

EA3030K1E0365Ex3 Series



Features

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

Description

The Everlight EA3030K1E0365Ex3 package has high efficacy, 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

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Max. DC Forward Current (mA)	I_F	200	mA
Thermal Resistance	R_{th}	15	°C/W
Max. Junction Temperature	T_J	125	°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:

1. Duty cycle = 1/10@1KHZ

PN of the EA3030K1E0365Ex3 Series: White LEDs (CRI>80)



Order Code of EA3030	Minimum Luminous Flux (lm)	Typical Luminous Flux (lm)	CCT (K)	Forward Voltage (V)	Current (mA)	CRI (Min.)
EA3030K1E0365E03	27	31	2700K	2.4~3.0	65	80
EA3030K1E0365E13	27	33	3000K	2.4~3.0	65	80
EA3030K1E0365E23	27	33	3500K	2.4~3.0	65	80
EA3030K1E0365E33	30	35	4000K	2.4~3.0	65	80
EA3030K1E0365E43	30	36	5000K	2.4~3.0	65	80
EA3030K1E0365E53	30	36	5700K	2.4~3.0	65	80
EA3030K1E0365E63	30	36	6500K	2.4~3.0	65	80

Notes:

1. Luminous flux measurement tolerance: $\pm 10\%$.
2. The data of luminous flux measured at thermal pad=25°C
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 testing instrument.
5. CRI measurement tolerance: ± 2

Product Binning Luminous Flux Bins

Group	Bin	Minimum Photometric Flux (lm)	Maximum Photometric Flux (lm)
M	4	21.0	24.0
N	3	24.0	27.0
	4	1	30.0
		2	33.0
P	3	33.0	36.0
	A	36.0	40.0
	B	40.0	45.0

Forward Voltage Bins

Bin	Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
2#4	2.40	2.50
2#5	2.50	2.60
2#6	2.60	2.70
2#7	2.70	2.80
2#8	2.80	2.90
2#9	2.90	3.00

Notes:

1. Forward voltage measurement tolerance: $\pm 2\%$
2. Forward voltage bins are defined at $I_f=65\text{mA}$ operation.

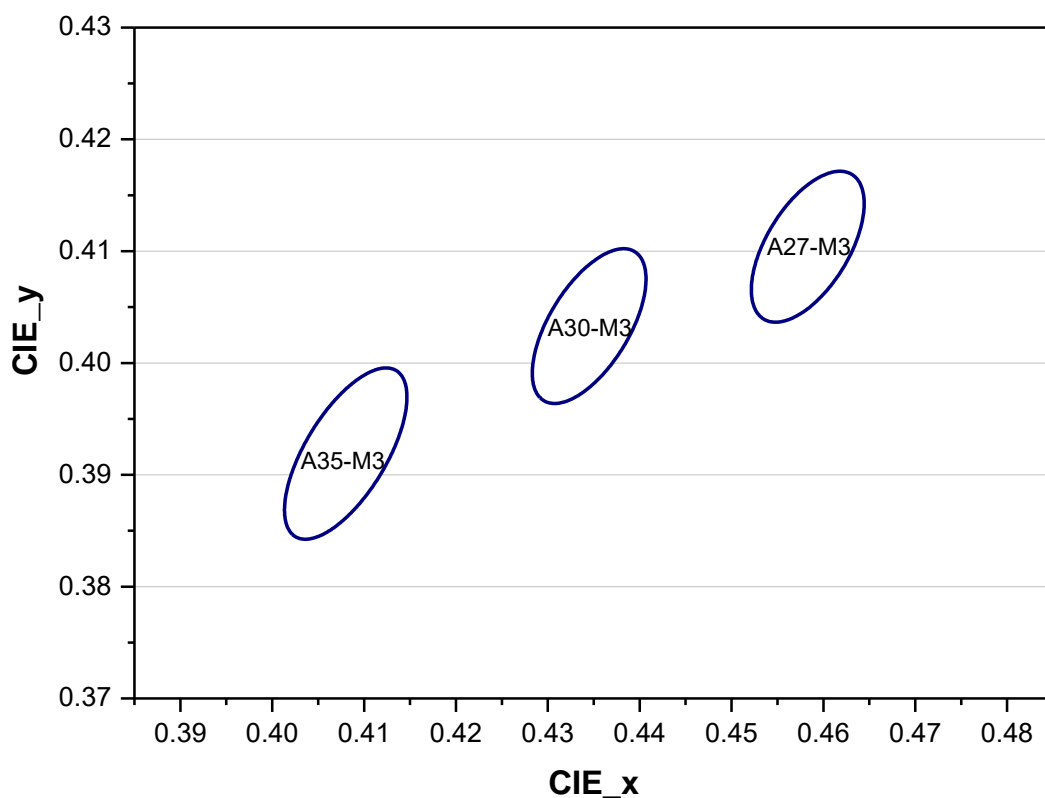
Bin Code of Macadam 3 step

Step	CCT	Cx	Cy	a	b	theta
3	2700	0.4583	0.4104	0.00810	0.00420	49.70
	3000	0.4345	0.4033	0.00834	0.00408	50.22
	3500	0.4080	0.3919	0.00927	0.00414	51.00
	4000	0.3827	0.3803	0.00939	0.00402	54.80
	5000	0.3451	0.3559	0.00822	0.00354	64.12
	5700	0.3293	0.3423	0.00747	0.00321	66.51
	6500	0.3131	0.3290	0.00669	0.00285	64.57

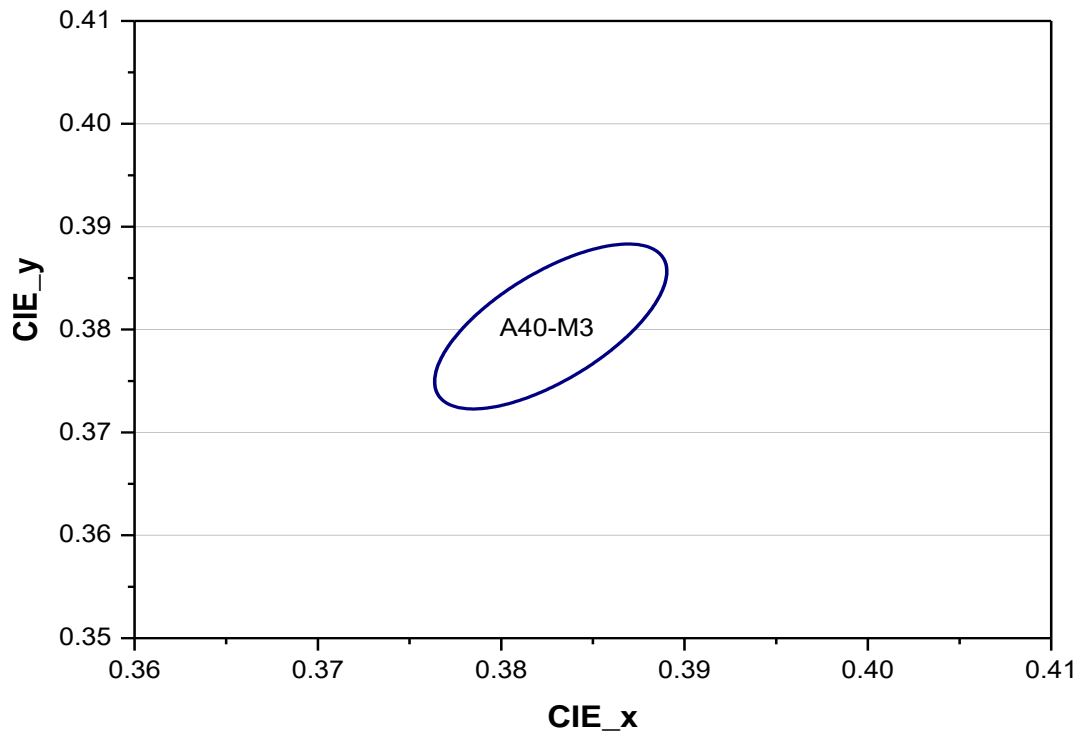
Notes:

1. Color coordinates measurement allowance : ± 0.01
2. Color bins are defined at $I_f=65\text{mA}$ operation

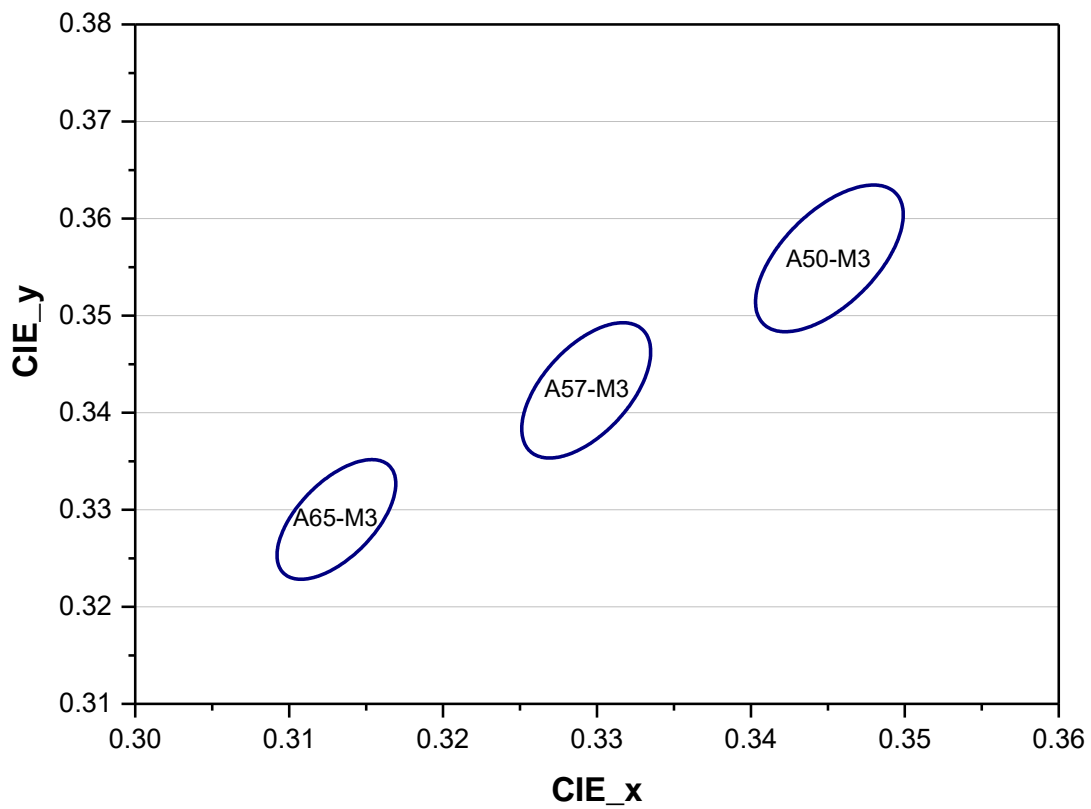
Warm-White Bin Structure



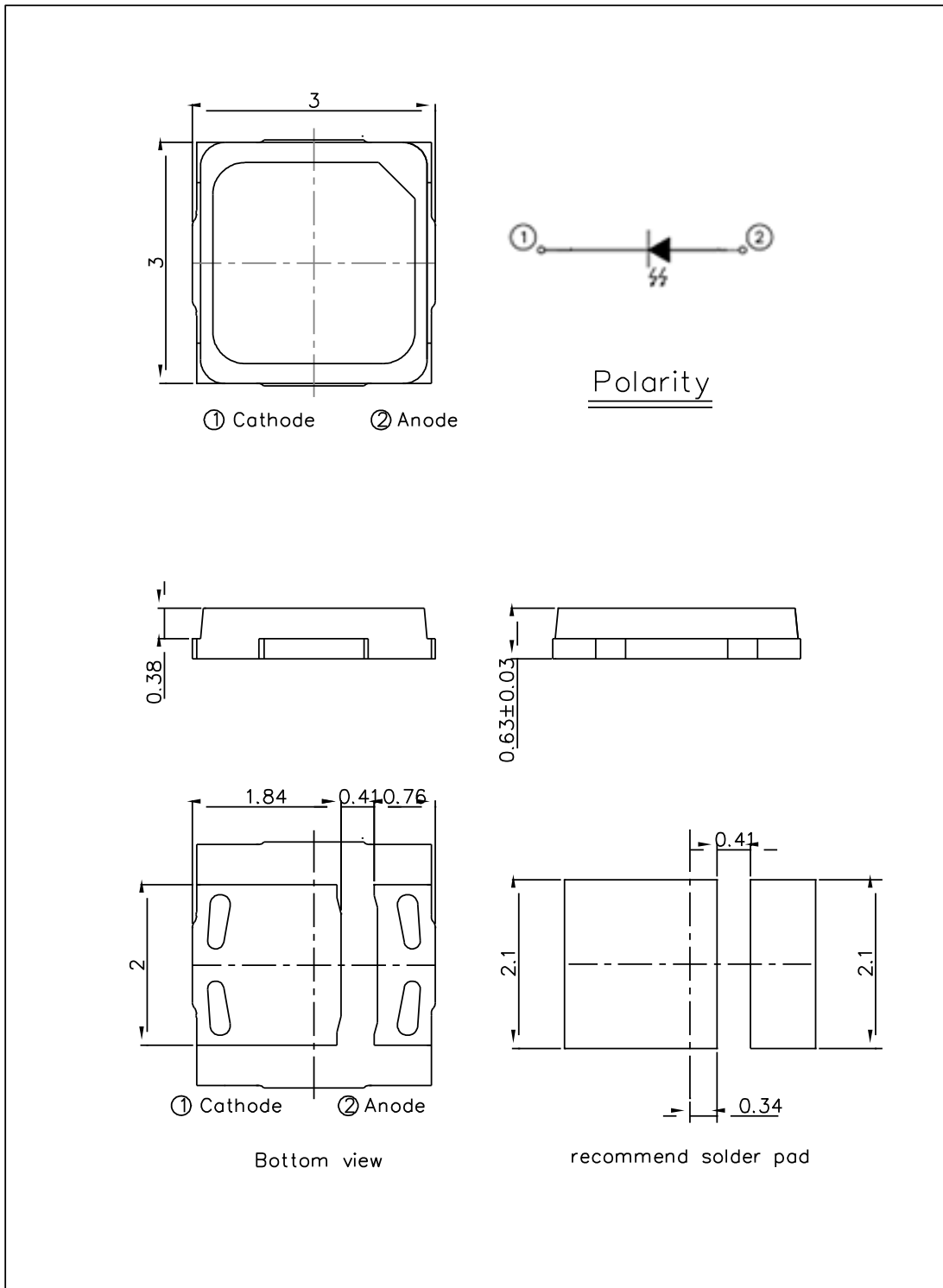
Neutral-White Bin Structure



Cool-White Bin Structure



Mechanical Dimension

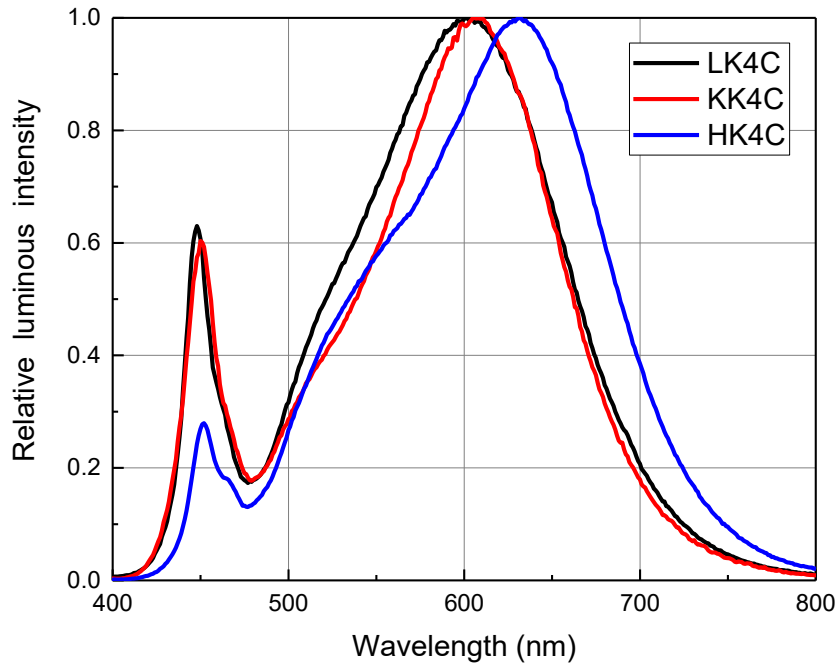


Notes:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.2\text{mm}$.
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.

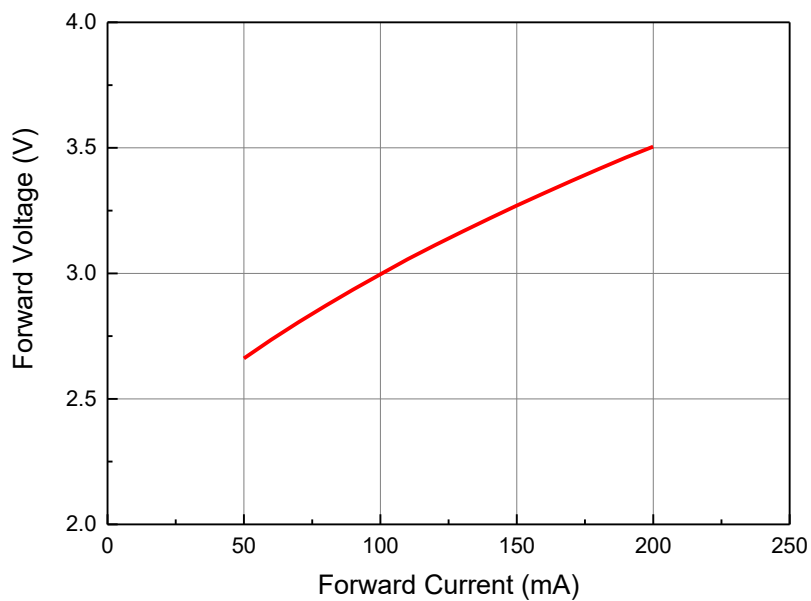
Wavelength Characteristics

Relative Spectral Distribution
@ Solder Pad Temperature = 25°C

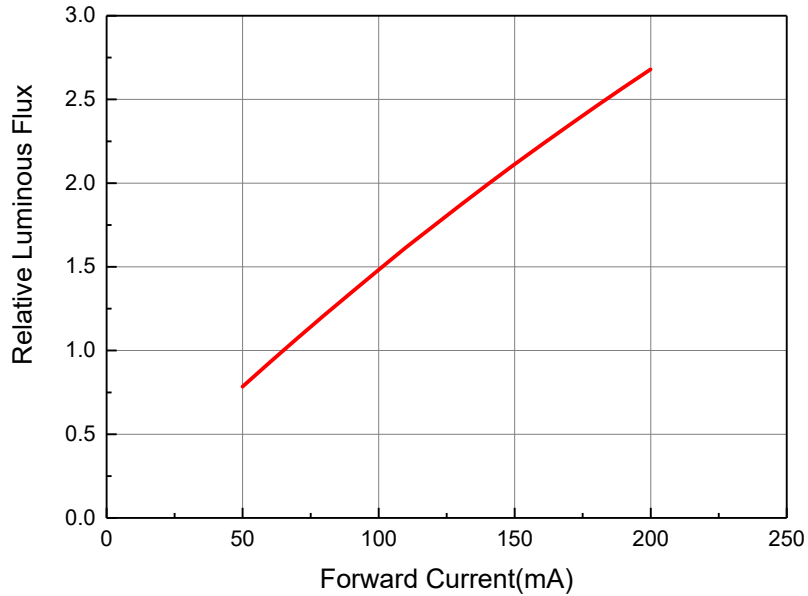


Typical Electrical Characteristics

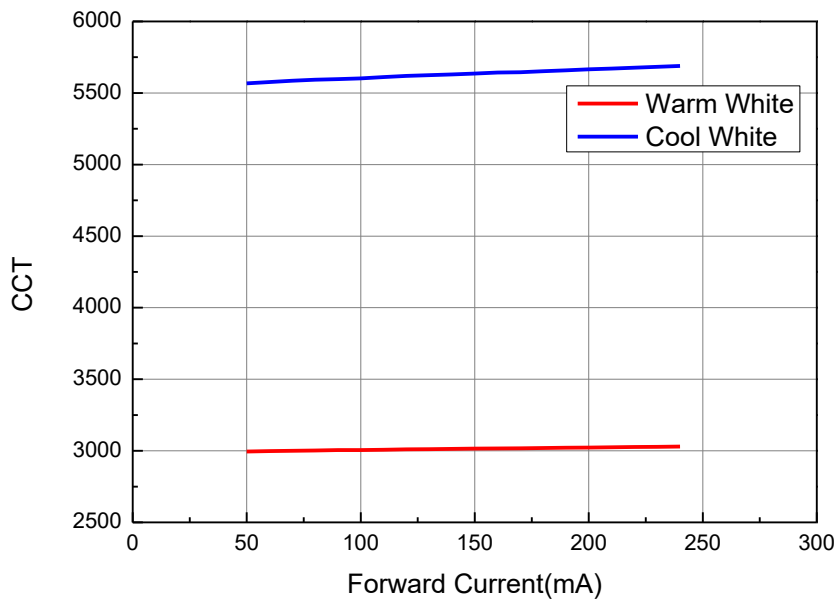
@ Solder Pad Temperature = 25°C



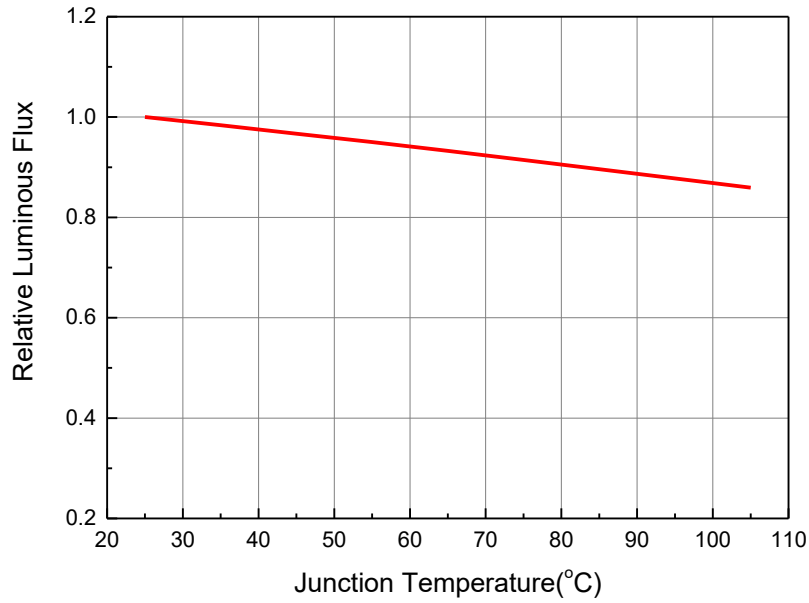
Typical Relative Luminous Flux vs. Forward Current @ Solder Pad Temperature = 25°C



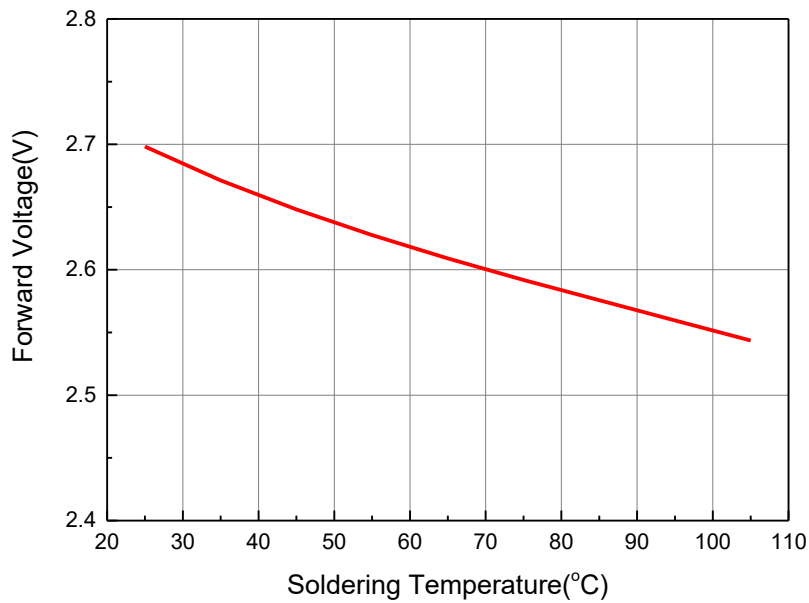
Typical Wavelength & Color Shift Characteristics vs. Forward Current @ Solder Pad Temperature = 25°C



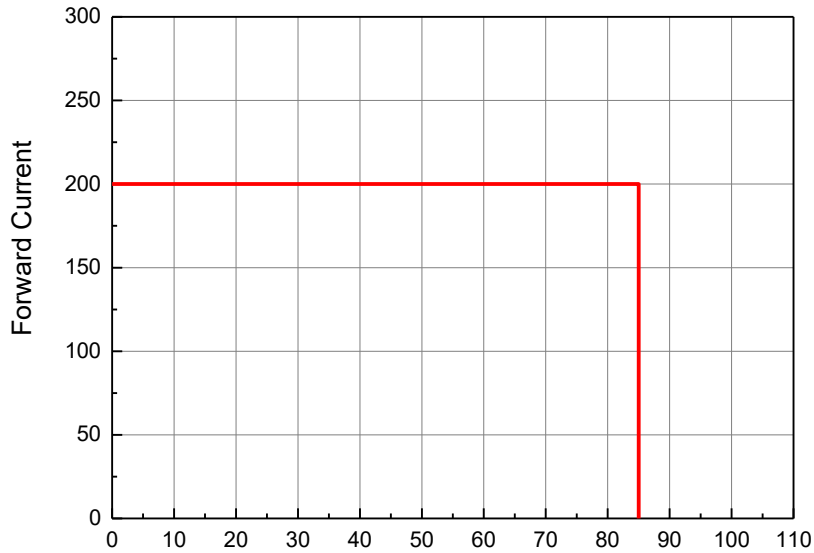
Relative Luminous Flux vs. Junction Temperature @Forward Current = 65mA



Forward Voltage vs. Soldering Temperature @ Forward Current = 65mA

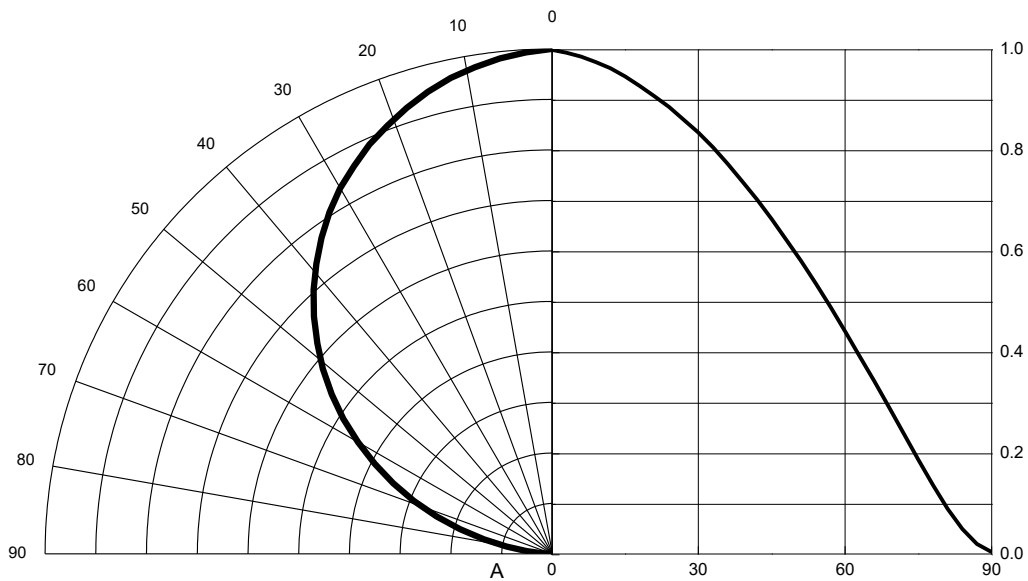


**Forward Current Derating Curve
@ Junction Temperature <125°C**



**Typical Radiation Patterns
EA3030 series: Typical Diagram Characteristics
of Radiation**

1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8



Notes:

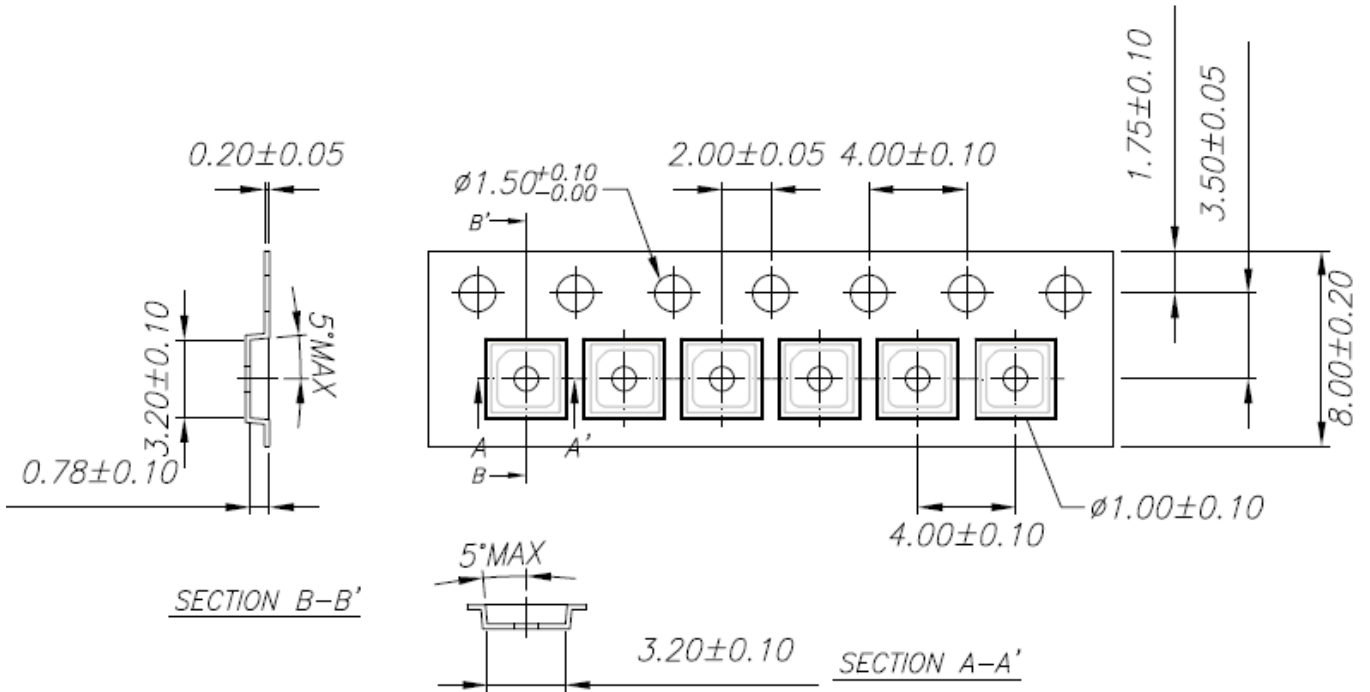
1. $2\theta_{1/2}$ is the off Axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.

View angle tolerance is $\pm 5^\circ$.

Emitter Tape Packaging

Carrier Tape Dimensions as the following:

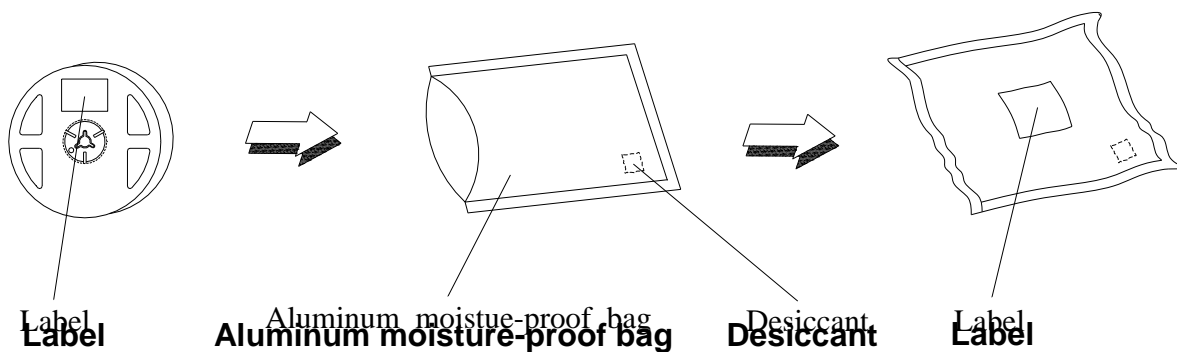
Reel:2000pcs



Notes:

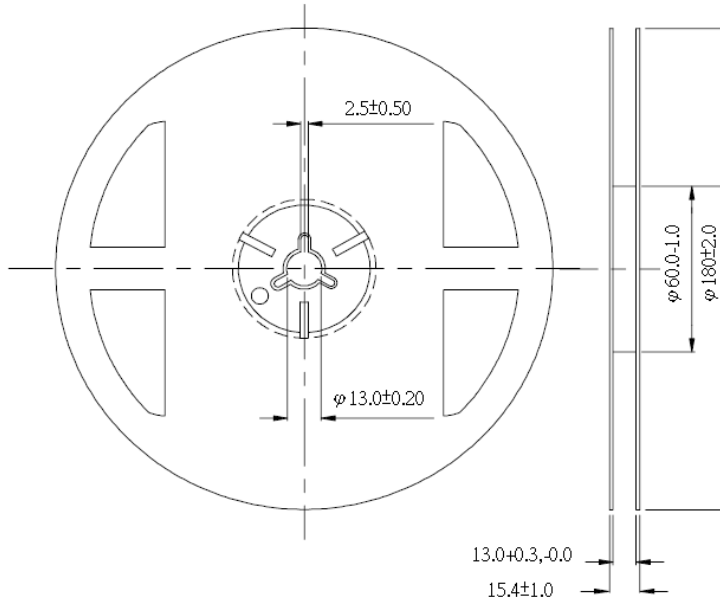
1. Tolerance unless mentioned is ± 0.1 mm; Unit = mm
2. Minimum packing amount is 250/500/1000/2000 pcs per reel

Moisture Resistant Packaging



Emitter Reel Packaging

Reel Dimensions



Notes:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are ± 0.1 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
 XXXXXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXX
 P/N: XXXXXXXXXXX
 XXXXXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXXXX-XXXXXX
 LOT NO: Y150716XXX-XXXXXXXX-XXXXXXXX

QTY: 0123456789 HUE: XXXXXXXXXXX
 CAT: XXXXXXXXXXX REF: XXXXXXXXXXX
 REFERENCE: BTPYMMDDXXXXX
 MADE IN XXXXXX



Precautions for Use

1. Over-current-proof

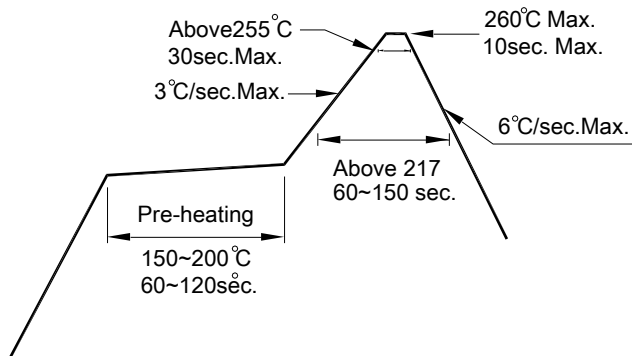
Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Assemblies

Do not stack assemblies containing Everlight EA3030 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.

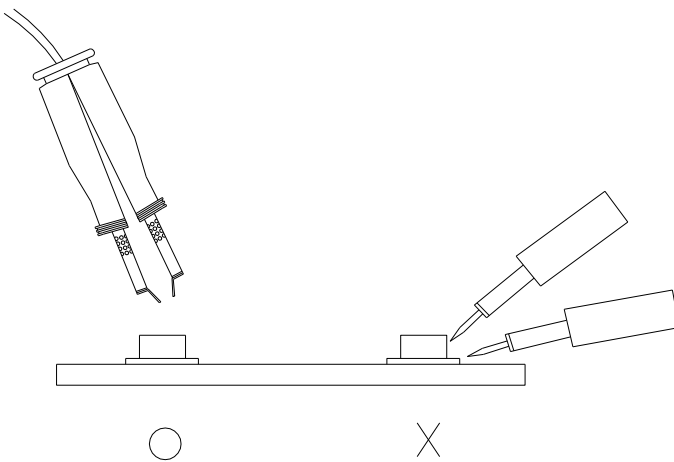
3.4 After soldering, do not warp the circuit board.

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°C 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°C for 24 hours.