120°
- Pb-free
- RoHS compliant

Description

The Everlight Americas EAHP3030WD0 package has high efficacy, high CRI, mid power consumption, wide viewing angle and a compact form factor. These features make this package an ideal LED for all lighting applications.

Applications

- General lighting
- Decorative and Entertainment Lighting
- Indicators
- Illumination

Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Max. DC Forward Current (mA)	I_F	240	mA
Max. Peak Pulse Current (mA)	I_{Pulse}	300[1]	mA
Power Dissipation	Pd	1	W
Thermal Resistance	R_{th}	15	°C/W
Max. Junction Temperature	T_J	115	°C
Operating Temperature	T_{Opr}	-40 ~ +85	°C
Storage Temperature	T_{Stg}	-40 ~ +100	°C
Max. Soldering Temperature	T_{Sol}	260	°C
Max. Allowable Reflow Cycles	n/a	2	cycles

Notes: Duty cycle = 1/10@1KHZ

EVERLIGHT

Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever

Optic-Electrical Characteristic:

Order Code	Minimum Luminous Flux (lm)	Typical Luminous Flux (lm)	CCT (K) Wavelength (nm)	Forward Voltage (V)	Current (mA)	CRI (Min.)
EAHP3030WD0	120	125	2580-2870K	5.8-7.0	150	80

Notes:

1. Luminous flux measurement tolerance: ±10%.
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.
4. The CRI value is based on the Everlight Americas testing instrument.
5. CRI measurement tolerance: ±2.

EVERLIGHT

Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever

Reference Optic-Electrical Characteristic: Warm White LEDs

Order Code of XI3030	Typ. Luminous Flux (lm)	CCT (K) Wavelength (nm)	Forward Voltage (V)	Current (mA)	CRI (Min.)
EAHP3030WD0	62	2580-2870K	5.8~7.0	65	80
	91			100	
	108			125	
	125			150	
	147			175	
	156			200	

Product Binning

Luminous Flux Bins

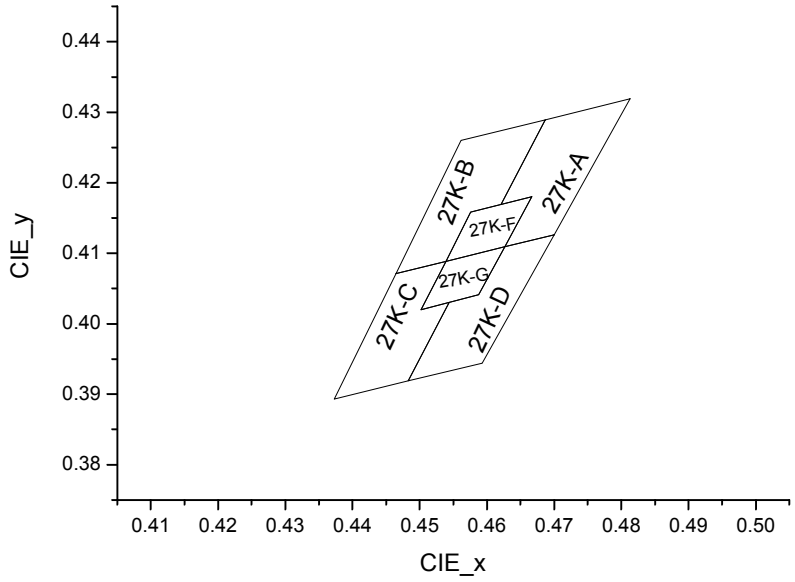
Group	Bin	Minimum Photometric Flux (lm)	Maximum Photometric Flux (lm)
R	1	50.0	55.0
	2	55.0	60.0
	3	60.0	65.0
	4	65.0	70.0
	5	70.0	76.0
	6	76.0	83.0
	7	83.0	90.0
	8	90	100

Group	Bin		Minimum Photometric Flux (lm)	Maximum Photometric Flux (lm)
S	1		100.0	110.0
	2		110.0	120.0
	3	1	120.0	125.0
		2	125.0	130.0
	4		130.0	140.0
	5		140.0	150.0
	6		150.0	160.0
	7		160.0	170.0
	8		170.0	180.0

Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever

Warm-White Bin Structure



Warm-White Bin Coordinates

2700K

Bin	CIE X	CIE Y
27K-A	0.4813	0.4319
	0.4687	0.4289
	0.4621	0.4169
	0.4667	0.4180
	0.4627	0.4109
	0.4700	0.4126
Reference Range: 2580~2700K		

Bin	CIE X	CIE Y
27K-B	0.4687	0.4289
	0.4562	0.4260
	0.4465	0.4071
	0.4539	0.4088
	0.4576	0.4158
	0.4621	0.4169
Reference Range: 2700~2870K		

Bin	CIE X	CIE Y
27K-C	0.4465	0.4071
	0.4373	0.3893
	0.4483	0.3919
	0.4544	0.4030
	0.4502	0.4020
	0.4539	0.4088
Reference Range: 2700~2870K		

Bin	CIE X	CIE Y
27K-D	0.4700	0.4126
	0.4627	0.4109
	0.4588	0.4041
	0.4544	0.4030
	0.4483	0.3919
	0.4593	0.3944
Reference Range: 2580~2700K		

Bin	CIE X	CIE Y
27K-F	0.4667	0.4180
	0.4576	0.4158
	0.4539	0.4088
	0.4627	0.4109
Reference Range: 2680~2790K		

Bin	CIE X	CIE Y
27K-G	0.4627	0.4109
	0.4539	0.4088
	0.4502	0.4020
	0.4588	0.4041
Reference Range: 2680~2790K		

Note: Color coordinates measurement allowance : ±0.01.

Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever

Forward Voltage Bins

Bin		Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
S2	5#8	5.80	5.90
	5#9	5.90	6.00
	6#0	6.00	6.10
	6#1	6.10	6.20
	6#2	6.20	6.30
	6#3	6.30	6.40
	6#4	6.40	6.50
	6#5	6.50	6.60
	6#6	6.60	6.70
	6#7	6.70	6.80
	6#8	6.80	6.90
	6#9	6.90	7.00

Notes:

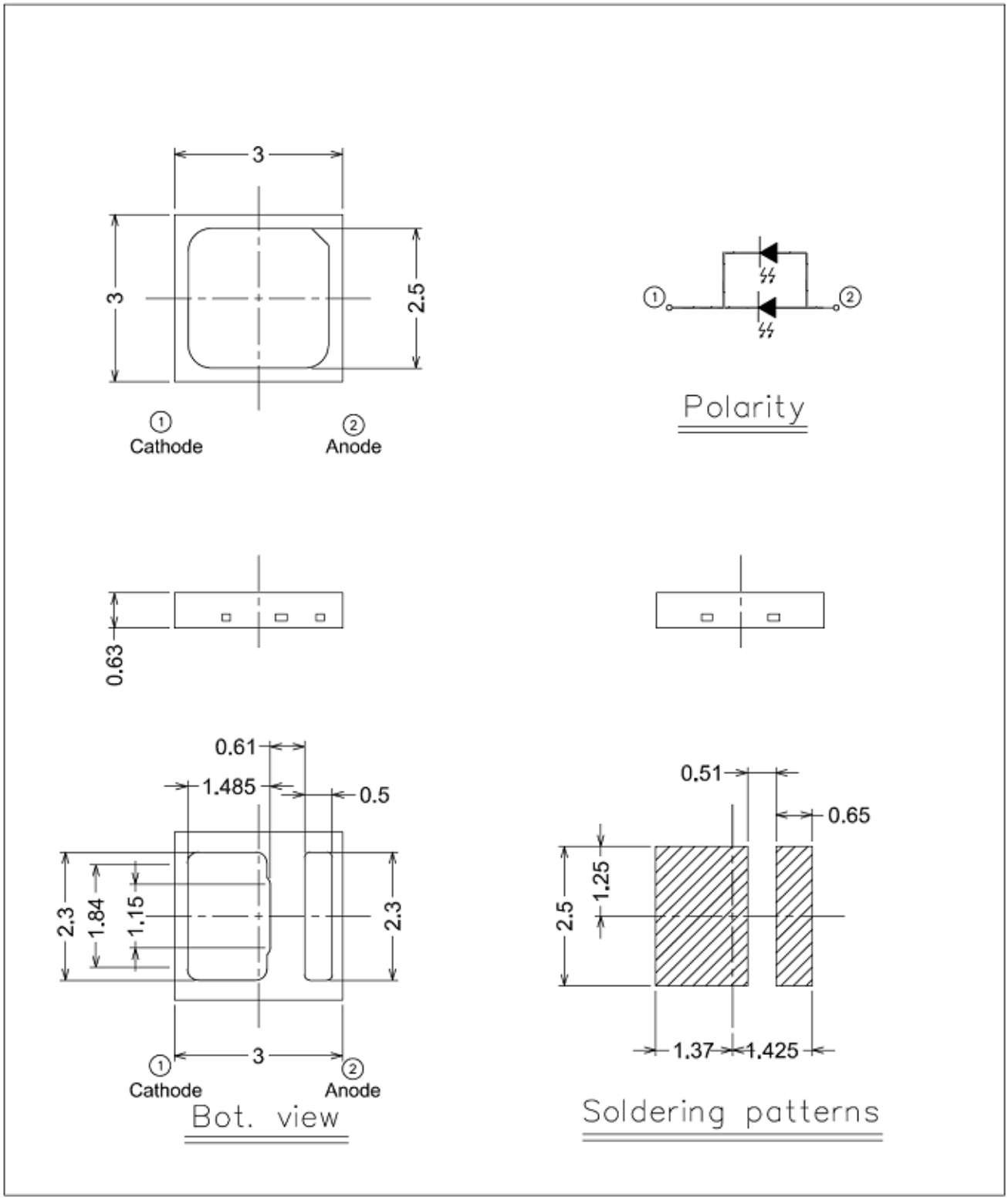
1. Forward voltage measurement tolerance: ±2%.
2. Forward voltage bins are defined at I_F=150mA operation.

EVERLIGHT

Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever

Mechanical Dimension



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.

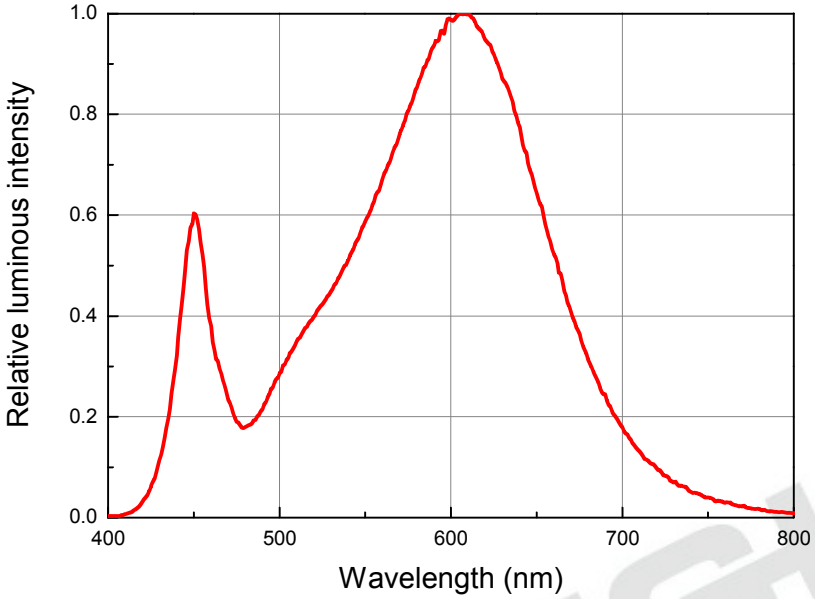
Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever

Wavelength Characteristics

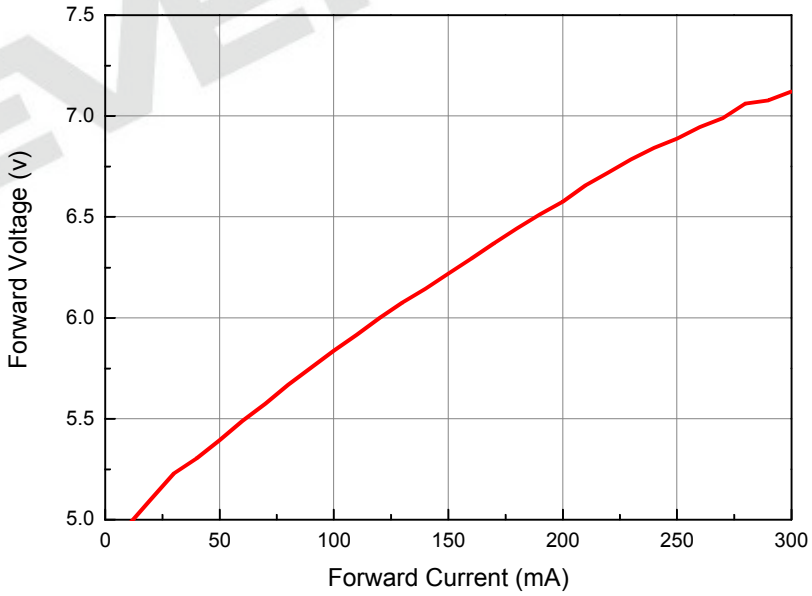
Relative Spectral Distribution

@ Solder Pad Temperature = 25℃



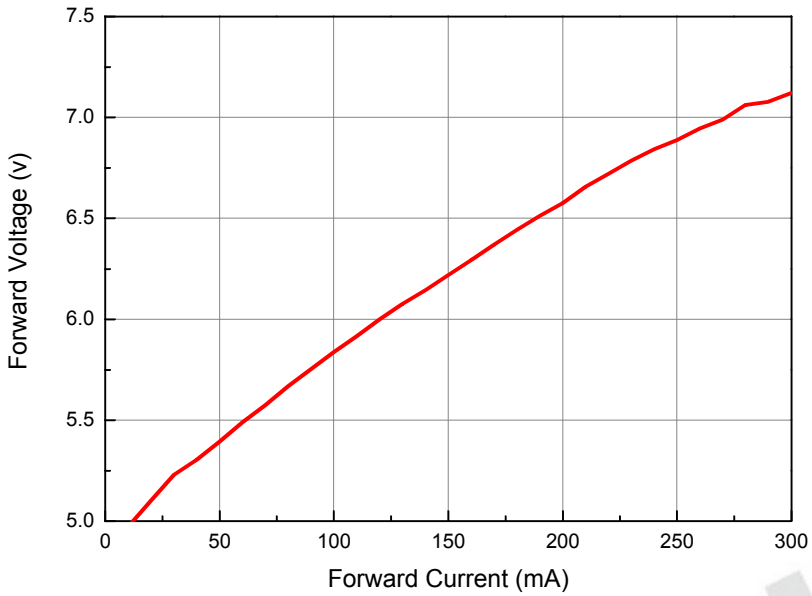
Typical Electrical Characteristics

@ Solder Pad Temperature = 25℃

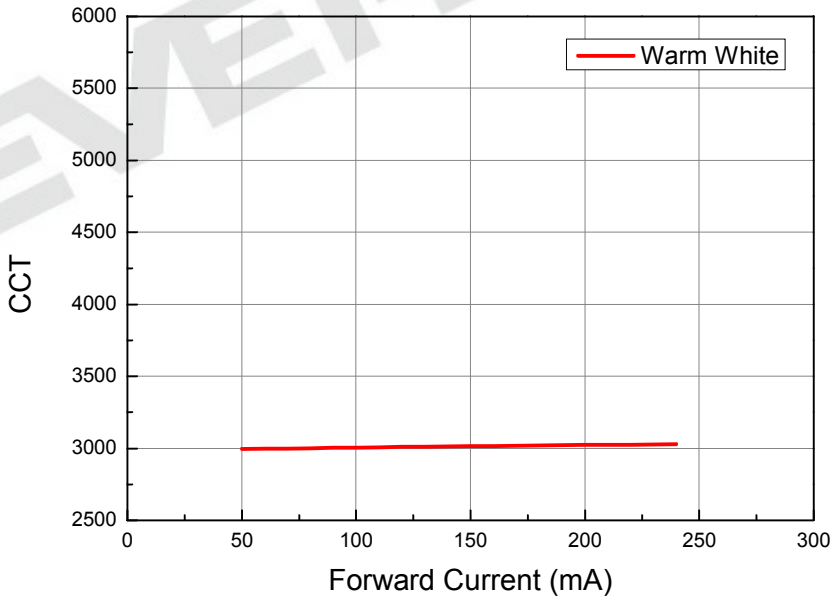


Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015
Issue No: DHE-0002966 Rev: 1
www.everlightamericas .com
LifecyclePhase: Approved
Expired Period: Forever

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



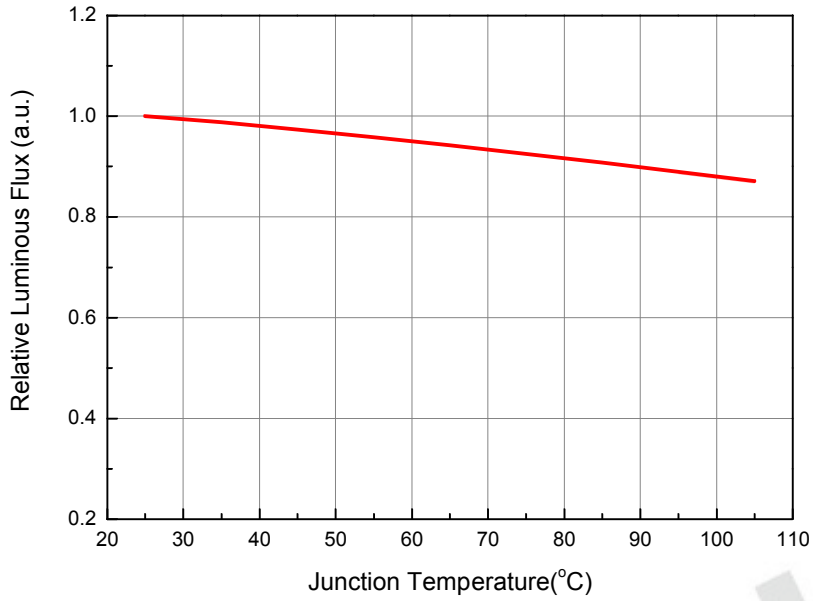
Typical Wavelength & Color Shift Characteristics vs. Forward Current
@ Solder Pad Temperature = 25℃



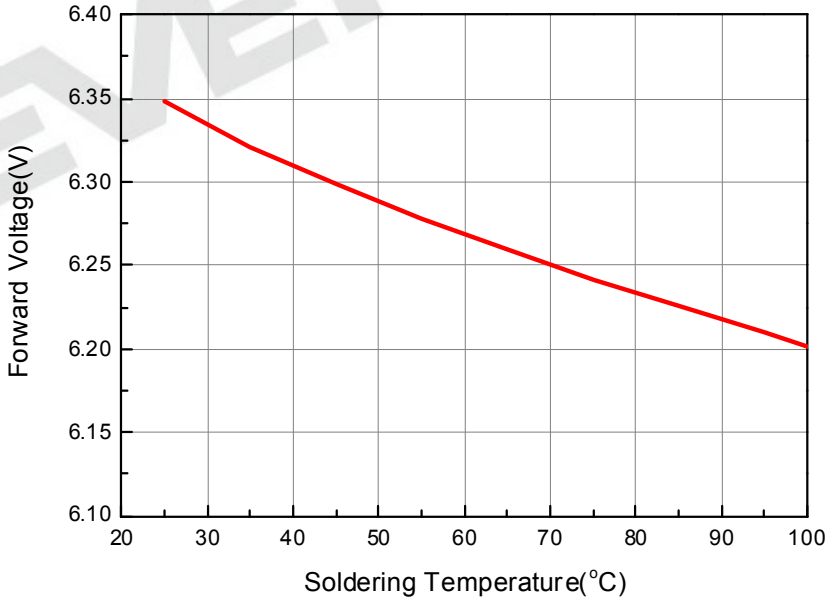
Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever

Relative Luminous Flux vs. Junction Temperature @Forward Current = 150mA



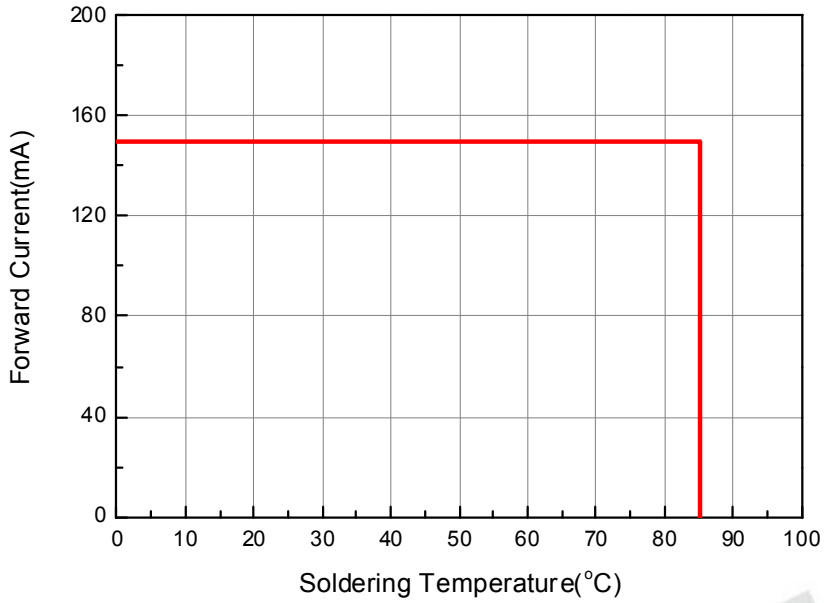
Forward Voltage vs. Soldering Temperature @ Forward Current = 150mA



Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

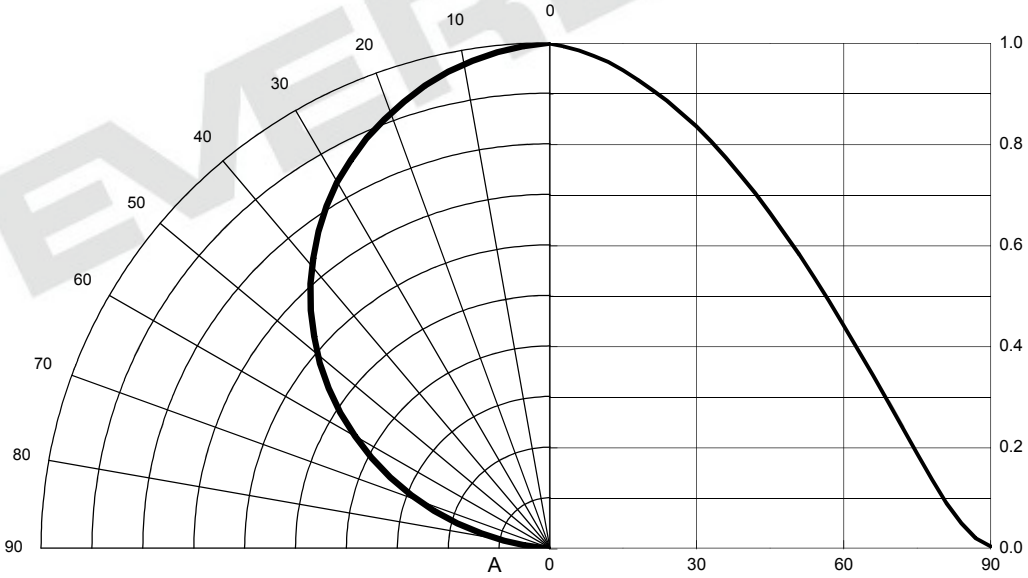
LifecyclePhase: Approved
Expired Period: Forever

Forward Current Derating Curve
@ Junction Temperature <125℃



Typical Radiation Patterns

XI3030 series: Typical Diagram Characteristics of Radiation



Notes:

1. 2θ1/2 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° .

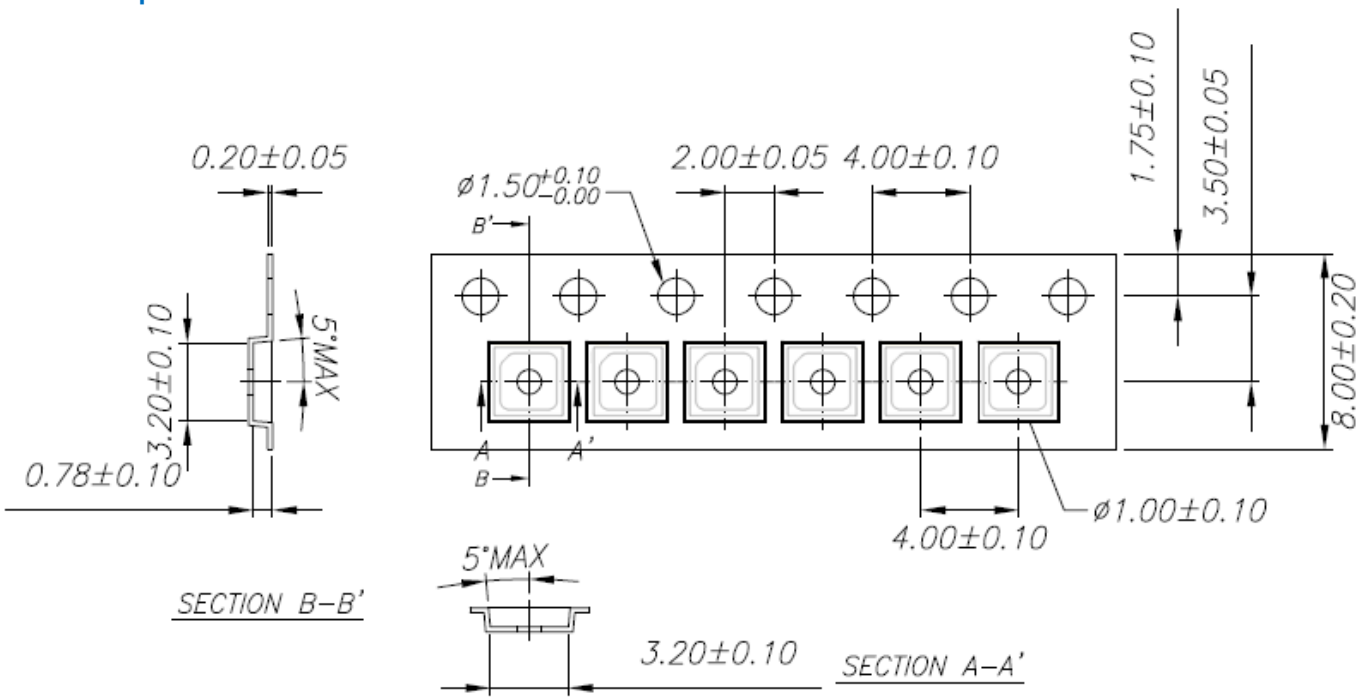
Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever

Emitter Tape Packaging

Carrier Tape Dimensions as the following:

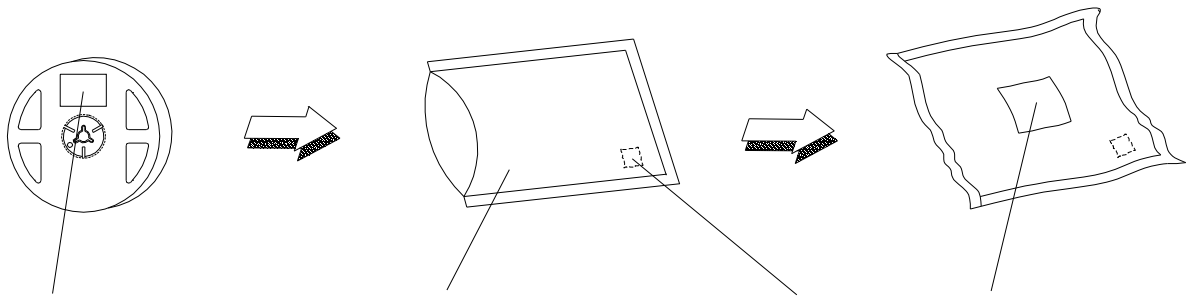
Reel:2000pcs



Notes:

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

Moisture Resistant Packaging



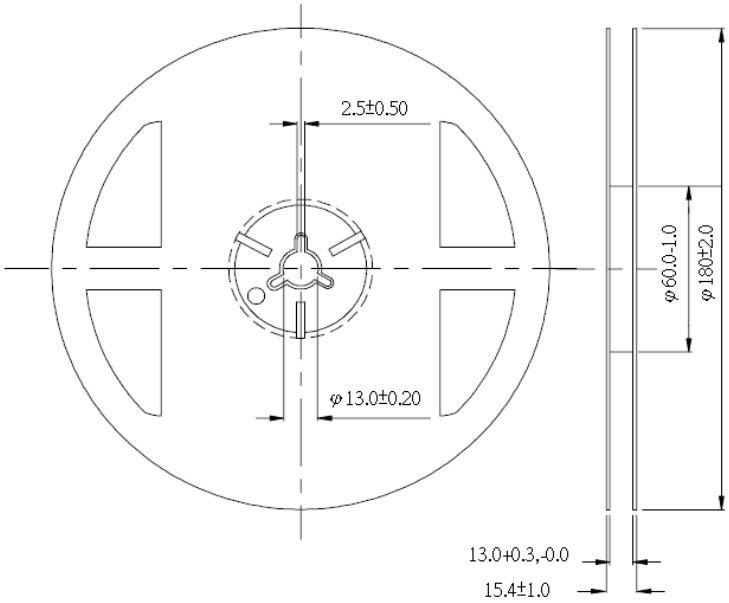
Label **Aluminum moisture-proof bag** **Desiccant** **Label**

Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015
Issue No: DHE-0002966 Rev: 1

LifecyclePhase: Approved
Expired Period: Forever

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 Americas 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

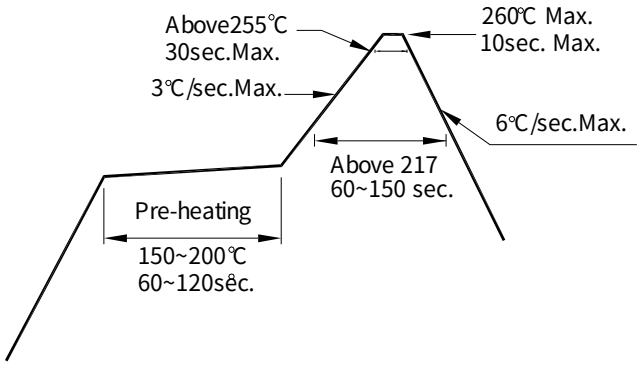


Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

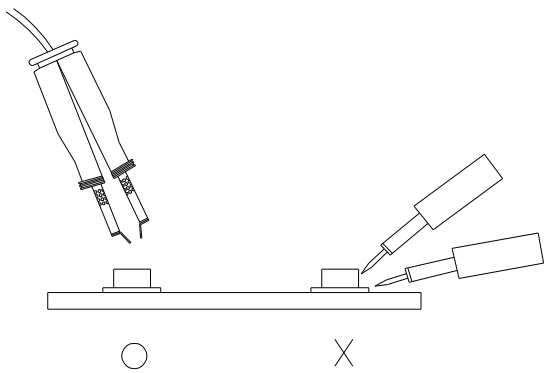
LifecyclePhase: Approved
Expired Period: Forever

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 50%RH or less after being shipped from Everlight Americas. The storage life is 6 months. If the LEDs are to be stored for more than 6 months, they should be stored in a sealed container with a nitrogen atmosphere and moisture absorbent material.
   2.2 After opening the package: The LED's should be stored under 30℃ or less and 30%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.
   2.3 Before using LEDs: The LEDs should be baked under the following conditions: pre-curing at 60±5℃ for 24 hours.
   2.4 Do not stack assemblies containing Everlight Americas EAHP3030WC1 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.



Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever

Storage Conditions

- Before the package is opened. The LEDs should be stored at 30°C or less and 85%RH or less after being shipped from Everlight Americas and the storage life limits are 1 year. 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.

EVERLIGHT

Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever

Revision History

Current version: Dec.04.2015
Issue No: DHE-0002966
Version: 1
Created by: Justin Chen

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

EVERLIGHT

Copyright@2010, Everlight Americas Inc. All Rights Reserved. Release Date : Dec.4..2015

LifecyclePhase: Approved
Expired Period: Forever