

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:

1. Maximum forward current is 20mA (Thermal Pad=25°C).
2. Duty cycle = 1/10@1KHZ
3. The EAUVA2016 series LEDs are not designed for reverse bias use.
4. Thermal Resistance is from junction to backside of component.
5. 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:

1. Radiant flux measurement tolerance: ±10%.
2. The data of luminous flux measured at thermal pad=25
3. 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

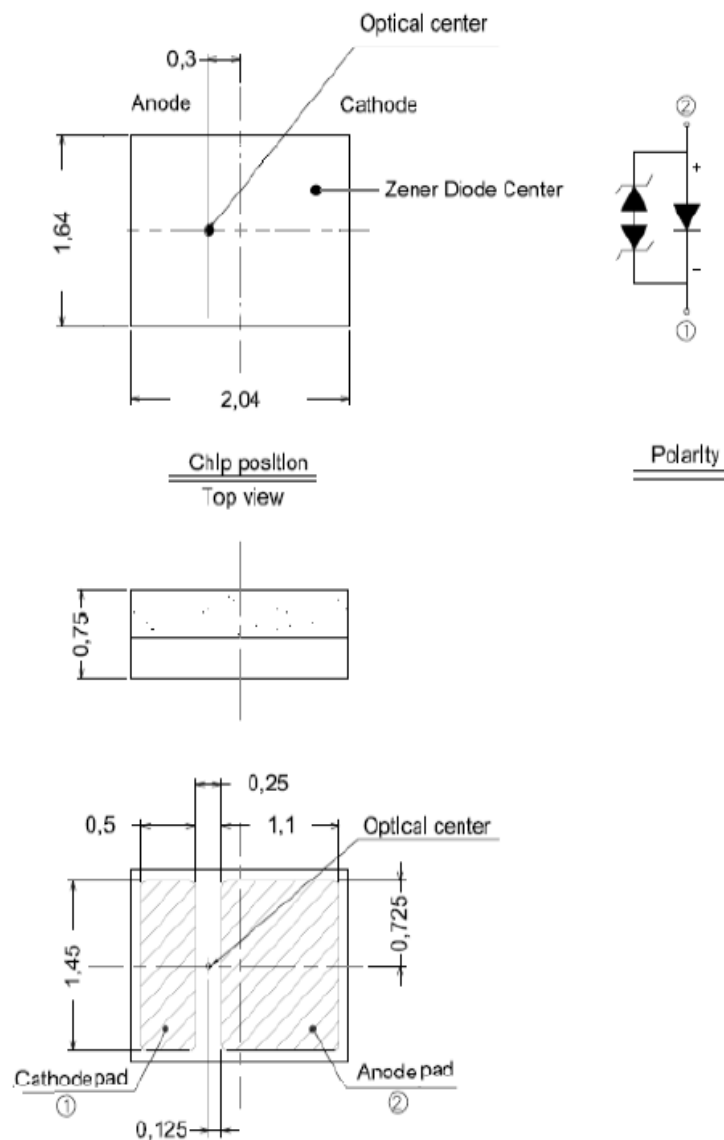
| Group | Bin | Minimum Radiant Flux (mw) | Maximum Radiant Flux (mw) |
|-------|-----|---------------------------|---------------------------|
| Q | 1 | 5 | 10 |
| | 2 | 10 | 15 |
| | 3 | 15 | 20 |
| | 4 | 20 | 25 |
| | 5 | 25 | 30 |
| | 6 | 30 | 35 |

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 |

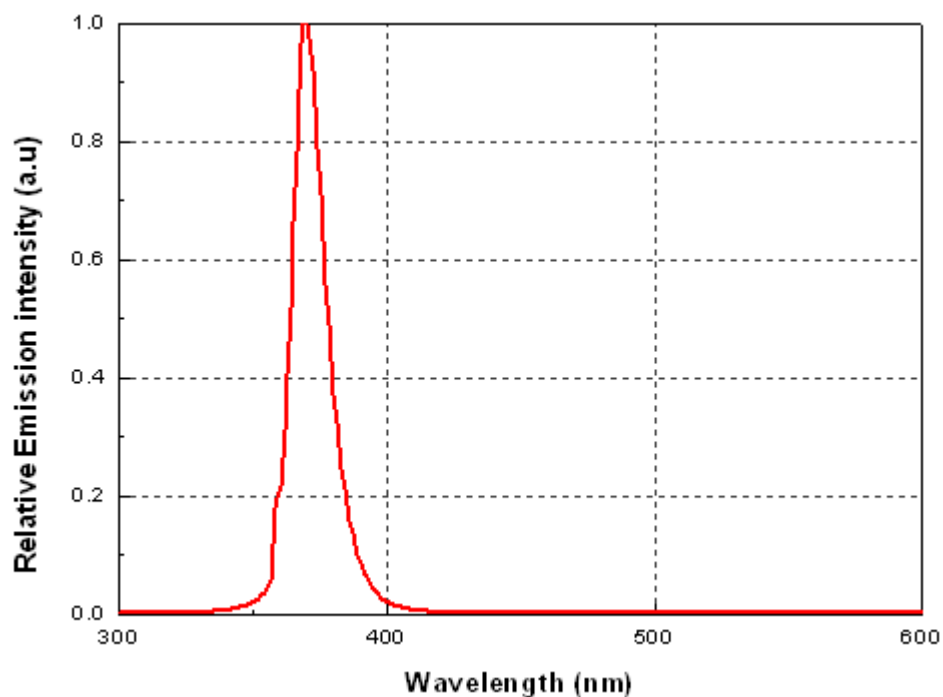
Mechanical Dimension



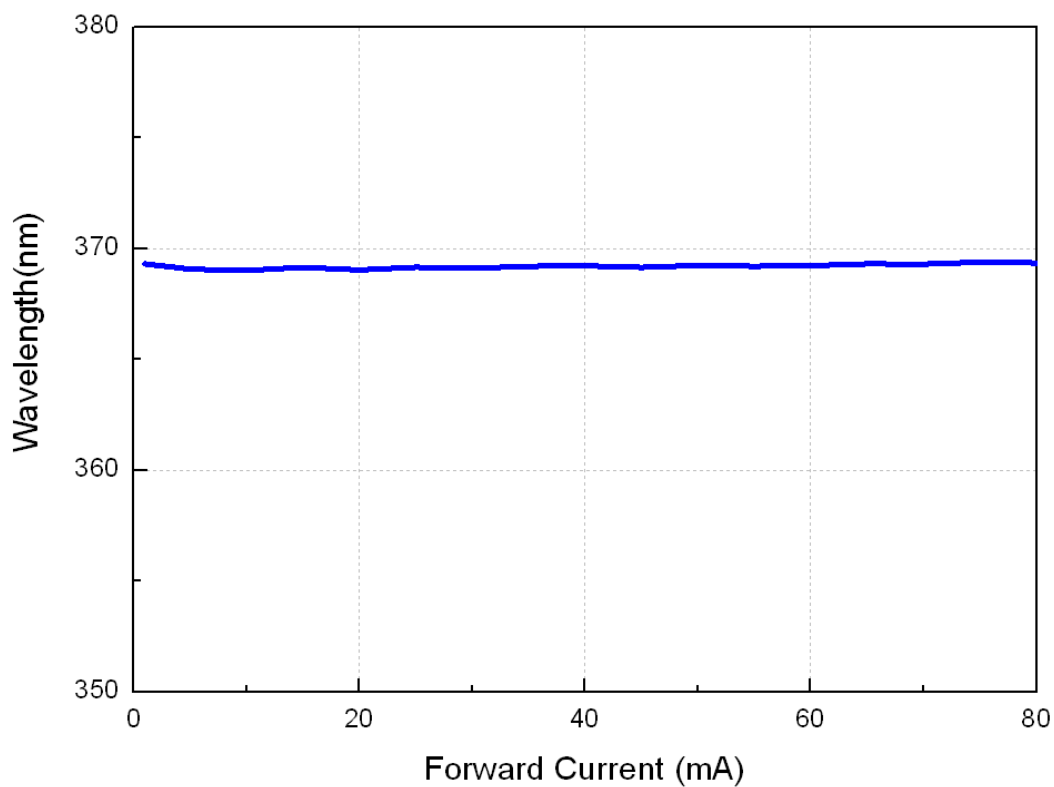
1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.1\text{mm}$

Typical Characteristics Curves

Spectrum @ Thermal Pad Temperature = 25

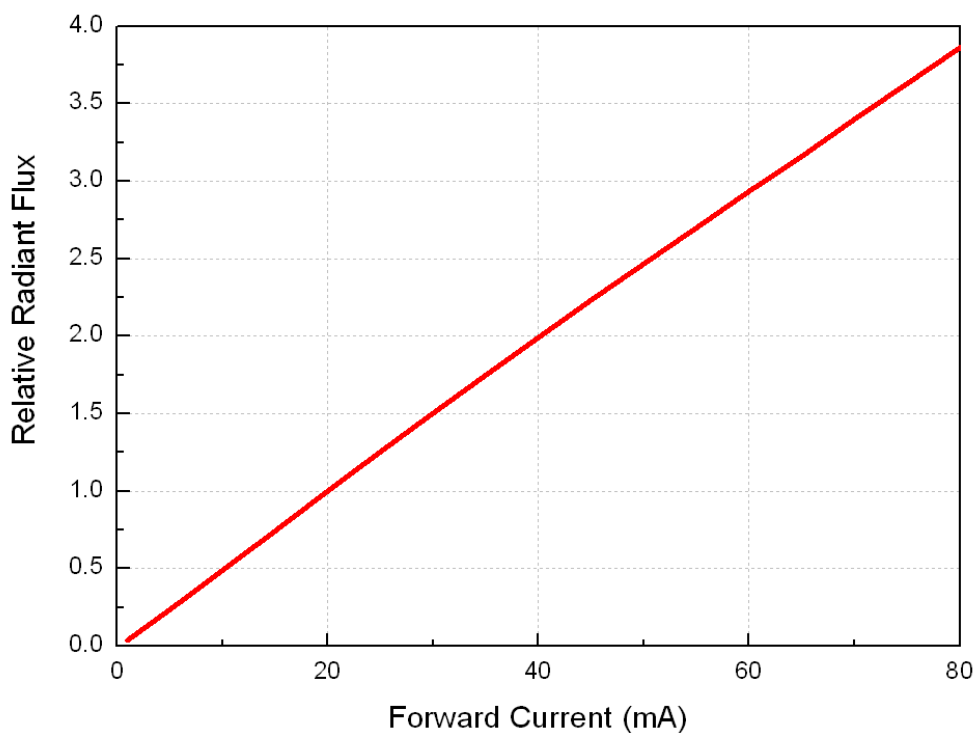


Forward Current V.S. Peak Wavelength @ Thermal Pad Temperature = 25



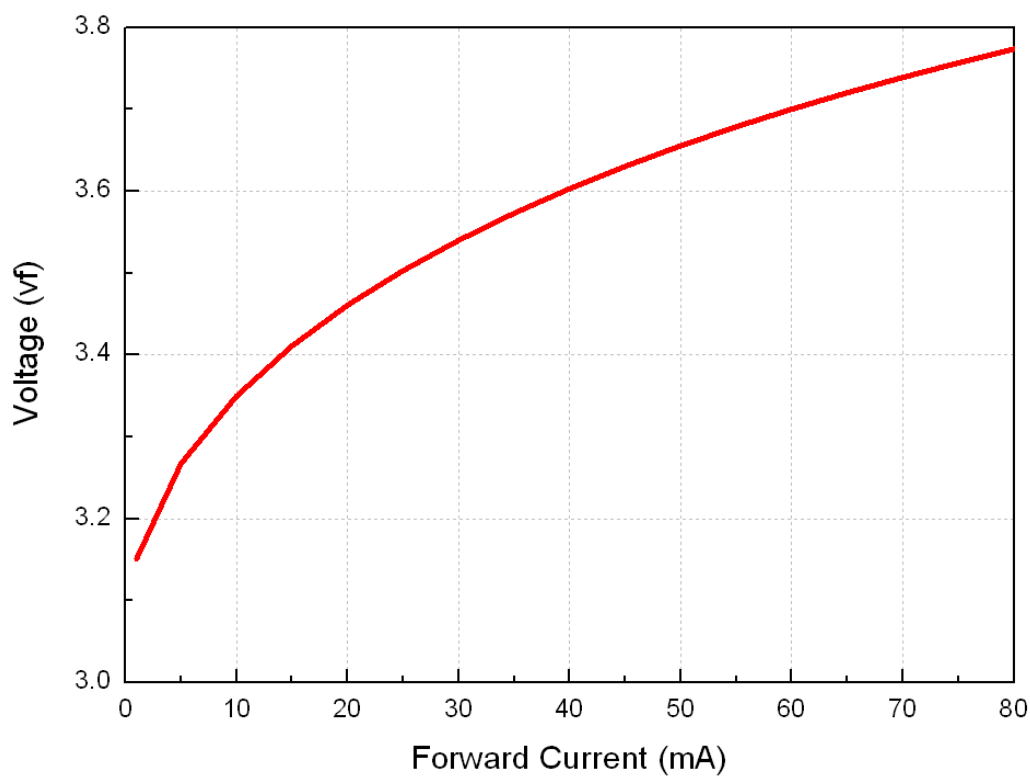
Forward Current vs. Relative Radiant Flux

@ Thermal Pad Temperature = 25



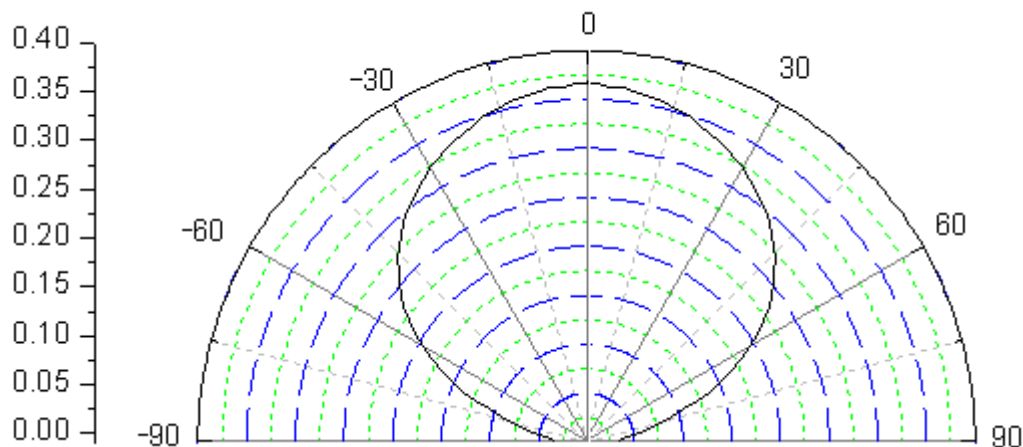
Forward Voltage vs. Forward Current

@ Thermal Pad Temperature = 25



Typical Radiation Patterns

Typical Diagram Characteristics of Radiation for EAUVA2016



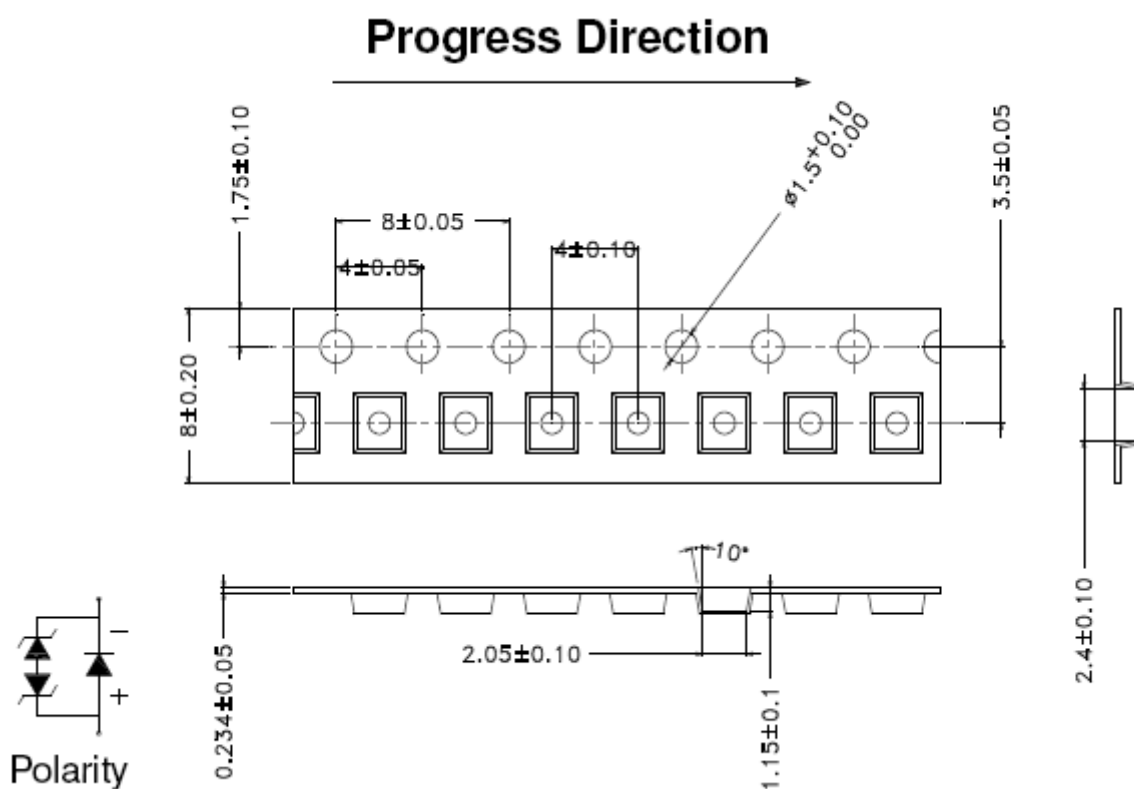
Notes:

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 $\pm 5^\circ$.

Emitter Tape Packaging

Carrier Tape Dimensions as the following:

Reel: 2000pcs

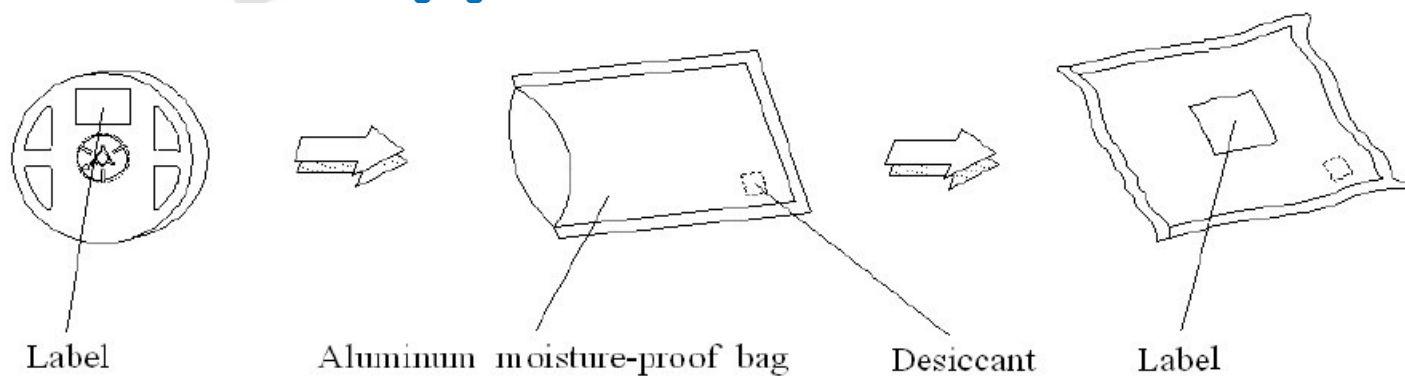


Unit = mm

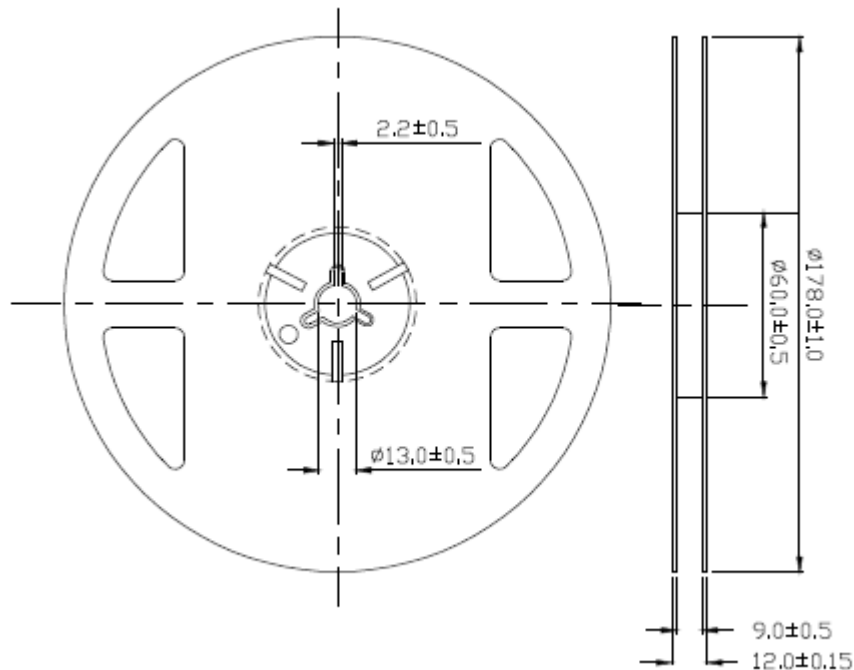
Notes:

1. Tolerance unless mentioned is ± 0.1 mm;

Moisture Resistant Packaging



Emitter 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 | | |
| XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX | | |
| P/N: XXXXXXXXXXXX | | |
| XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX-XXXXXXXXXX | | |
| 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