

EAUVA2016

0.08W Series



Introduction

The EAUVA2016 product series is a ceramic based LED with high quality and reliability suitable for UV application.

Features

- ◆ Low power UVA LED
- ◆ Dimension 2.0mm x 1.6mm x 0.75mm
- ◆ ESD protection up to 8KV
- ◆ RoHS compliant
- ◆ Pb free
- ◆ EU REACH compliant
- ◆ Halogen Free compliant
- ◆ (Br<900ppm, Cl<900ppm, Br+Cl<1500ppm)

Applications

- ◆ UV Nail
- ◆ UV Counterfeit
- ◆ UV Catch mosquitoes

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Max. DC Forward Current (mA)	I _F	20	mA
Power Dissipation	P _d	0.08	W
Max. ESD Resistance	V _B	8000	V
Max. Junction Temperature	T _J	125 _[5]	°C
Operating Temperature	T _{Opr}	-40 ~ +110	°C
Storage Temperature	T _{Stg}	-40 ~ +110	°C

Notes:

- Maximum forward current is 20mA (Thermal Pad=25°C).
- Duty cycle = 1/10@1KHZ
- The EAUVA2016 series LEDs are not designed for reverse bias use.
- Thermal Resistance is from junction to backside of component.
- Maximum junction temperature of UV is 125°C.

Electro-Optical Characteristic

EAUVA2016BC3

Parameter	Symbol	Min.	Typ.	Max	Unit	Condition
Radiant Flux	e	---	15	---	mW	IF=20mA
Forward Voltage	V _F	3.4	---	4	V	
Peak Wavelength	λ _p	---	368	---	nm	
Viewing Angle	2 1/2	---	125	----	deg	

EAUVA2016EF4

Parameter	Symbol	Min.	Typ.	Max	Unit	Condition
Radiant Flux	e	---	20	---	mW	IF=20mA
Forward Voltage	V _F	3.2	---	3.8	V	
Peak Wavelength	λ _p	---	385	---	nm	
Viewing Angle	2 1/2	---	125	----	deg	

EAUVA2016GH4

Parameter	Symbol	Min.	Typ.	Max	Unit	Condition
Radiant Flux	e	---	20	---	mW	IF=20mA
Forward Voltage	V _F	3	---	3.6	V	
Peak Wavelength	λ _p	---	395	---	nm	
Viewing Angle	2 1/2	---	125	----	deg	

EAUVA2016IJ4

Parameter	Symbol	Min.	Typ.	Max	Unit	Condition
Radiant Flux	e	---	20	---	mW	IF=20mA
Forward Voltage	V _F	3	---	3.6	V	
Peak Wavelength	λ _p	---	405	---	nm	
Viewing Angle	2 1/2	---	125	----	deg	

Notes:

- Radiant flux measurement tolerance: ±10%.
- The data of luminous flux measured at thermal pad=25
- Typical radiant flux or light output performance is operated within the condition guided by this datasheet.

PN of the EAUVA2016 series: UVA LEDs

The table below is a list of part numbers for the Everlight EAUVA2016 0.08W series UVA LED. Typical view angle is 125°. These clearly listed binning options allow for proper design and implementation into UV applications. The Order Codes below are currently available UVA EAUVA2016 LEDs.

For Example: If you order product using P/N : EAUVA2016BC3 , you will be specifying:



Color	Typ. Peak Wavelength (nm)	Forward Voltage (V)	Minimum Radiant Flux (mW)
UV	368	3.6	15

UV, EAUVA2016 series LEDs at 20mA are listed below

Color	Order Code of EAUVA2016	Minimum Radiant Flux (mW)	Peak Wavelength (nm)	Forward Voltage (V)
Ultraviolet	EAUVA2016BC3	15	365~375	3.4-4
	EAUVA2016EF4	20	380-390	3.2-3.8
	EAUVA2016GH4	20	390-400	3-3.6
	EAUVA2016IJ4	20	400-410	3-3.6

Product Binning

Peak Wavelength Bins

Group	Bin	Minimum Peak Wavelength (nm)	Maximum Peak Wavelength (nm)
U UVC	1	260	265
	2	265	270
	3	270	275
	4	275	280
	5	280	285
P UVA	1	360	365
	2	365	370
	3	370	375
	4	375	380
	5	380	385
	6	385	390
	7	390	395
	8	395	400
	9	400	405
	0	405	410

Radiant Flux Bin

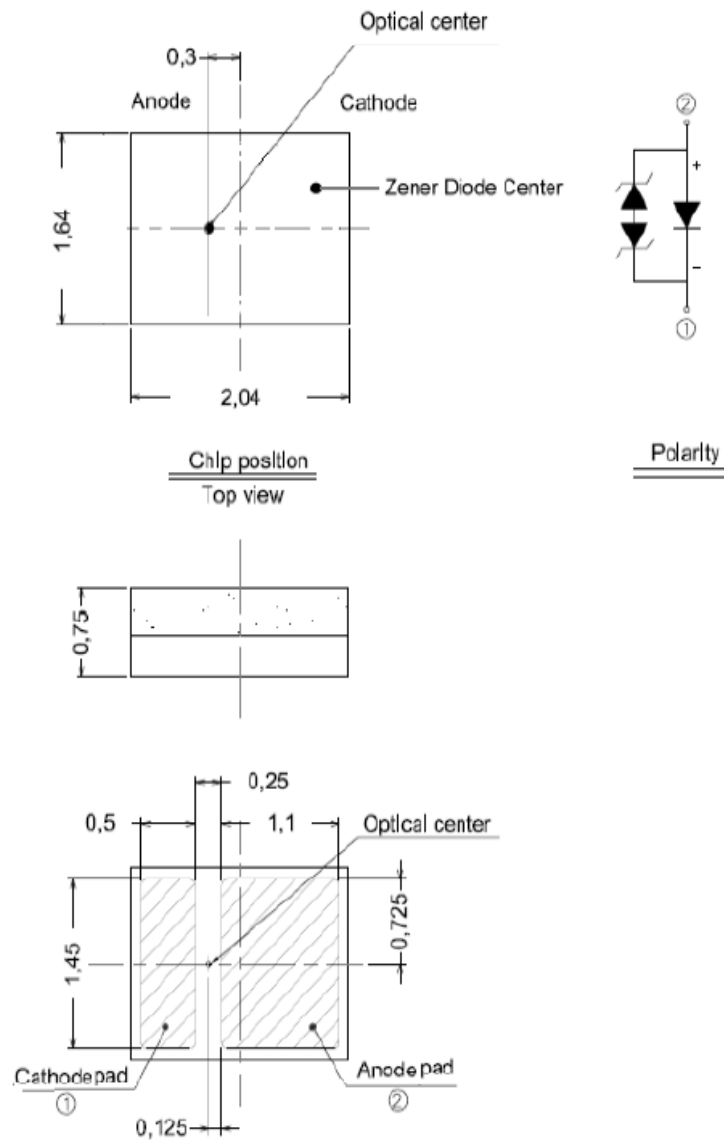
Group	Bin	Minimum Radiant Flux (mw)	Maximum Radiant Flux (mw)
Q	1	5	10
	2	10	15
	3	15	20
	4	20	25
	5	25	30
	6	30	35

Forward Voltage Bins

Group	Bin
C	V1+V2+V3
D	V2+V3+V4
E	V3+V4+V5
F	V1+V2

Bin	Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
V1	2.95	3.25
V2	3.25	3.55
V3	3.55	3.85
V4	3.85	4.15
V5	4.15	4.45

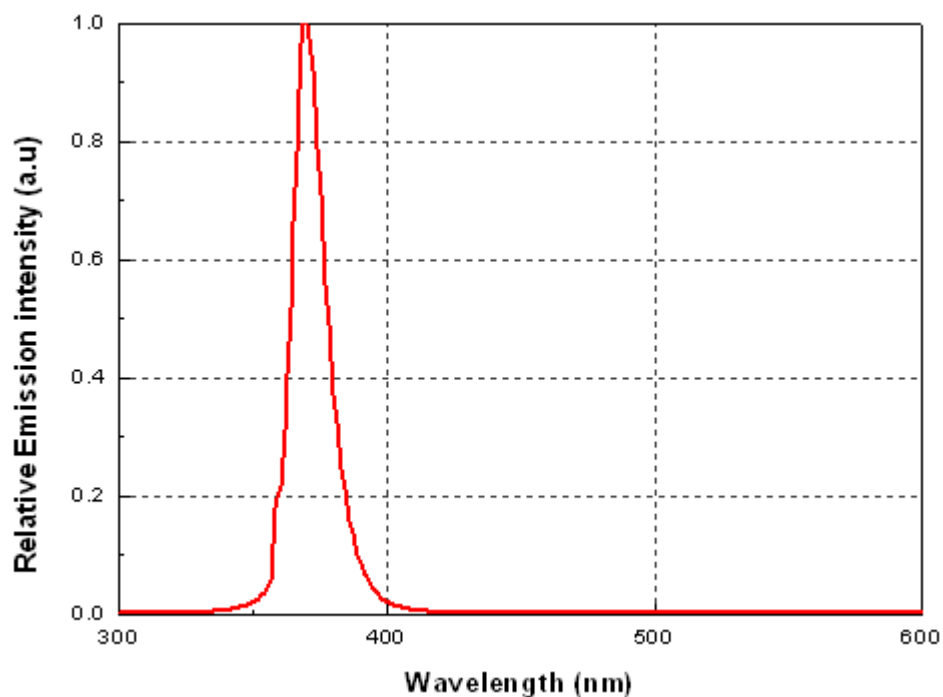
Mechanical Dimension



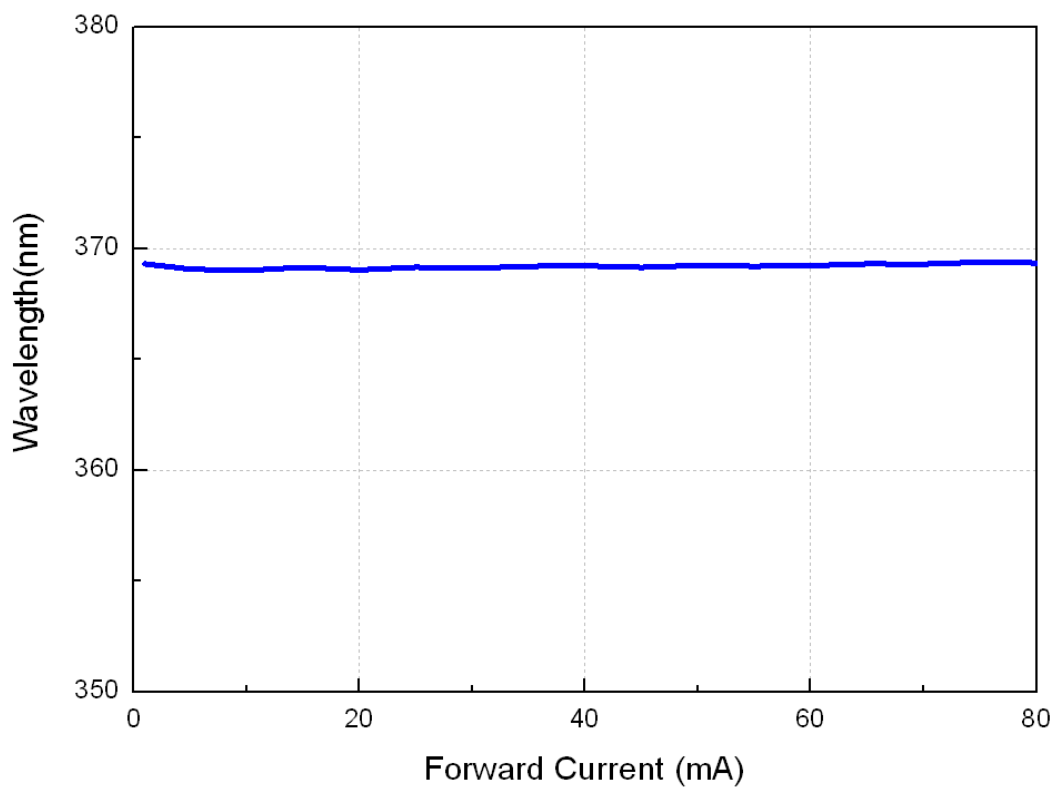
1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.1\text{mm}$

Typical Characteristics Curves

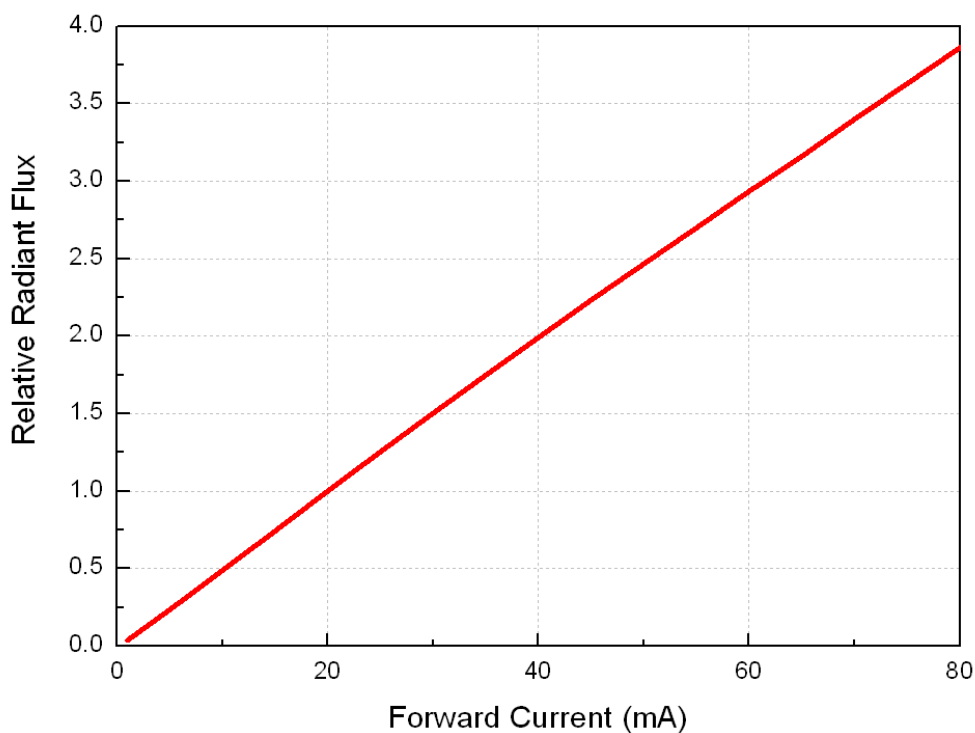
Spectrum @ Thermal Pad Temperature = 25



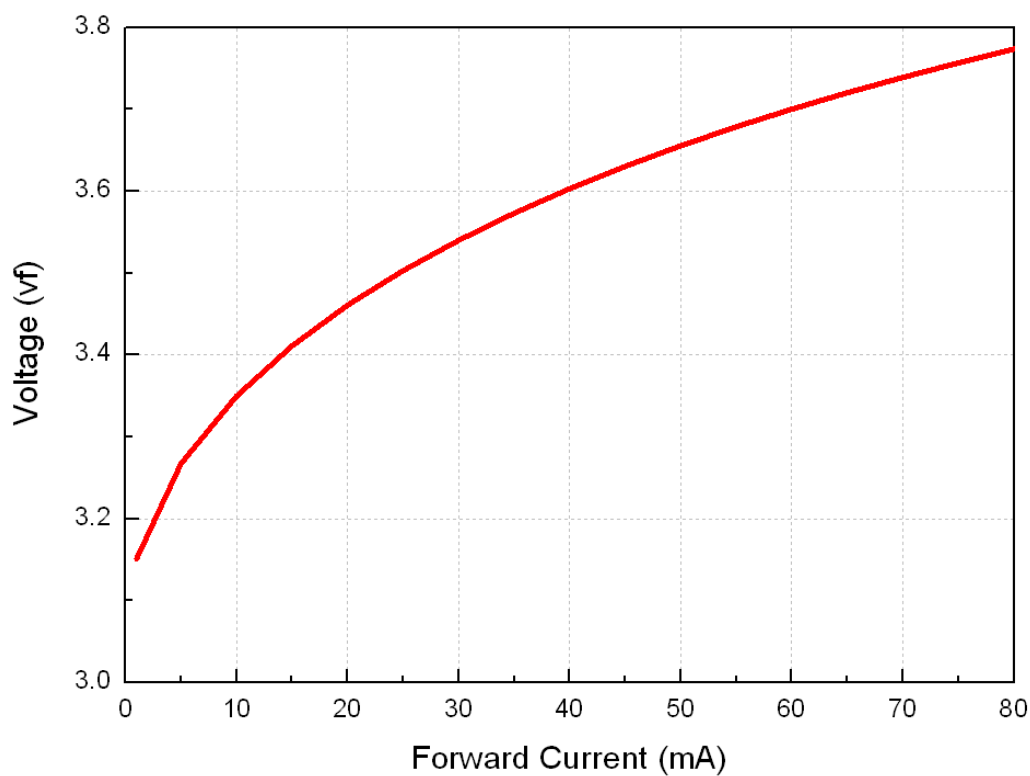
Forward Current V.S. Peak Wavelength @ Thermal Pad Temperature = 25



Forward Current vs. Relative Radiant Flux @ Thermal Pad Temperature = 25

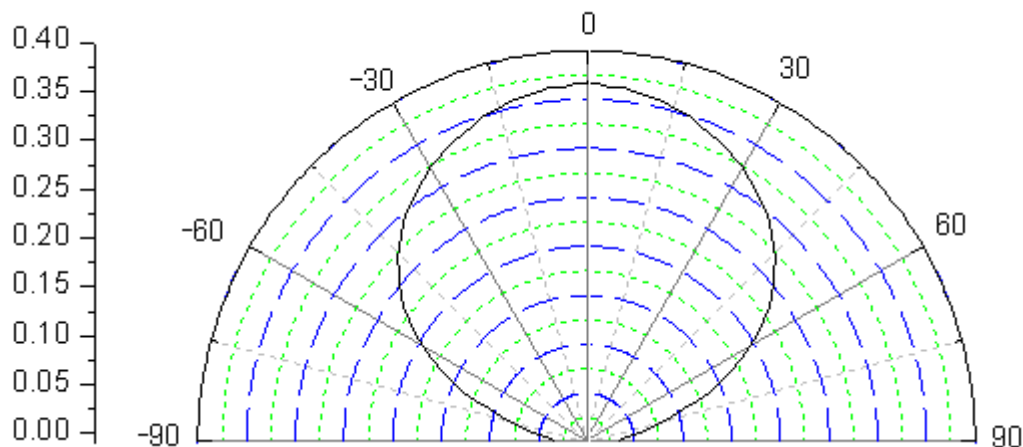


Forward Voltage vs. Forward Current @ Thermal Pad Temperature = 25



Typical Radiation Patterns

Typical Diagram Characteristics of Radiation for EAUVA2016



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 $\pm 5^\circ$.

Carrier Tape Dimensions as the following:

Technical drawing of a mechanical part, showing top and side views with dimensions and tolerances.

Top View Dimensions:

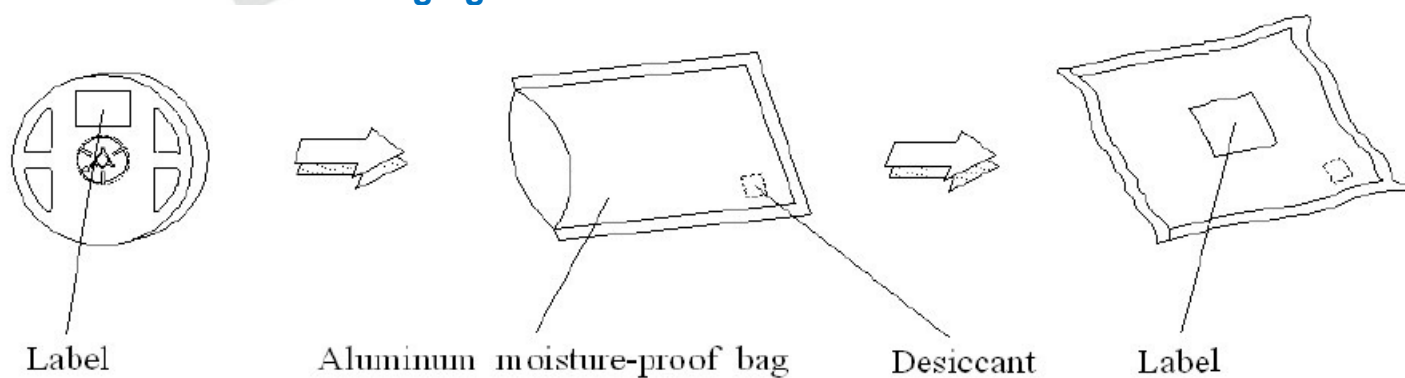
- Overall width: 8 ± 0.20
- Distance from left edge to first hole center: 1.75 ± 0.10
- Distance between hole centers: 8 ± 0.05
- Distance from last hole center to right edge: 3.5 ± 0.05
- Hole diameter: $\phi 1.5 \begin{smallmatrix} +0.10 \\ 0.00 \end{smallmatrix}$
- Distance from left edge to first rectangular feature: 4 ± 0.05
- Distance between rectangular features: 4 ± 0.10

Side View Dimensions:

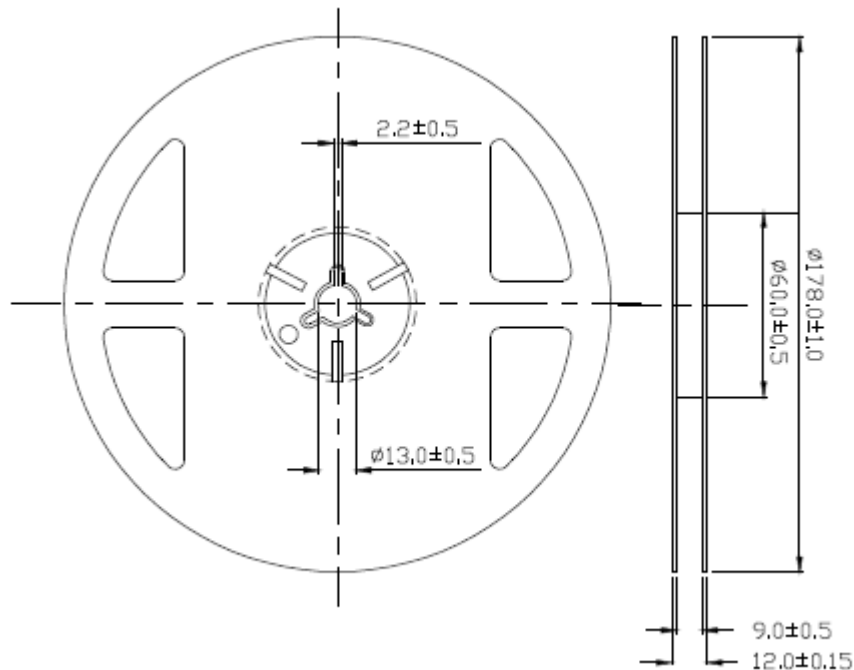
- Overall height: 2.4 ± 0.10
- Top flange thickness: 0.234 ± 0.05
- Distance from top flange to start of thread: 2.05 ± 0.10
- Thread length: 1.15 ± 0.1
- Thread angle: 10°

Notes:

- ## Moisture Resistant Packaging



Emitter Reel Dimensions



Notes:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.1\text{mm}$.

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

RoHS	EVERLIGHT	5
CPN: XXXXXXXXXXXXXXXXXXXX		
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX		
P/N: XXXXXXXXXXXX		
XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXX		
LOT NO: Y150716XXX-XXXXXXXXXX-XXXXXXXXXX		
QTY: 0123456789 HUE: XXXXXXXXXXXX		
CAT: XXXXXXXXXXXX REF: XXXXXXXXXXXX		
REFERENCE: BTPYMMDDXXXXX		
MSL-X MADE IN XXXXXX		



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 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 168hrs when environment is 30 or less and 60%RH or less. The LED should be soldered within 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