DATASHEET

ELUA2016OGB

1.8W Series

Features

- Middle power UVA LED
- Dimension 2.04mm*1.64mm*0.75mm
- ESD protection
- RoHS compliant
- Pb free

Description

The ELUA2016 product series is a ceramic based LED with high quality and reliability that suitable for UV application

Applications

- UV curing
- UV exposure
- UV catch mosquitoes

Product Nomenclature

ELUA2016OGB-PXXXXYY3040500-VD1M

EL = Everlight

UA = UVA

2016 = 2.0mm x 1.6mm Package

O = Package Material: Al_2O_3

G = Coating: Ag

B = Angle: 120°

P = Peak Wavelength

XXXX = Wavelength Range [1]

YY = Minimum Radiant Flux Spec [2]

3040 = Forward Voltage Spec: 3.0~4.0V

500 = Forward Current: 500mA

V = Chip Type: Vertical

D = Chip Size: 45mil

1 = Chip QTY: 1 chip

M = Process Type: Molding

Notes:

1. Wavelength Range

Symbol	Description
6070	360~370nm
8090	380~390nm
9000	390~400nm
0010	400~410nm

2. Minimum Radiant Flux Spec

Symbol	Description
T5	500mW
T7	600mW

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Max. DC Forward Current (mA)	I_F	500	mA
Max. ESD Resistance	V_B	2000	V
Max. Junction Temperature	T_J	105	°C
Operating Temperature	T_{Opr}	-40 ~ +60	°C
Storage Temperature	T_{Stg}	-40 ~ +60	°C

PN of the ELUA2016OGB series: UVA LEDs

UV, ELUA2016OGB series LEDs at 500mA are listed below

Order Code of ELUA2016OGB	Minimum Radiant Flux (mW)	Typical Radiant Flux (mW)	Maximum Radiant Flux (mW)	Peak Wavelength (nm)	Forward Voltage (V)	Forward Current (mA)
ELUA2016OGB-P6070T53040500-VD1M	500	800	1100	360~370	3.0~4.0	500
ELUA2016OGB-P8090T73040500-VD1M	600	850	1100	380~390	3.0~4.0	500
ELUA2016OGB-P9000T73040500-VD1M	600	850	1100	390~400	3.0~4.0	500
ELUA2016OGB-P0010T73040500-VD1M	600	850	1100	400~410	3.0~4.0	500

Product Binning

Radiant Flux Bins

365 Bin Code	Minimum Radiant Flux (mW)	Maximum Radiant Flux (mW)
T5	500	700
T6	700	900
T7	900	1100

385-405 Bin Code	Minimum Radiant Flux (mW)	Maximum Radiant Flux (mW)
T7	600	800
T8	800	1000
T9	1000	1100

Notes:

1. Radiant flux measurement tolerance: ±10%.
2. Forward voltage bins are defined at I_F=500mA operation.

Peak Wavelength Bins

Group	Bin	Minimum Peak Wavelength (nm)	Maximum Peak Wavelength (nm)
U	36	360	370
	38	380	390
	39	390	400
	40	400	410

Notes:

1. Peak Wavelength measurement tolerance: ±1nm.
2. Forward voltage bins are defined at I_F=500mA operation.
3.

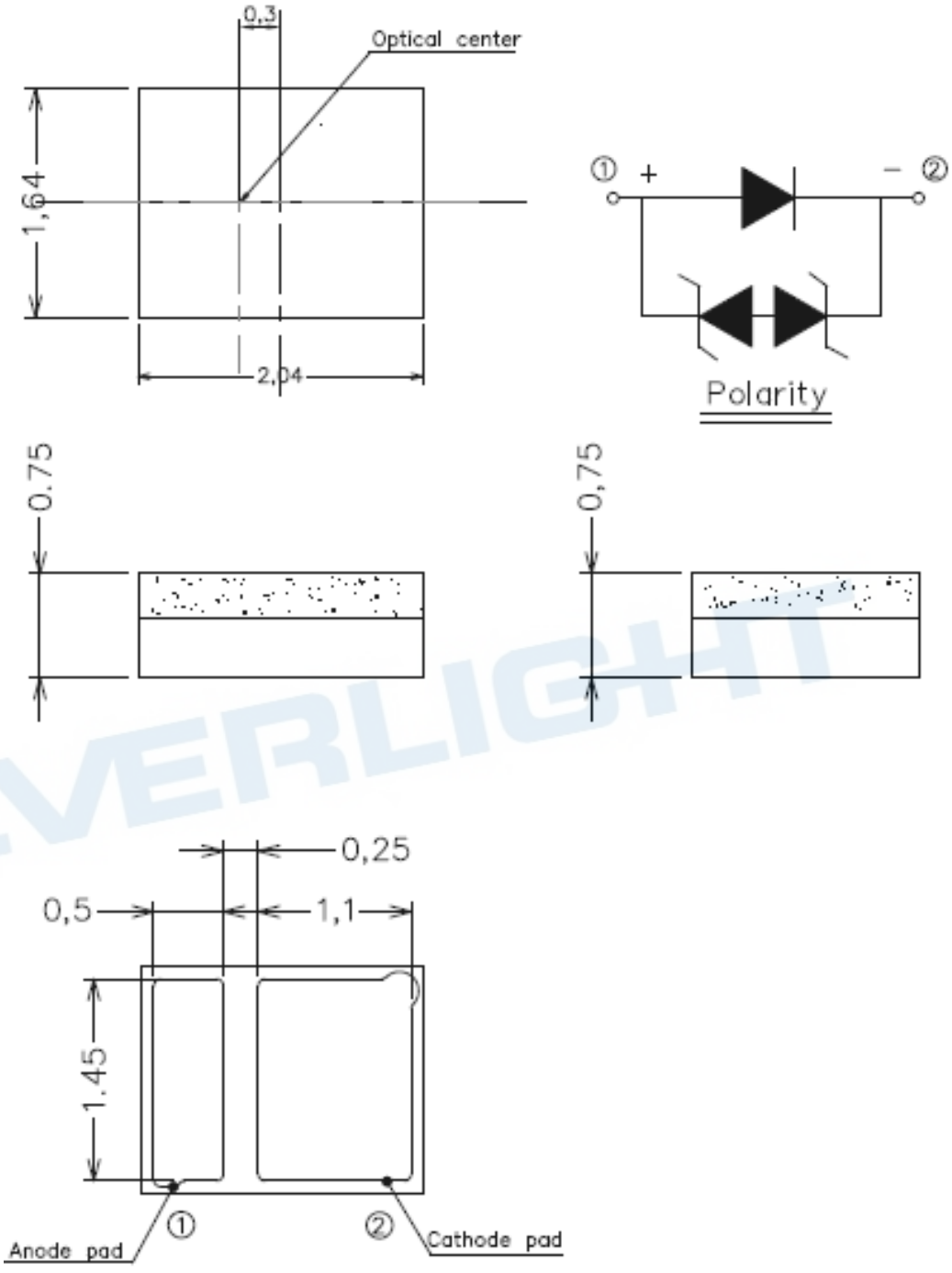
Forward Voltage Bins

Bin	Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
3032	3.0	3.2
3234	3.2	3.4
3436	3.4	3.6
3638	3.6	3.8
3840	3.8	4.0

Notes:

1. Forward voltage measurement tolerance: ±2%.
2. Forward voltage bins are defined at I_F=500mA operation.

Mechanical Dimension



Notes:

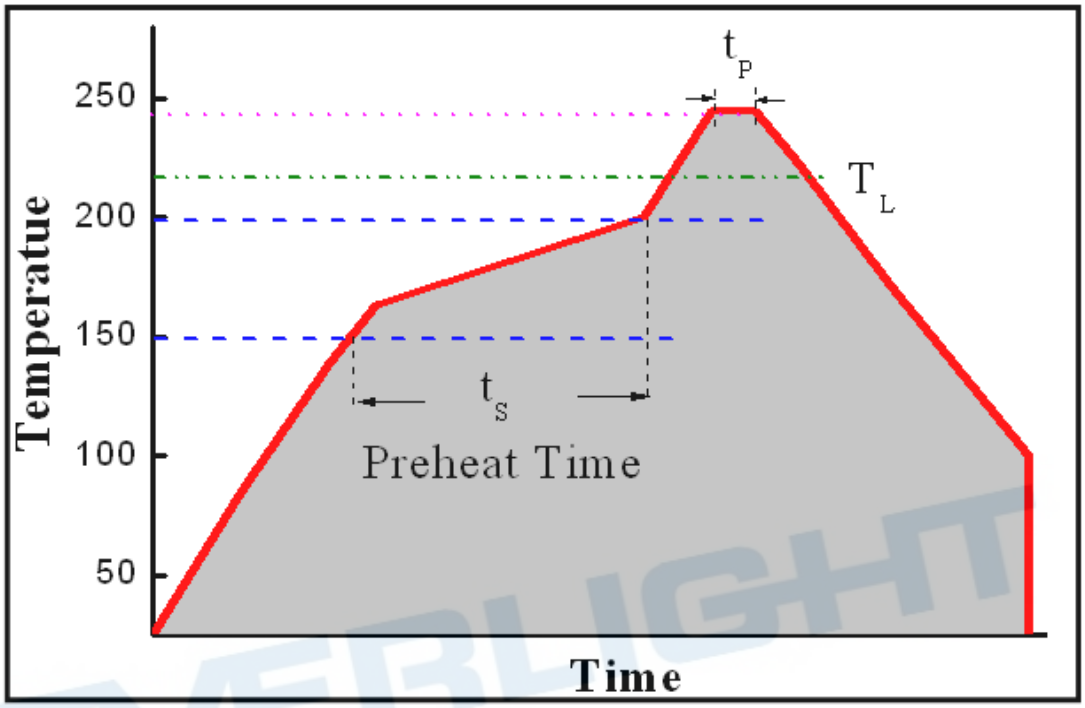
1. Dimensions are in millimeters.
2. Tolerances unless mentioned are ± 0.2mm.
3. The thermal pad is electrically unity from the Cathode and contact pads.
4. Do not handle the device by the lens. Incorrect force applied to the lens may lead to the failure of devices.

Reflow Soldering Characteristics

For Reflow Process

a. ELUA series are suitable for SMT processes.

b. Curing of glue in oven must be according to standard operation flow processes.



Profile Feature	Lead Free Assembly
Ramp-Up Rate	2-3 ℃/S
Preheat Temperature	150-200 ℃
Preheat Time (t_S)	60-120 S
Liquid Temperature (T_L)	217 ℃
Time maintained above T_L	60-90 S
Peak Temperature (T_P)	240±5 ℃
Peak Time (t_P)	Max 20 S
Ramp-Down Rate	3-5 ℃/S

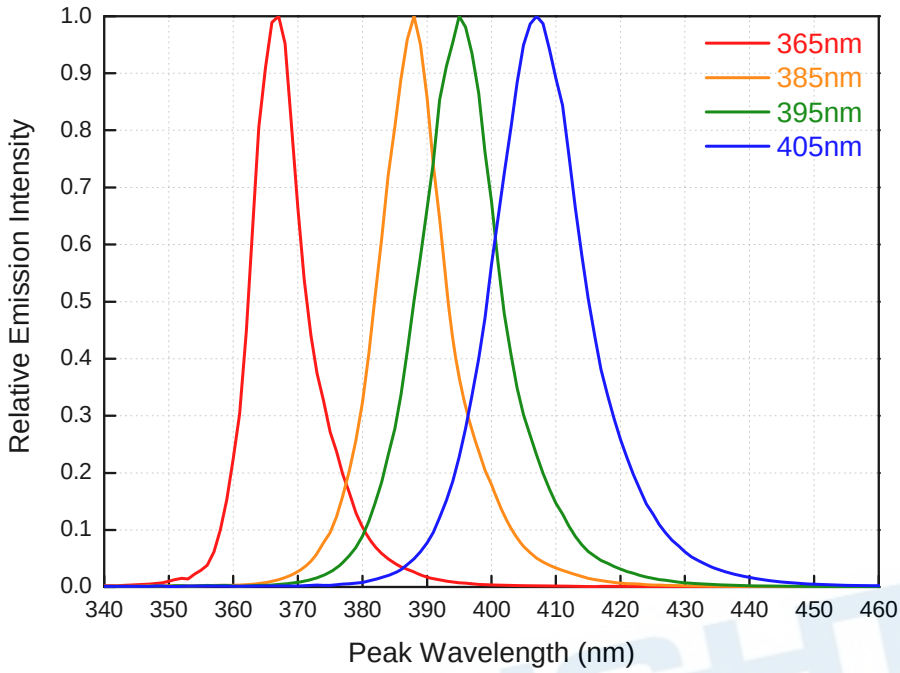
c. Reflow soldering should not be done more than twice.

d. In soldering process, stress on the LEDs during heating should be avoided.

e. After soldering, do not bend the circuit board.

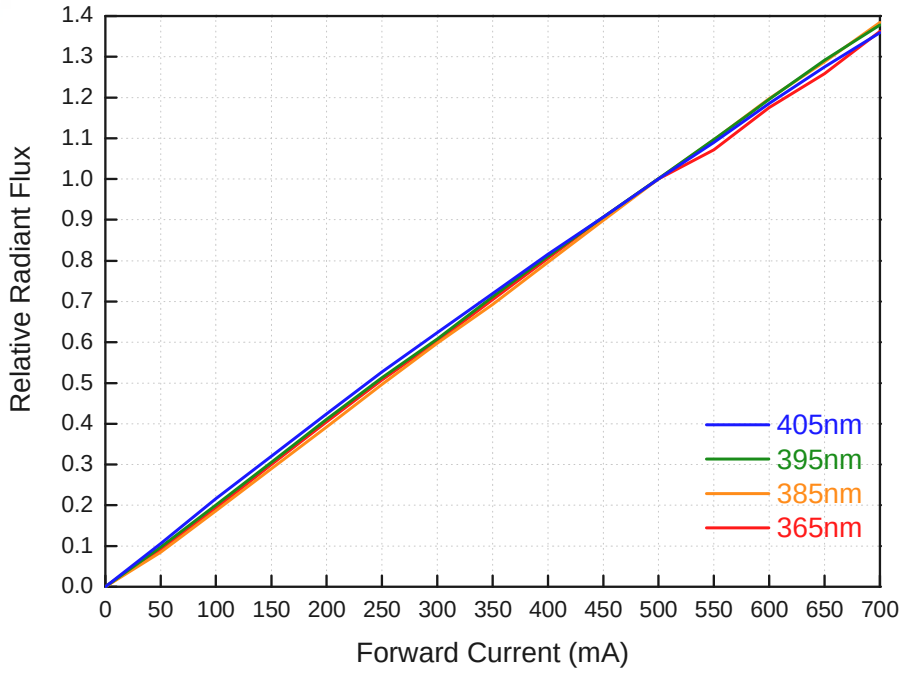
Typical Characteristics Curves

Spectrum @ Thermal Pad Temperature = 25℃

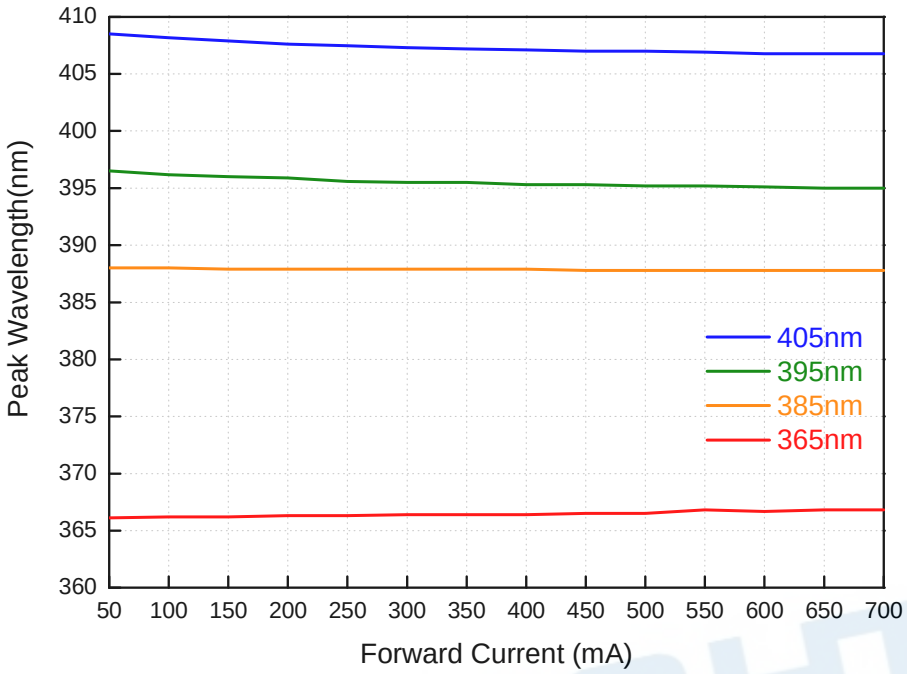


Relative Radiant Flux vs. Forward Current

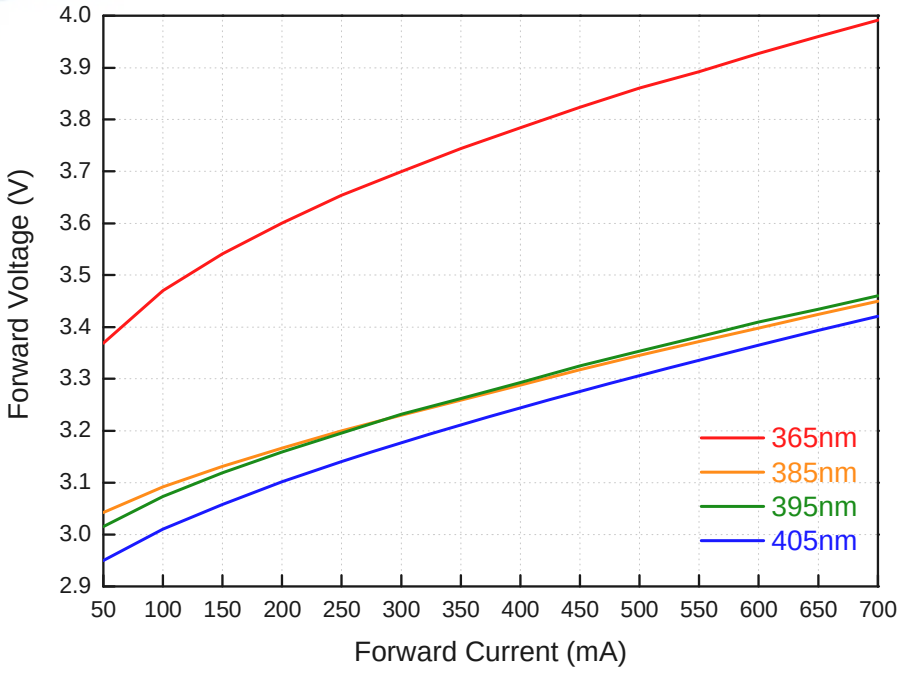
@ Thermal Pad Temperature = 25℃



Peak Wavelength vs. Forward Current
@ Thermal Pad Temperature = 25℃

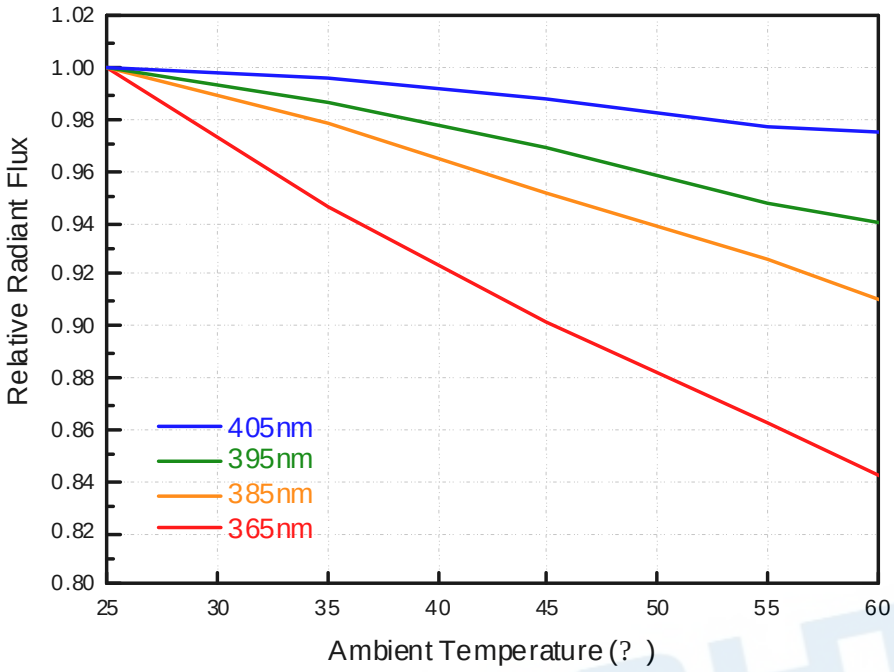


Forward Voltage vs. Forward Current
@ Thermal Pad Temperature = 25℃



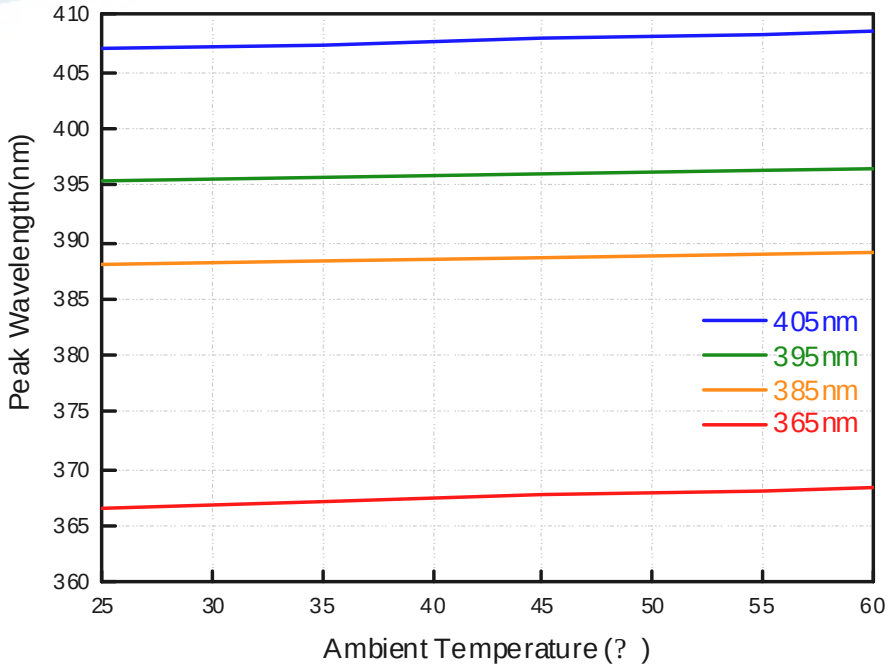
Relative Radiant Flux vs. Ambient Temperature

@ Forward Current = 500mA

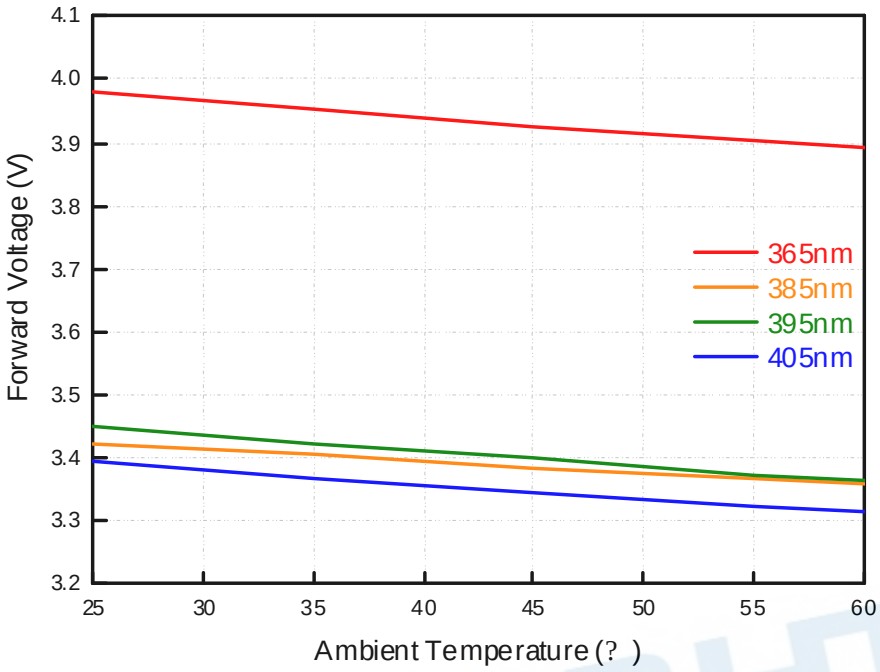


Peak Wavelength vs. Ambient Temperature

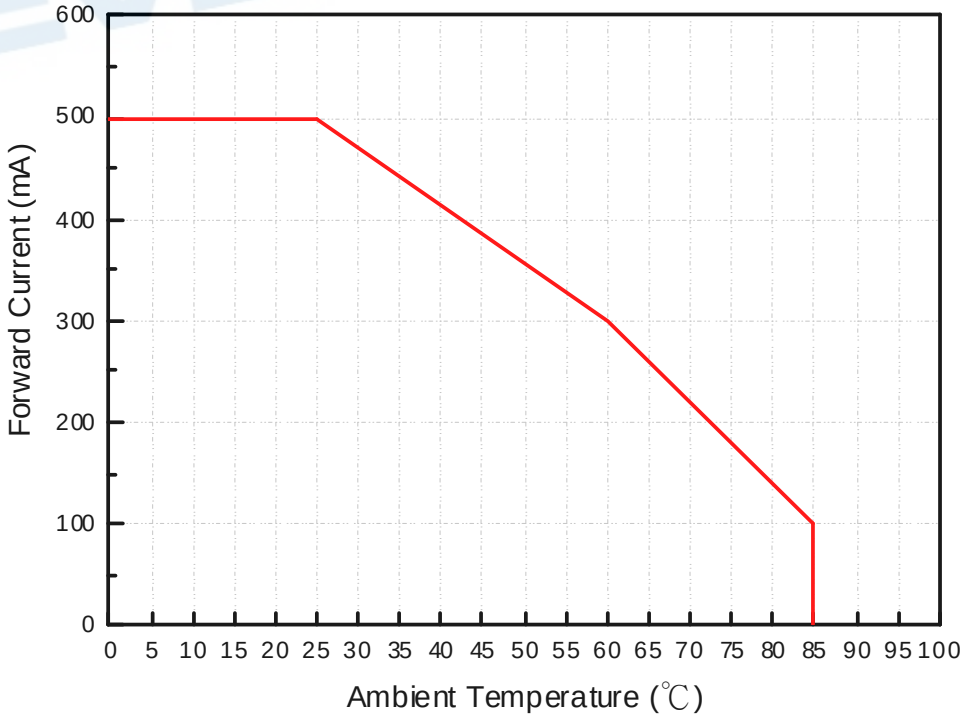
@ Forward Current = 500mA



Forward Voltage vs. Ambient Temperature
@ Forward Current = 500mA

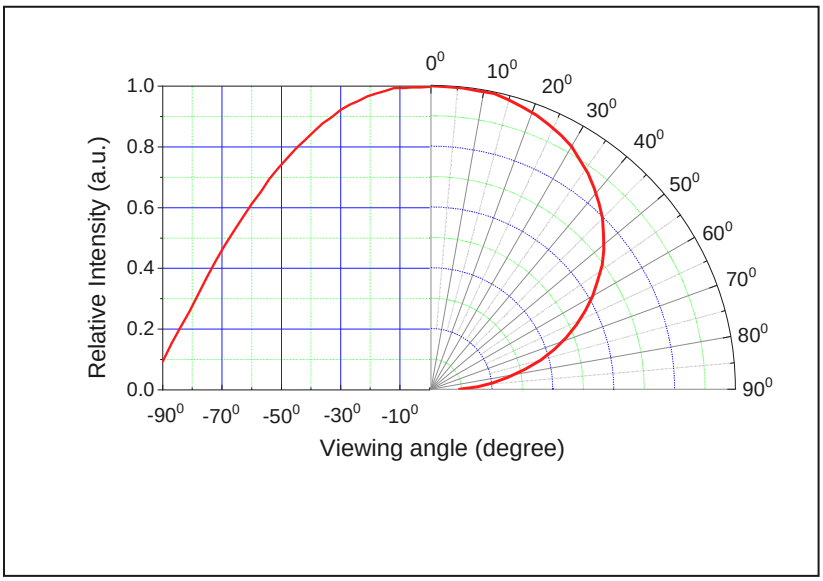


Derating Curve



Typical Radiation Patterns

Typical Diagram Characteristics of Radiation for ELUA2016



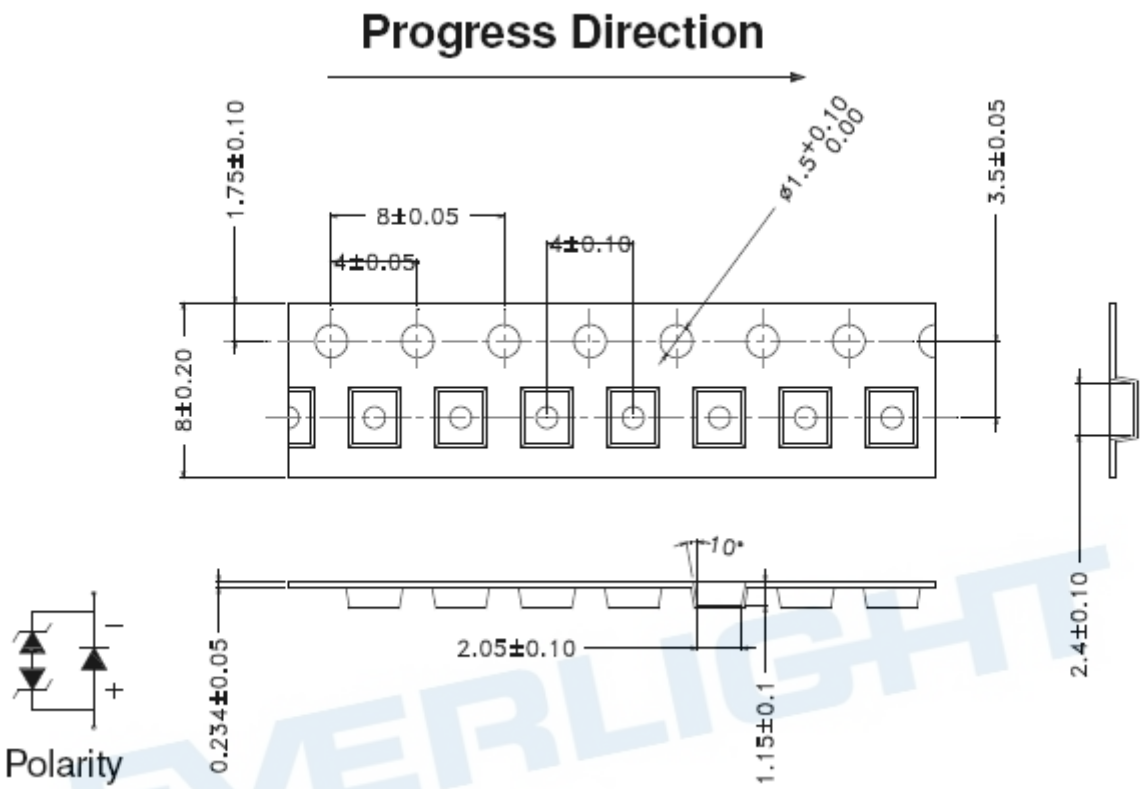
Notes:

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:

Reel: 2000pcs

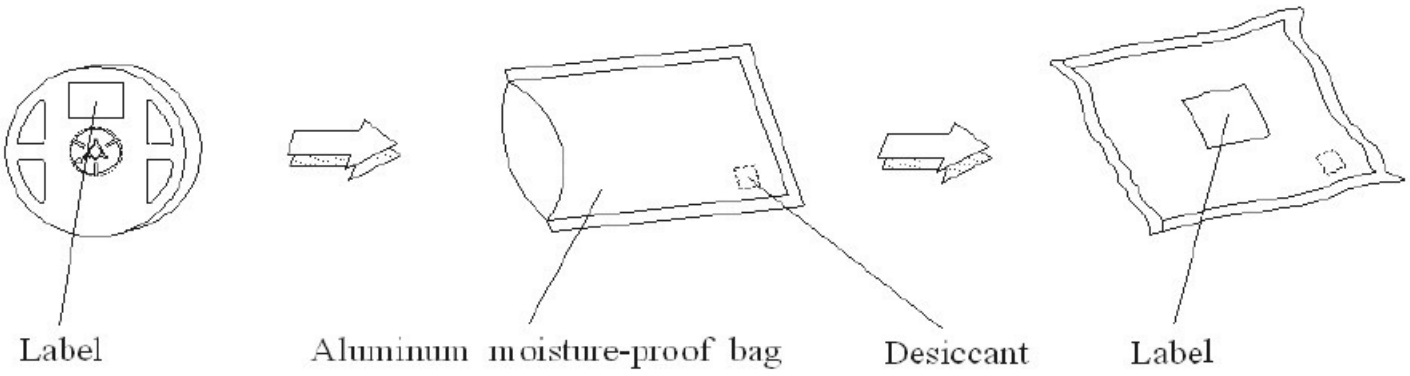


Unit = mm

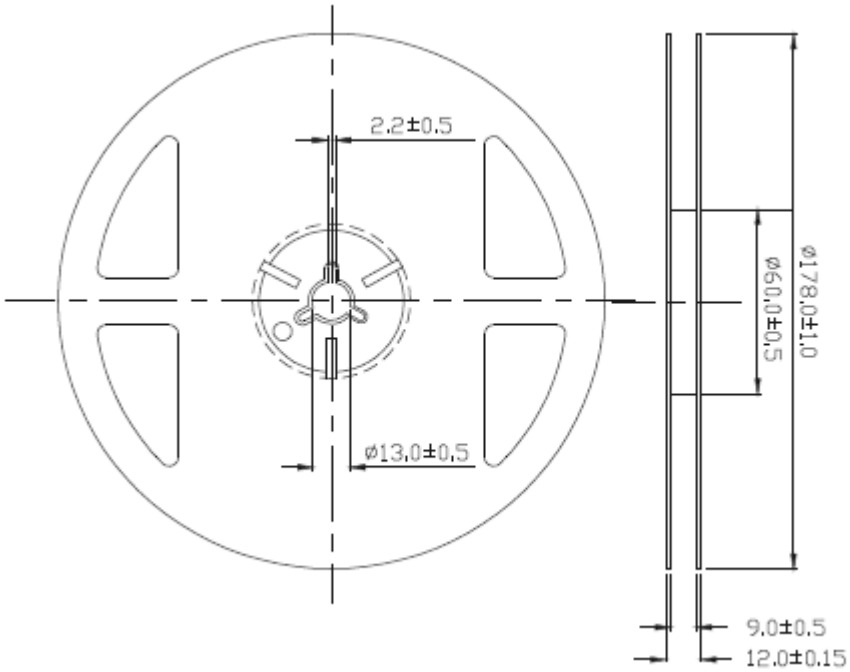
Notes:

1. Tolerance unless mentioned is ±0.1mm;
2. Packing amount is 500/1000/1500/2000 pcs per reel

Moisture Resistant Packaging



Emitter 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

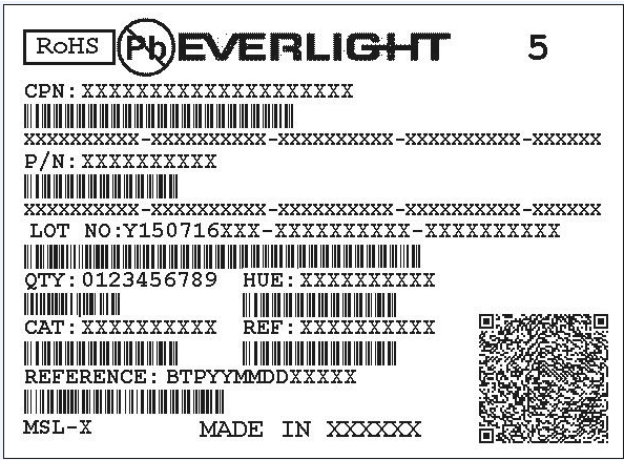
CAT: Luminous Flux (Brightness) Bin

HUE: Color Bin

REF: Forward Voltage Bin

LOT No: Lot Number

MADE IN TAIWAN: Production Place



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 12 months.
- After opening the package: The LED's floor life is 1 year under 30°C or less and 60% RH or less. 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.

DISCLAIMER

- EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
- The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
- The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
- When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
- These specification sheets include materials protected under copyright of EVERLIGHT. Reproduction in any form is prohibited without obtaining EVERLIGHT's prior consent.
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- The product is not suitable for use in an ammonia environment.