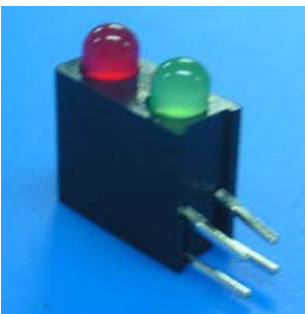## LAMP
EAAY03BLARGA0

Features

•Low power consumption

•High efficiency and low cost

•Good control and free combinations on the colors of LED lamps

•Good lock and easy to assembly.

•Stackable and easy to assembly Stackable vertically and easy to assembly

•Versatile mounting on P.C board or panel

•Stackable horizontally and easy to assembly

•The product itself will remain within RoHS compliant version

• Compliance with EU REACH

• Compliance Halogen Free .(Br <900 ppm ,Cl <900 ppm , Br+Cl < 1500 ppm)

Description

•ARRAY=Plastic Holder+ Combinations of Lamps.

•The array will easily mount the applicable lamps on any panel up to.

Applications

•Used as indicators of indicating the Degree, Functions, Positions etc, in electronic instruments

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Device Selection Guide

PART NO.	Chip Materials	Emitted Color	Resin Color
234-10SURD/S530-A3	AlGaInP	Brilliant Red	Red Diffused
234-10SYGD/S530-E2	AlGaInP	Brilliant Yellow Green	Green Diffused

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating		Unit
Continuous Forward Current	I_F	234-10SURD/S530-A3	25	mA
		234-10SYGD/S530-E2	25	
Peak Forward Current (Duty 1/10 @ 1KHZ)	I_{FP}	234-10SURD/S530-A3	60	mA
		234-10SYGD/S530-E2	60	
Reverse Voltage	V_R	5		V
Power Dissipation	P_d	234-10SURD/S530-A3	60	mW
		234-10SYGD/S530-E2	60	
Operating Temperature	T_{opr}	-40 ~ +85		℃
Storage Temperature	Tstg	-40 ~ +100		℃
Soldering Temperature	T_{sol}	260 ℃ for 5 sec.		

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol		Min	Typ	Max	Unit	Condition
Forward Voltage	V_F	234-10SURD/S530-A3	-----	2.0	2.4	V	I_F=20mA
		234-10SYGD/S530-E2	-----	2.0	2.4		
Reverse Current	I_R	234-10SURD/S530-A3	-----	-----	50	μA	V_R=5V
		234-10SYGD/S530-E2	-----	-----	10		
Luminous Intensity	I_V	234-10SURD/S530-A3	40	80	-----	mcd	I_F=20mA
		234-10SYGD/S530-E2	25	50	-----		
Viewing Angle	$2\theta1/2$	234-10SURD/S530-A3	-----	60	----	deg	I_F=20mA
		234-10SYGD/S530-E2	-----	60	-----		
Peak Wavelength	λ_p	234-10SURD/S530-A3	-----	632	----	nm	I_F=20mA
		234-10SYGD/S530-E2	-----	575	-----		
Dominant Wavelength	λ_d	234-10SURD/S530-A3	-----	624	-----	nm	I_F=20mA
		234-10SYGD/S530-E2	-----	573	-----		
Spectrum Radiation Bandwidth	$\triangle\lambda$	234-10SYGD/S530-E2	-----	20	-----	nm	I_F=20mA
		234-10SURD/S530-A3	-----	20	-----		

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Typical Electro-Optical Characteristics Curves
SUR
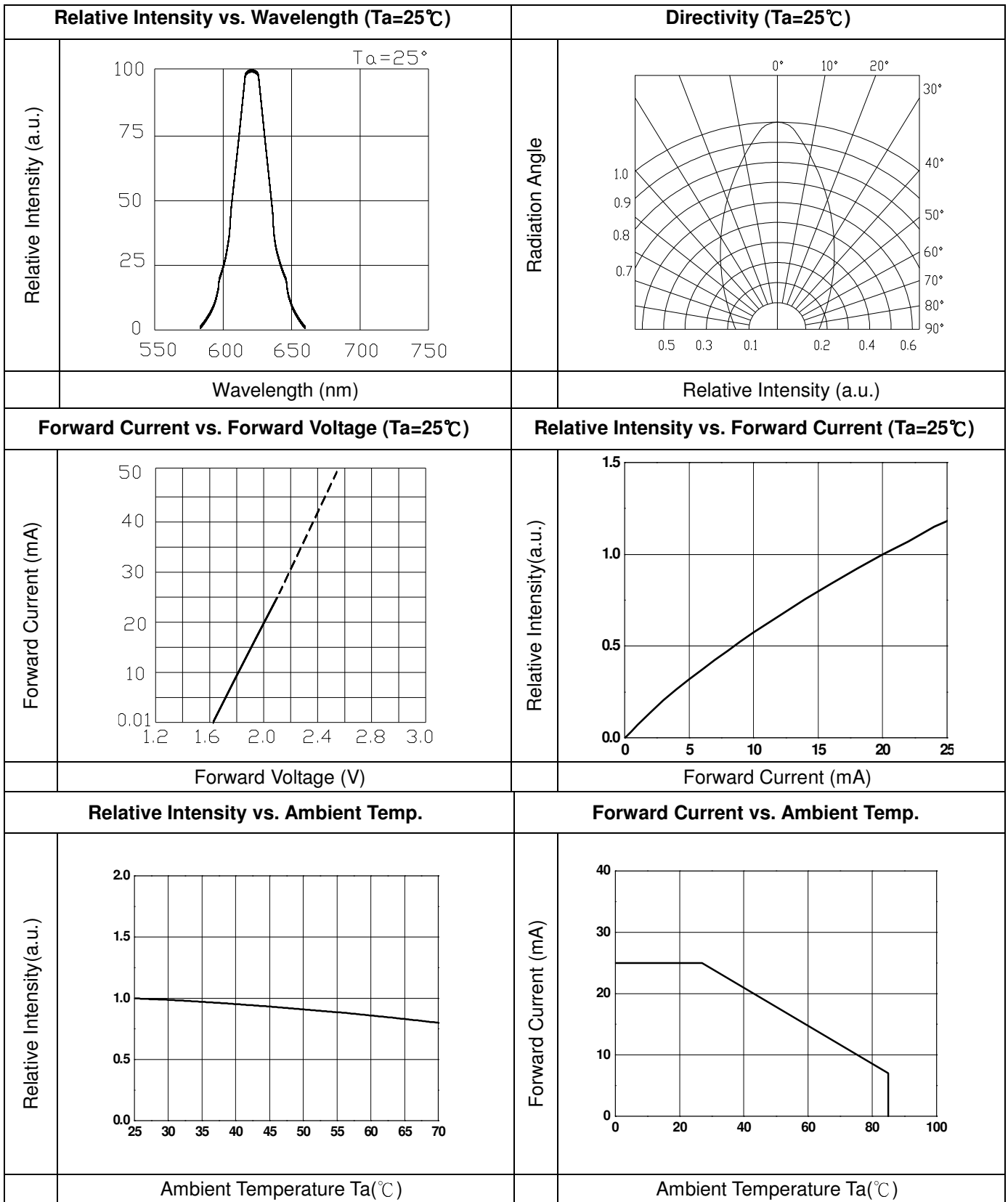
Relative Intensity vs. Wavelength (Ta=25℃)	Directivity (Ta=25℃)

Wavelength (nm)

Relative Intensity (a.u.)

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

Forward Voltage (V)

Forward Current (mA)

Relative Intensity vs. Ambient Temp.	Forward Current vs. Ambient Temp.

Ambient Temperature Ta(℃)

Ambient Temperature Ta(℃)

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SYG

Relative Intensity vs. Wavelength (Ta=25℃)	Directivity (Ta=25℃)

Relative Intensity (a.u.)

Wavelength (nm)

Radiation Angle

Relative Intensity (a.u.)

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

Forward Current (mA)

Forward Voltage (V)

Relative Intensity(a.u.)

Forward Current (mA)

Relative Intensity vs. Ambient Temp.	Forward Current vs. Ambient Temp.

Relative Intensity(a.u.)

Ambient Temperature Ta(℃)

Forward Current (mA)

Ambient Temperature Ta(℃)

Package Dimension

4.3

5.08

2.54

(ANODE)

2.54

2.5±0.5

9.0

SUR

SYG

9.65

□0.5

5.08±0.5

2.54

4.0±0.5
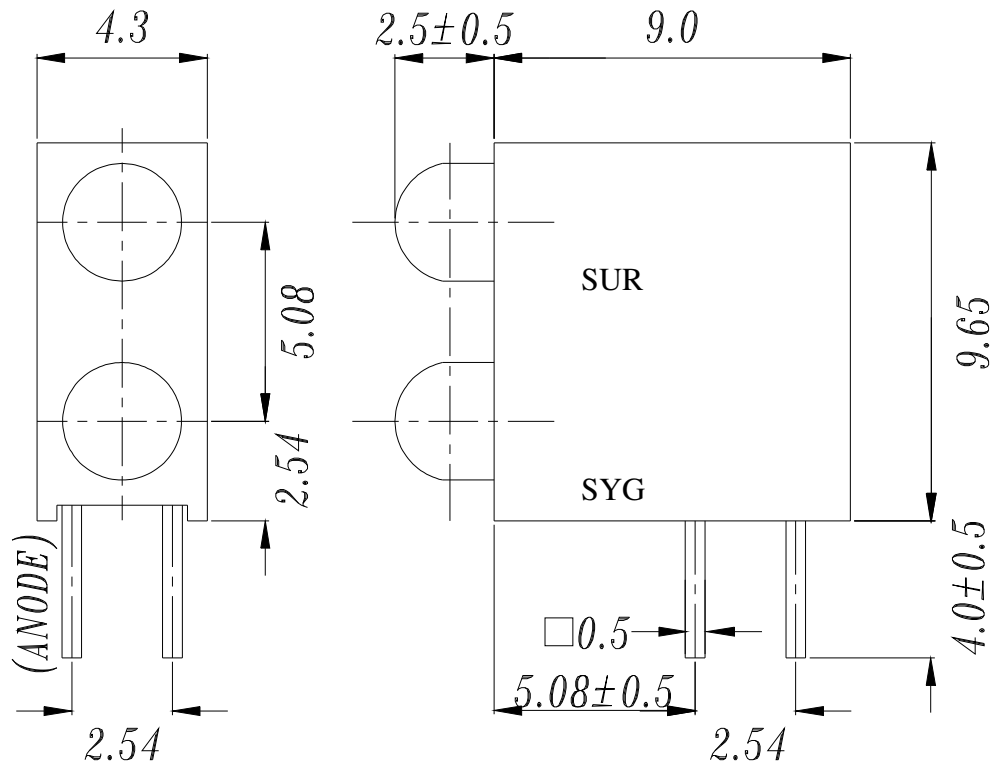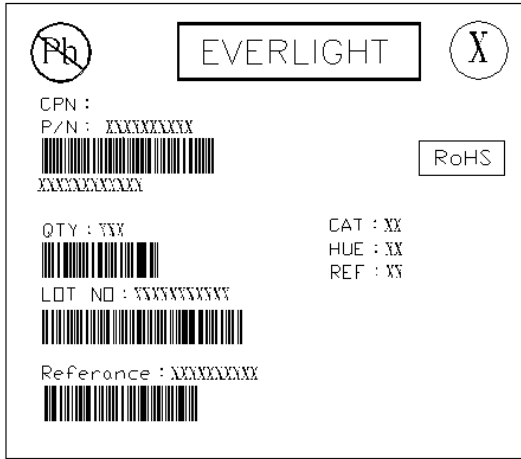
Note: Note:
1. All dimensions are in millimeters, tolerance is ±0.25mm except being specified
2. Lead spacing is measured where the lead emerge from the package.

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Moisture Resistant Packing Materials

Label Explanation

Ph

EVERLIGHT   X

CPN :
P/N : XXXXXXXXX

XXXXXXXXXXX   RoHS

QTY : YYY   CAT : XX
                      HUE : XX
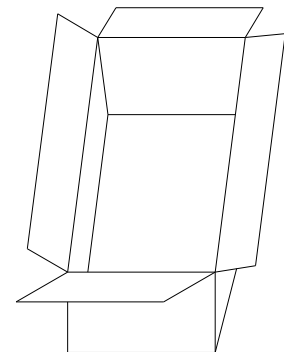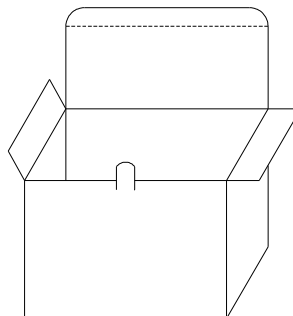   REF : XX
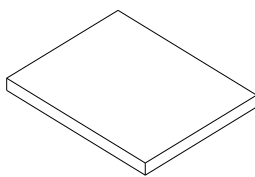LOT NO : XXXXXXXXXX

Reference : XXXXXXXXXX

· CPN: Customer's Production Number
· P/N : Production Number
· QTY: Packing Quantity
· CAT: Ranks of Luminous Intensity
· HUE: Ranks of Dominant Wavelength
· REF: Ranks of Forward Voltage
· LOT No: Lot Number

Packing Specification

■Anti-electrostatic plate   ■ Inner Carton   ■ Outside Carton

■ Packing Quantity
  1. 270 PCS/1 plate, 4 plates/1 Inner Carton
  2. 10 Inner Cartons/1 Outside Carton

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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 lead frames at room temperature. Cutting the lead frames 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℃ 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. When soldering, leave more then 3mm from solder joint to epoxy bulb, and soldering beyond the base of the tie bar is recommended.
   - 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. & time	260 Max., 5 sec Max
Distance	3mm Min.(From solder joint to epoxy bulb)	Distance	3mm Min. (From solder joint to epoxy bulb)

   - Recommended soldering profile
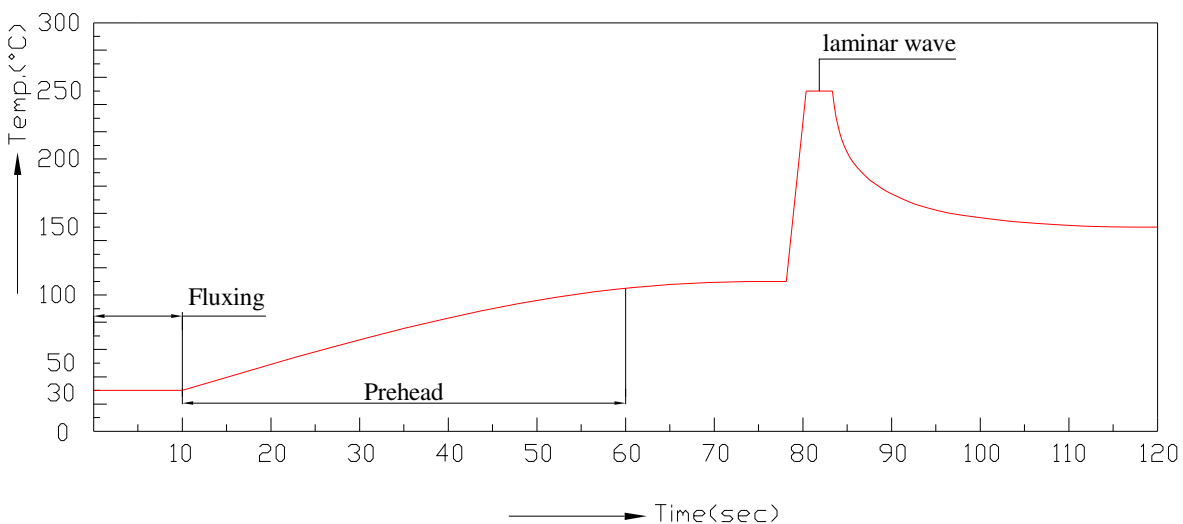
   - Avoiding applying any stress to the lead frame while the LEDs are at high temperature particularly when soldering.
   - Dip and hand soldering should not be done more than one time
   - After soldering the LEDs, the epoxy bulb should be protected from mechanical shock or vibration until the LEDs return 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 hand soldering 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)
   - The products are sensitive to static electricity or surge voltage. ESD can damage a die and its reliability.
     When handling the products, the following measures against electrostatic discharge are strongly recommended:

     Eliminating the charge

     Grounded wrist strap, ESD footwear, clothes, and floors

     Grounded workstation equipment and tools

     ESD table/shelf mat made of conductive materials
   - Proper grounding is required for all devices, equipment, and machinery used in product assembly.
     Surge protection should be considered when designing of commercial products.
   - If tools or equipment contain insulating materials such as glass or plastic,
     the following measures against electrostatic discharge are strongly recommended:

     Dissipating static charge with conductive materials

     Preventing charge generation with moisture

     Neutralizing the charge with ionizers

7. Directions for use
   - The LEDs should be operated with forward bias. The driving circuit must be designed so that the LEDs are not subjected to forward or reverse voltage while it is off. If reverse voltage is continuously applied to the LEDs, it may cause migration resulting in LED damage.

8. 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.

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