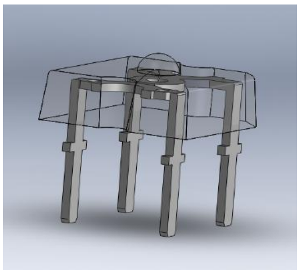

Chipsmall
深圳市津利帝科技有限公司
Geelead Technology Limited
Chipsmall
采购部

EVERLIGHT
AMERICAS

DATASHEET

P-LED
EALP03SXCOA0-AM



Lead (Pb) Free Poduct - RoHS Compliant

Pb

Feature

- Low profile.
- Uniform color
- High flux output
- Colorless clear resin.
- Brightness: 5650 to 11250 mlm at 70mA.
- Qualification according to AEC-Q101.
- Packaged in tubes for use with automatic insertion equipment.
- Compliance with EU REACH.
- Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm).

Applications

- Automotive exterior lighting: Turn light, tail light, rear-view mirror light, side light, license light switch, 3rd braking light…etc.
- Substitution of traditional light.
- Electronic Signs and Signals.
- General applications.
-

Device Selection Guide

Chip Material	Emitted Color	Resin Color
AlGaInP	Reddish Orange	Water Clear

Table of Content

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V_R	12	V
Continuous Forward Current	I_F	70	mA
Peak Forward Current (Duty 1/10 @1KHz)	I_{FP}	150	mA
Power Dissipation	Pd	200	mW
LED Junction Temperature	T_j	125	℃
Operating Temperature	T_{opr}	-40 ~ +100	℃
Storage Temperature	T_{stg}	-40 ~ +110	℃
Thermal Resistance	Rth J-A	150	K/W
Electrostatic Discharge	ESD_{HBM} ESD_{MM}	2000 200	V
Soldering Temperature(T=5 sec)	T_{sol}	260 ± 5	℃

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Total Flux	Φv	5650	---	11250	mlm	I_F =70mA
Peak Wavelength	λ_p	-----	624	-----	nm	I_F =70mA
Dominant Wavelength	λ_d	610	---	620	nm	I_F =70mA
Spectrum Radiation Bandwidth	Δλ	-----	18	-----	nm	I_F =70mA
Viewing Angle	$2\theta_{1/2}$	-----	40	-----	deg	I_F =70mA
Forward Voltage	V_F	1.9	-----	2.9	V	I_F =70mA
Reverse Current	I_R	-----	-----	10	μA	V_R =5V

Note:
1. Tolerance of Total Flux: ±11%
2. Tolerance of Dominant Wavelength: ±1nm
3. Tolerance of Forward Voltage: ±0.1V

Bin Range of Forward Voltage

Bin	Min.	Max.	Unit	Condition
1	1.9	2.1	V	I_F =70mA
2	2.1	2.3		
3	2.3	2.5		
4	2.5	2.7		
5	2.7	2.9		

Note:
Tolerance of Forward Voltage: ±0.1V

Bin Range of Dominant Wavelength

Bin	Min.	Max.	Unit	Condition
6	610	613.5	nm	I_F =70mA
7	613.5	617		
8	617	620		

Note:

Tolerance of Dominant Wavelength: ±1nm

Bin Range of Total Flux

Bin	Min.	Max.	Unit	Condition
S2	5650	7150	mlm	I_F =70mA
T1	7150	9000		
T2	9000	11250		

Note:

Tolerance of Total Flux: ±11%

Typical Electro-Optical Characteristics Curves

Typical Curve of Spectral Distribution

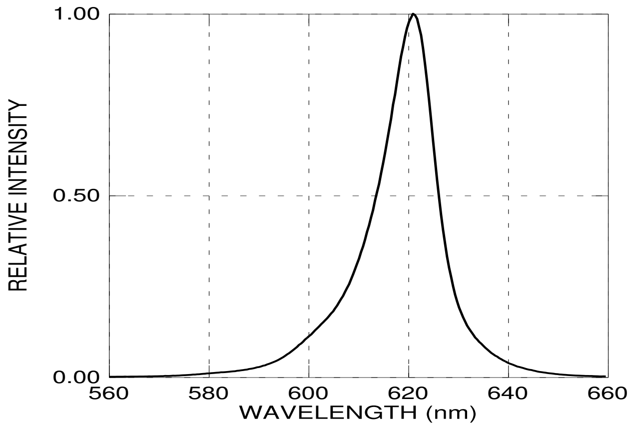
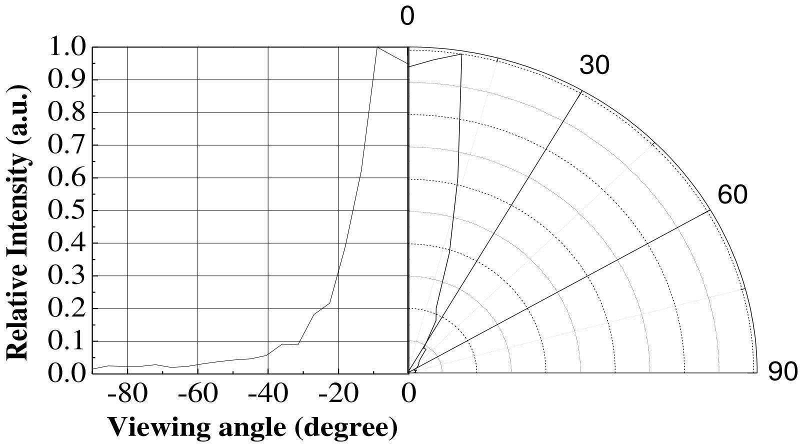
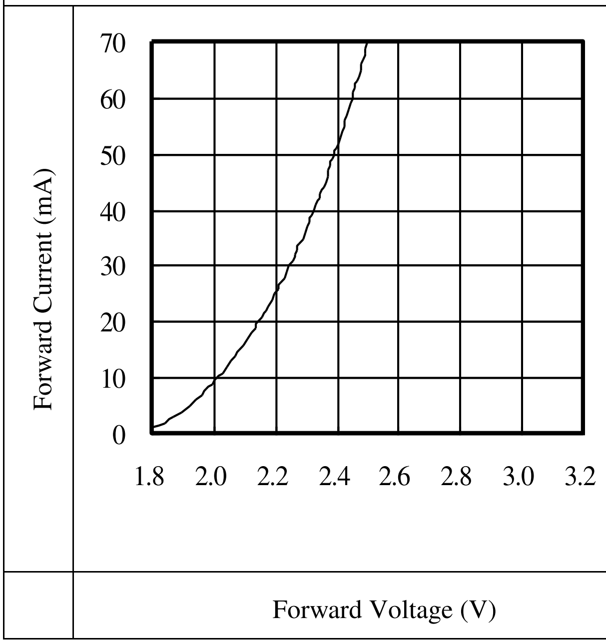


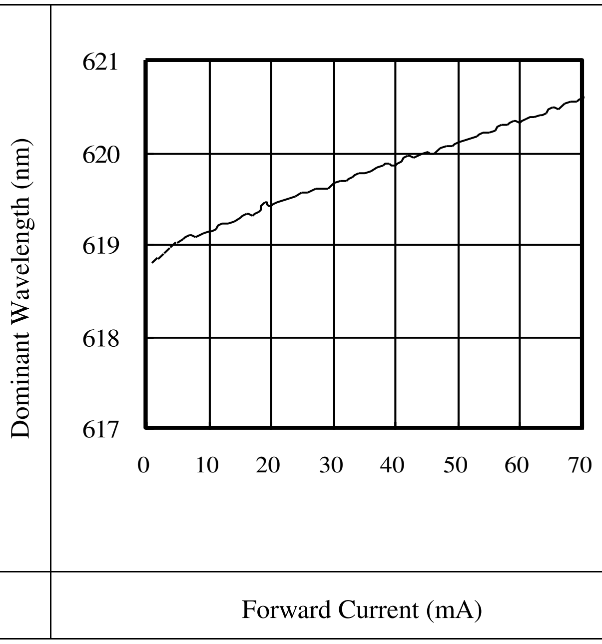
Diagram Characteristics of Radiation



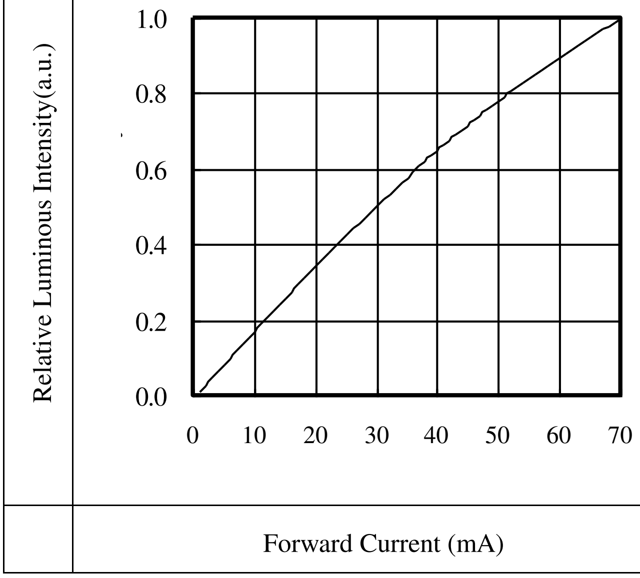
Forward Current vs. Forward Voltage (Ta=25℃)



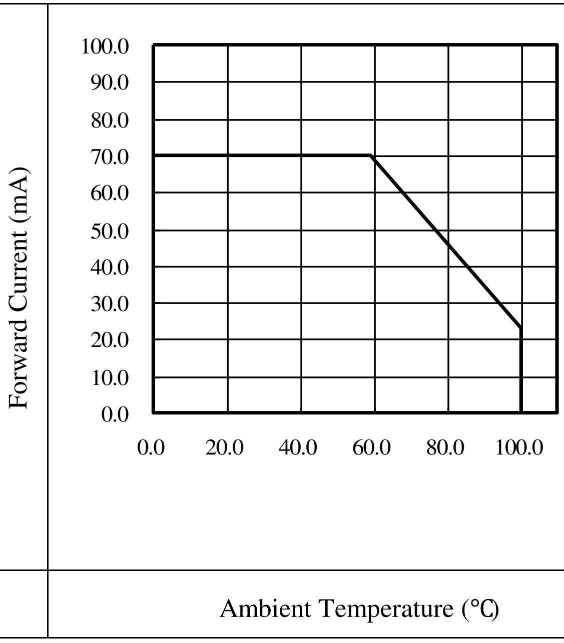
Dominant Wavelength vs. Forward Current (Ta=25℃)



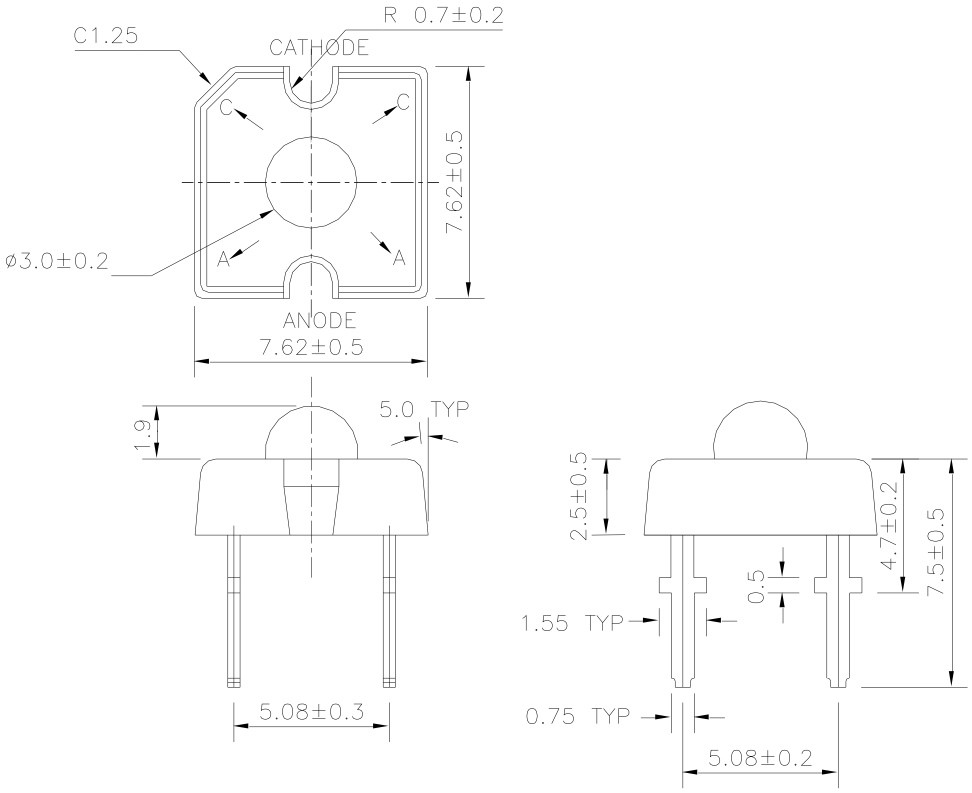
Relative Luminous Intensity vs. Forward Current (Ta=25℃)



Max. Permissible Forward Current vs. Ambient Temperature



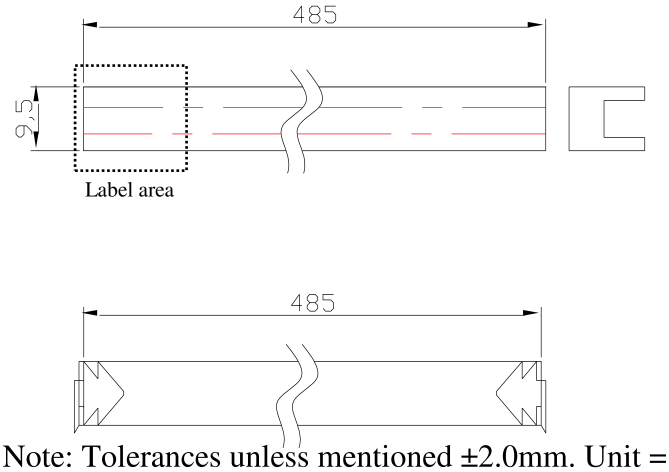
Package Dimension

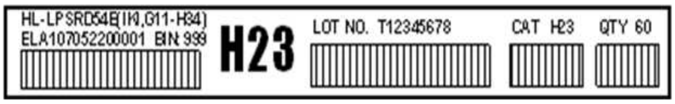


Note: Tolerances unless mentioned ±0.25mm. Unit = mm

Antistic Packing Materials

Tube




HL-LPSRD54B(1K1,G11-H34)
ELA107052200001 BIN 999
H23
LOT NO. T12345678
CAT H23
QTY 60

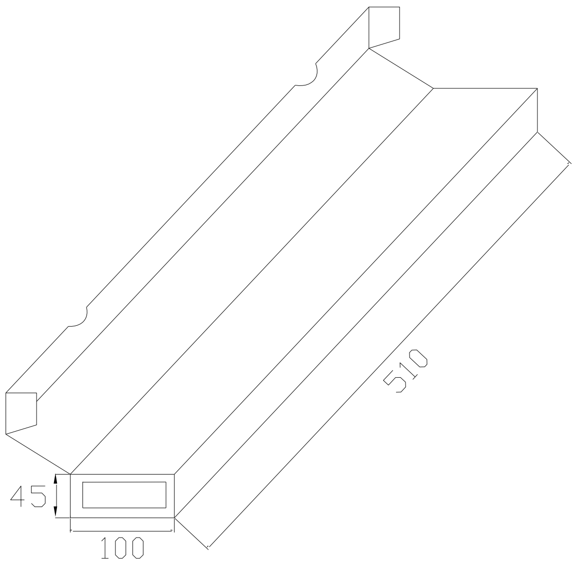
Tube Label Explanation

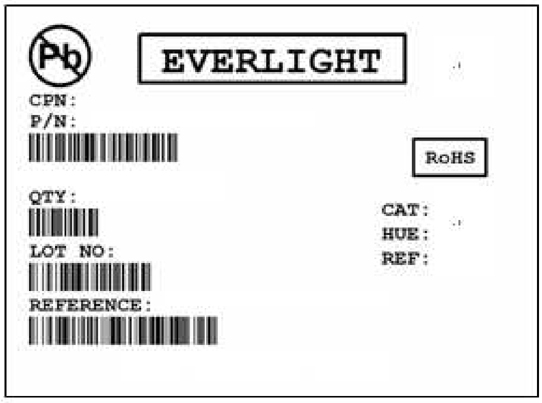
- QTY: Packing Quantity
- LOT No: Lot Number
- CAT: Rank of (VF)(Note*)(ΦV)

  Note: λ_d/CIE/Color temperature

Note: Tolerances unless mentioned ±2.0mm. Unit = mm

Standard Box




EVERLIGHT
CPN:
P/N:
RoHS
QTY:
CAT:
HUE:
REF:
LOT NO:
REFERENCE:

Outer Label Explanation

- CPN: Customer’s Product Number
- P/N: Product Number
- QTY: Packing Quantity
- CAT: Rank of (VF)(Note*)(ΦV)
- Note: λ_d/CIE/Color temperature
- HUE/REF: Reference
- LOT No: Lot Number

Note: Tolerances unless mentioned ±3.0mm. Unit = mm

Packing Quantity

Packing material	Length × Width × height (mm)	Tube Quantity (Pcs)	LED Quantity (Pcs)
Tube	485 x 9.5 x 12	1	60
Standard box	510 x 100 x 45	30	1800
Large box	510 x 150 x 90	105	6300

Note:

1. Normal packing specification is use standard box, unless already defined initially.
2. Vacuum packing with anti-static bag after packing in standard box.
3. Specifications are subject to change without prior notice.

Notes

1. Lead Forming
   - During lead formation, the leads should be bent at a point at least 3mm from the base of the epoxy bulb.
   - Lead forming should be done before soldering.
   - Avoid stressing the LED package during leads forming. The stress to the base may damage the LED’s characteristics or it may break the LEDs.
   - Cut the LED leadframes at room temperature. Cutting the leadframes at high temperatures may cause failure of the LEDs.
   - When mounting the LEDs onto a PCB, the PCB holes must be aligned exactly with the lead position of the LED. If the LEDs are mounted with stress at the leads, it causes deterioration of the epoxy resin and this will degrade the LEDs.
2. Storage
   - The LEDs should be stored at 30°C or less and 70%RH or less after being shipped from Everlight Americas and the storage life limits are 3 months. If the LEDs are stored for 3 months or more, they can be stored for a year in a sealed container with a nitrogen atmosphere and moisture absorbent material.
   - Please avoid rapid transitions in ambient temperature, especially, in high humidity environments where condensation can occur.
3. Soldering
   - Careful attention should be paid during soldering. Solder the LED no lower than 1.6mm from the base of stopper is recommended.
   - Avoiding applying any stress to the lead frame while the LEDs are at high temperature particularly when soldering.

- Recommended soldering conditions:

Hand Soldering		DIP Soldering	
Temp. at tip of iron	300℃ Max. (30W Max.)	Preheat temp.	100℃ Max. (60 sec Max.)
Soldering time	3 sec Max.	Bath temp.	260 Max.
Distance	No lower than 1.6mm from the base of stopper	Bath time.	5 sec Max.
		Distance	No lower than 1.6mm from the base of stopper

- Dip and hand soldering should not be done more than one time.
- After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return to room temperature.
- A rapid-rate process is not recommended for cooling the LEDs down from the peak temperature.
- Although the recommended soldering conditions are specified in the above table, dip or handsoldering at the lowest possible temperature is desirable for the LEDs.
- Wave soldering parameter must be set and maintain according to recommended temperature and dwell time in the solder wave.

4. Cleaning
   - When necessary, cleaning should occur only with isopropyl alcohol at room temperature for a duration of no more than one minute. Dry at room temperature before use.
   - Do not clean the LEDs by the ultrasonic. When it is absolutely necessary, the influence of ultrasonic cleaning on the LEDs depends on factors such as ultrasonic power and the assembled condition. Ultrasonic cleaning shall be pre-qualified to ensure this will not cause damage to the LED
5. Heat Management
   - Heat management of LEDs must be taken into consideration during the design stage of LED application. The current should be de-rated appropriately by referring to the de-rating curve found in each product specification.
   - The temperature surrounding the LED in the application should be controlled. Please refer to the data sheet de-rating curve.
6. ESD (Electrostatic Discharge)
   - Electrostatic discharge (ESD) or surge current (EOS) can damage LEDs.
   - An ESD wrist strap, ESD shoe strap or antistatic gloves must be worn whenever handling LEDs.
   - All devices, equipment and machinery must be properly grounded.
   - Use ion blower to neutralize the static charge which might have built up on surface of the LEDs plastic lens as a result of friction between LEDs during storage and handing.

7. Other

- Above specification may be changed without notice. EVERLIGHT AMERICAS will reserve authority on material change for above specification.
- When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT AMERICAS assumes no responsibility for any damage resulting from 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 AMERICAS corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT AMERICAS's consent.

Revision History

Rev.	Modified date	File modified contents
2	2013/5/24	Change the form of datasheet