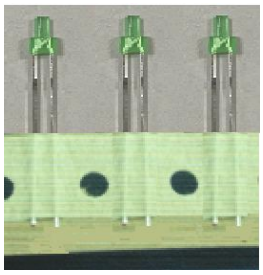
DATASHEET

LAMP

103SYGD/S530-E2/TR1 (R)



Features

•Long life feature.

•Low power consumption.

•High emitting efficiency.

•Most radial lead plastic LED lamp acail able packed in ape and reel.

•Reel package simplifies handling and teat.

•Pb free

•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)

escription

•The103 lamps are made with AlGaInP Super Yellow Green

•Automatically insert able with radial lead insertion equipment.

Applications

•Audio equipment
•Monitor
•Sign board
•Computer peripheral
•Air condition
•Home appliance
•Satellite receiver
•Burglar alarm
•Stop light

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Device Selection Guide

PART NO.	Chip Materials	Emitted Color	Resin Color
103SYRD/S530-E2/TR1(R)	AlGaInP	Super Yellow Green	Green Diffused

Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Rating	Unit
Continuous Forward Current	I_F	25	mA
Electrostatic Discharge	ESD	2000	V
Reverse Voltage	V_R	5	V
Power Dissipation	P_d	60	mW
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
Luminous Intensity	Iv	6.3	12.5	-----	mcd	I_F=20mA
Viewing Angle	$2\theta_{1/2}$	-----	130	-----	deg	I_F=20mA
Peak Wavelength	λ_p	-----	575	-----	nm	I_F=20mA
Dominant Wavelength	λ_d	-----	573	-----	nm	I_F=20mA
Spectrum Radiation Bandwidth	$\Delta\lambda$	-----	20	-----	nm	I_F=20mA
Forward Voltage	V_F	-----	2.0	2.4	V	I_F=20mA
Reverse Current	I_R	-----	-----	10	μA	V_R=5V

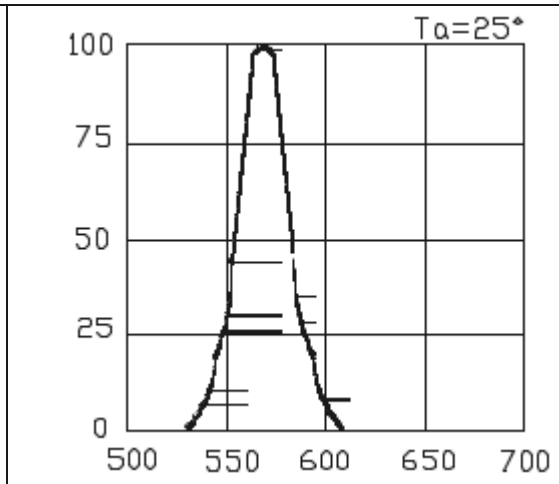
Note:
*Measurement Uncertainty of Forward Voltage: ±0.1V
*Measurement Uncertainty of Luminous Intensity: ±10%
*Measurement Uncertainty of Dominant Wavelength ±1.0nm

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Typical Electro-Optical Characteristics Curves

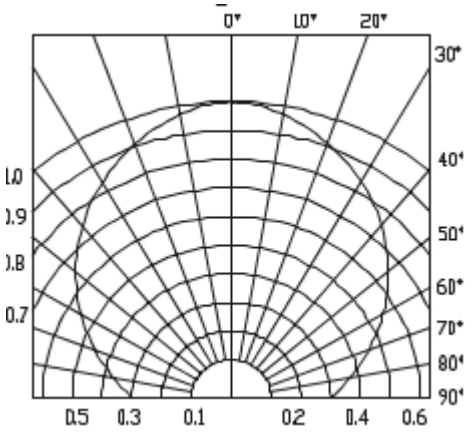
Relative Intensity vs. Wavelength (Ta=25℃)



Relative Intensity (a.u.)

Wavelength (nm)

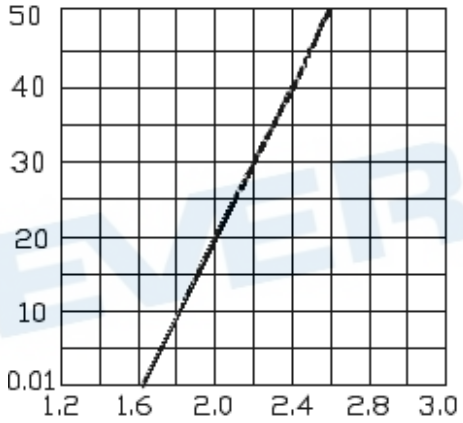
Directivity (Ta=25℃)



Radiation Angle

Relative Intensity (a.u.)

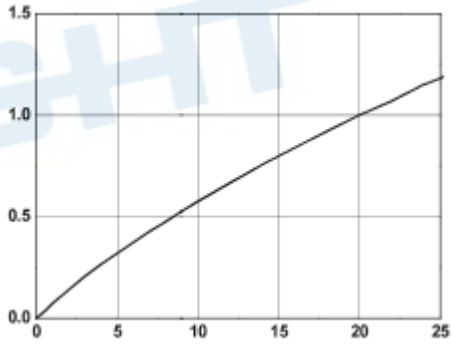
Forward Current vs. Forward Voltage (Ta=25℃)



Forward Current (mA)

Forward Voltage (V)

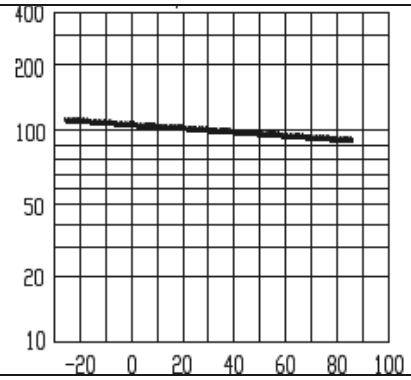
Relative Intensity vs. Forward Current (Ta=25℃)



Relative Intensity(a.u.)

Forward Current (mA)

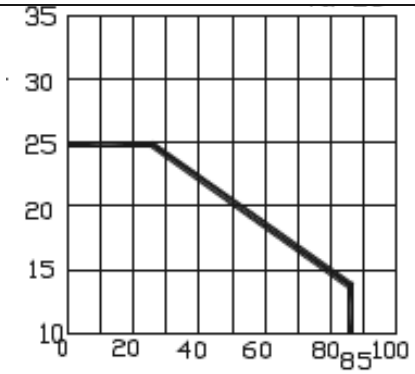
Relative Intensity vs. Ambient Temp.



Relative Intensity(a.u.)

Ambient Temperature Ta(℃)

Forward Current vs. Ambient Temp.



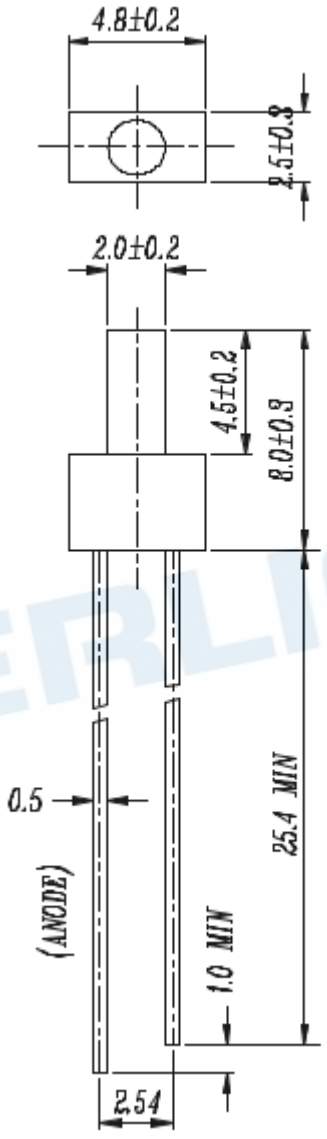
Forward Current (mA)

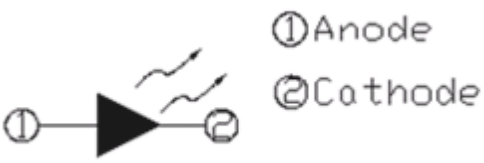
Ambient Temperature Ta(℃)

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Package Dimension



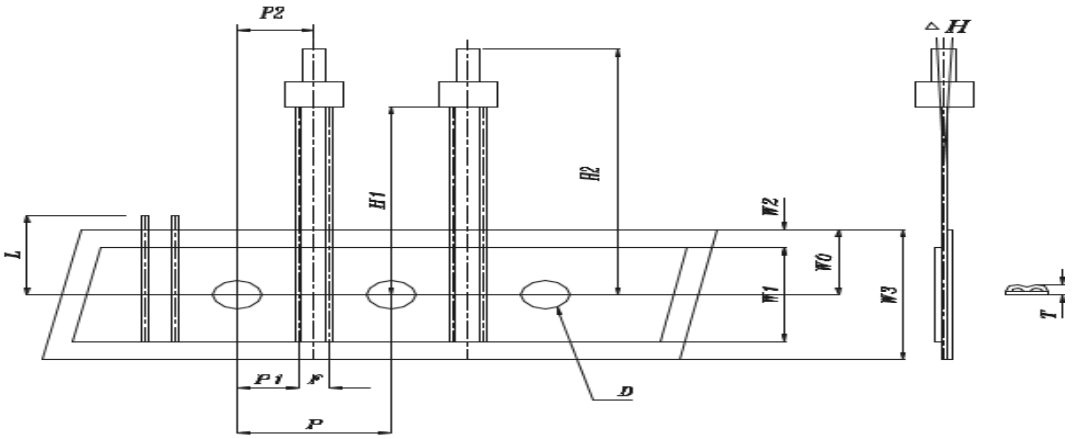


Notes:
1. All dimensions are in millimeters, tolerance is ±0.25mm except being specified
2. Lead spacing is measured where the lead emerge from the package
3. Protruded resin under flange is 1.5 mm(0.059”) Max LED.
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Taping Dimensions:



Notes:
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

Taping Sizes

Symbol Items	Symbol	Specifications		
		Avg.		Tolerance
		mm	Inch	(mm)
Tape Feed Hole Diameter	D	4.0	0.157	±0.2
Component Lead Pitch	F	2.54	0.100	+0.8/-0.2
Front-to-Read Deflection	△H	0°	0	±5°
Feed Hole to Button of Component	H1	18.50	0.728	±1.0
Feed Hole to Overall Component Height	H2	26.50	1.043	±1.0
Lead Length after Component Removal	L	11.00	0.433	MAX
Feed Hole Pitch	P	12.70	0.500	±0.3
Lead Location	P1	5.080	0.200	±0.7
Center of Component Location	P2	6.35	0.250	±1.2
Overall Taped Package Thickness	T	1.42	0.056	MAX
Feed Hole Location	W0	9.00	0.354	±0.5
Adhesive Tape Width	W1	13.00	0.512	±0.5
Adhesive Tape Position	W2	2.00	0.079	MAX
Tape Width	W3	18.00	0.709	±0.75

Package	Quantity/Reel	Order Increments
T-1	1000	1000
Package	Quantity/Ammo	Order Increments
T-1	2000	2000

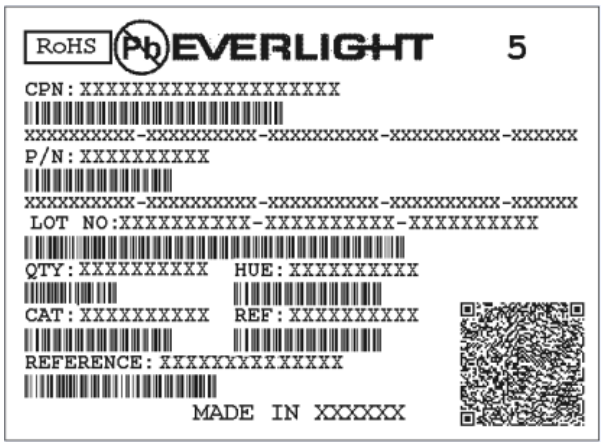
Note: Tolerances unless mentioned ±0.1mm. Unit = mm

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Moisture Resistant Packing Materials

Label Explanation



CPN: Customer's Production Number

P/N : Production Number

QTY: Packing Quantity

CAT: Ranks

HUE: Peak Wavelength

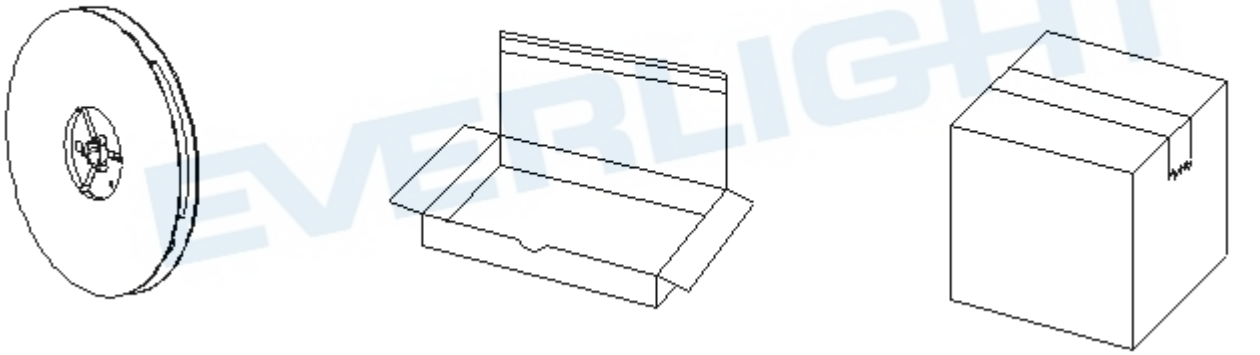
REF: Reference

LOT No: Lot Number

MADE IN TAIWAN ：Production Place

Packing Specification

■Tape ■ Inner Carton ■ Outside Carton



■ Packing Quantity

1.MIN 200 to 1000 PCS/Tape , 2 Tapes/Inner Carton

2. 5 Inner Cartons/Outer Carton

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Notes

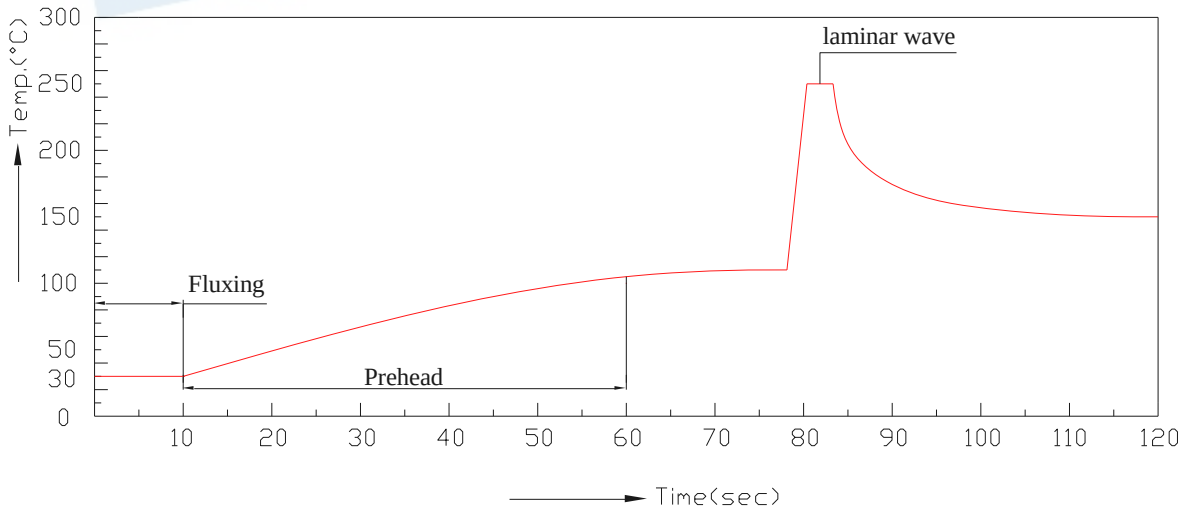
1. Lead Forming
   - During lead formation, the leads should be bent at a point at least 3mm from the base of the epoxy bulb.
   - Lead forming should be done before soldering.
   - Avoid stressing the LED package during leads forming. The stress to the base may damage the LED's characteristics or it 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°C or less and 70%RH or less after being shipped from Everlight 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.

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- 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

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1. EVERLIGHT reserves the right(s) on the adjustment of product material mix for the specification.
2. The product meets EVERLIGHT published specification for a period of twelve (12) months from date of shipment.
3. The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.
4. 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.
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