



# Technical Data Sheet

## High Power Lamp

### EHP-5393/SUG01-P01

#### Features

- Popular 10mm package.
- View angle:25° .
- High light flux output
- Soldering methods: Dip soldering.
- Optical efficiency: 40 lm/W
- Thermal resistance (junction to leadframe): 13K/W
- The product itself will remain within RoHS compliant version.
- ESD-withstand voltage: up to 4KV



#### Descriptions

- The series is specially designed for applications requiring higher brightness.
- The LED lamps are available with different colors, intensities, epoxy colors, etc.

#### Applications

- Flashlight
- Sunshine light.
- Advertising Signs.
- Back lighting.

#### Device Selection Guide

LED Part No.	Chip		Lens Color
	Material	Emitted Color	
EHP5393/SUG01-P01	InGaN	Brilliant Green	Water Clear

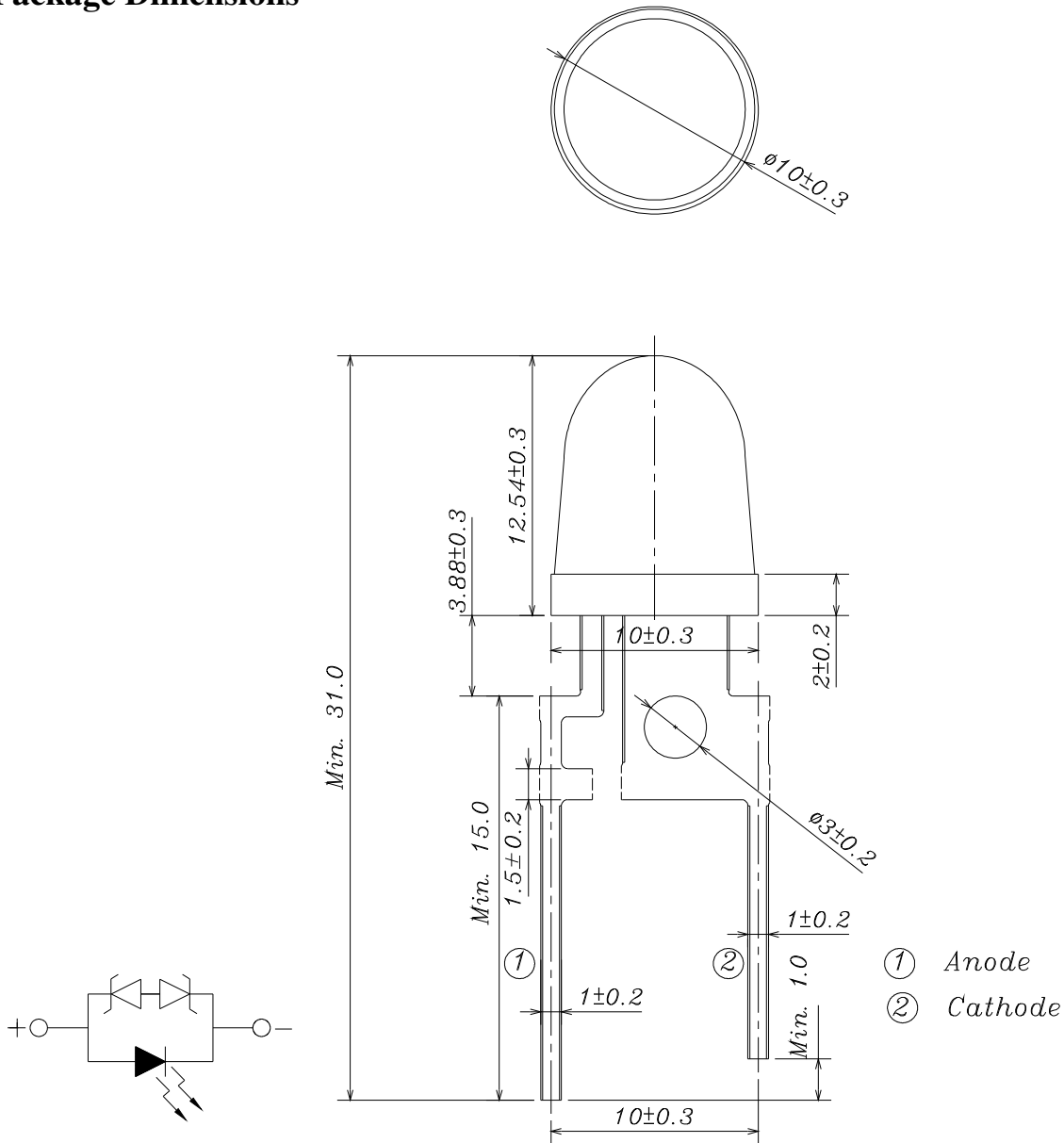


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### Package Dimensions



### Notes:

- Other dimensions are in millimeters, tolerance is 0.25mm except being specified.
- Protruded resin under flange is 1.5mm Max LED.
- Bare copper alloy is exposed at tie-bar portion after cutting.



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### Absolute Maximum Rating ( $T_a=25^{\circ}\text{C}$ )

Parameter	Symbol	Absolute Maximum Rating	Unit
Forward Current	$I_F$	350	mA
Thermal resistance (junction to leadframe)	$R_{th(j-l)}$	13	K/W
Operating Temperature	$T_{opr}$	-40 ~ +85	$^{\circ}\text{C}$
Storage Temperature	$T_{stg}$	-40 ~ +100	$^{\circ}\text{C}$
Electrostatic Discharge	ESD	4K	V
Soldering Temperature	$T_{sol}$	260 $\pm$ 5	$^{\circ}\text{C}$
Power Dissipation	$P_d$	1.4	W
Reverse Voltage	$V_R$	5	V
Zener Reverse Current	$I_Z$	100	mA

Notes: Soldering time  $\leq$  5 seconds.

### Electro-Optical Characteristics ( $T_a=25^{\circ}\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Flux	Flux	45	55	75	lm	$I_F=350\text{mA}$
Peak Wavelength	$\lambda_p$	--	518	--	nm	
Dominant Wavelength	$\lambda_d$	520	525	536	nm	
Viewing Angle	$2\theta_{1/2}$	--	25	--	deg	
Forward Voltage	$V_F$	3.0	3.5	4.0	V	
Reverse Current	$I_R$	--	--	50	$\mu\text{A}$	$V_R=5\text{V}$
Zener Reverse Voltage	$V_Z$	5.2	--	--	V	$I_Z=5\text{mA}$



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#### Rank Combination ( $I_F=350\text{mA}$ )

Rank	G1	G2	G3	G4	G5	G6
Luminous Flux	45~50	50~55	55~60	60~65	65~70	70~75

\*Measurement Uncertainty of Luminous Intensity:  $\pm 15\%$

Unit:lm

#### Forward Voltage Combination (V at 350mA)

Rank	1	2	3	4	5
Forward Voltage	3.0~3.2	3.2~3.4	3.4~3.6	3.6~3.8	3.8~4.0

\*Measurement Uncertainty of Forward Voltage:  $\pm 0.1\text{V}$

Unit:V

#### Color Combination ( at 350mA)

Rank	3	4	5	6
Dominant Wavelength	520~524	524~528	528~532	532~536

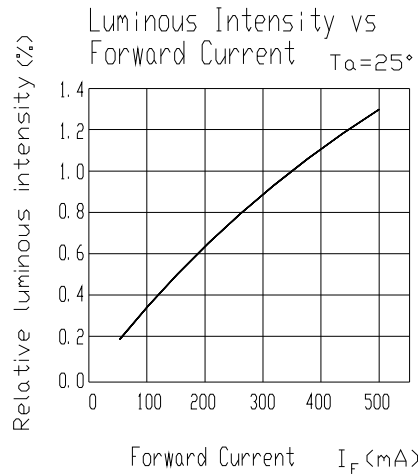
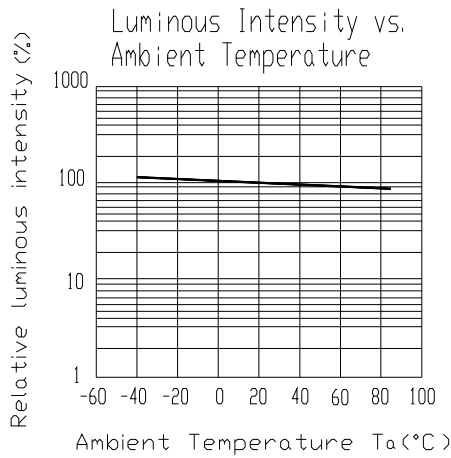
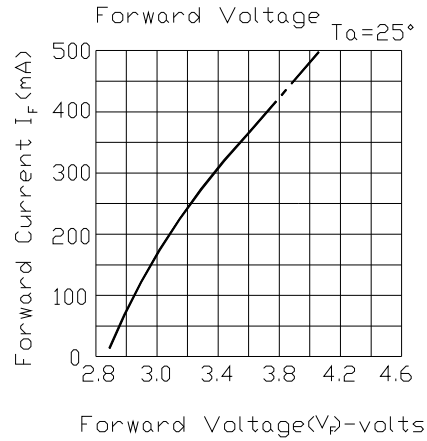
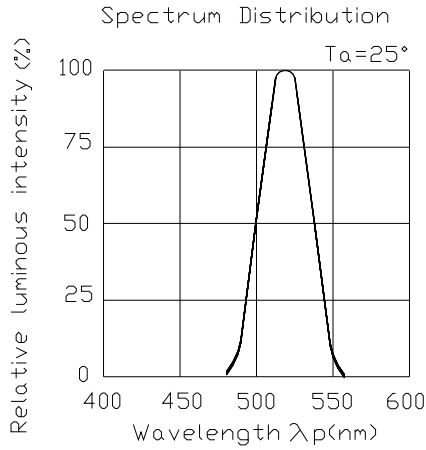


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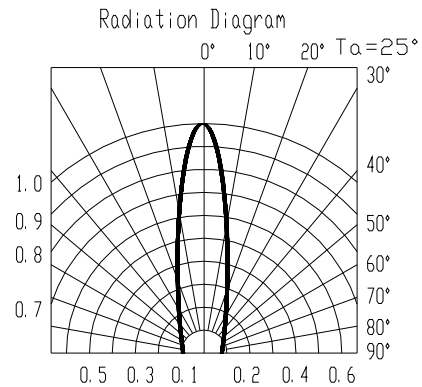
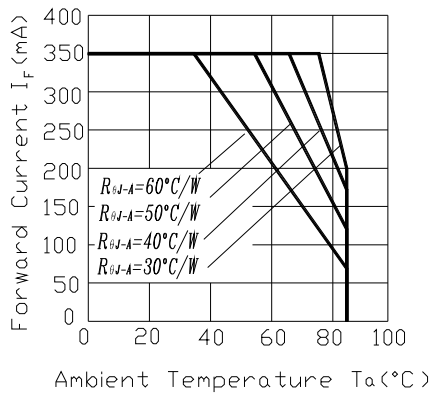
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#### Typical Electro-Optical Characteristics Curves



Forward Current Derating Curve





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### Packing Quantity Specification

- 1.200PCS/1Bag , 3Bags/1Box
- 2.10Boxes/1Carton

### Label Form Specification

<b>EVERLIGHT</b>	
CPN:	
P/N:	
	<b>RoHS</b>
EHP-5393/SUG01-P01	
QTY :	CAT:
	HUE:
LOT NO :	REF:
	
MADE IN TAIWAN	

- CPN: Customer's Production Number
- P/N : Production Number
- QTY: Packing Quantity
- CAT: Ranks of Total Flux and Forward Voltage
- HUE: Ranks of Dominant Wavelength
- REF: Reference
- LOT No: Lot Number
- MADE IN TAIWAN: Production Place



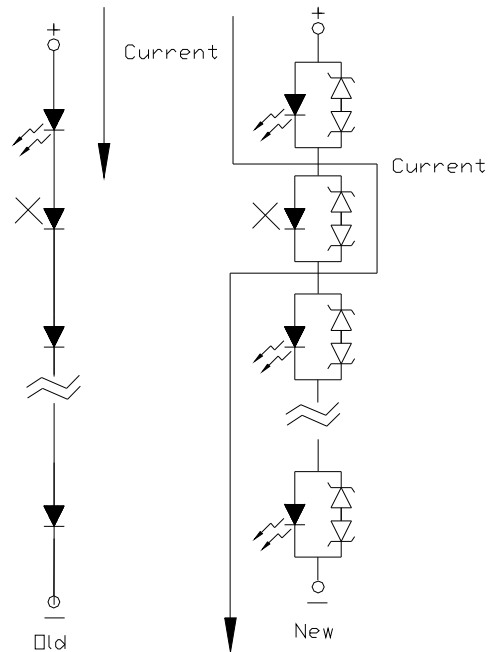
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### Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. 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 use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
3. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.
4. Below the zener reference voltage  $V_z$ , all the current flows through LED and as the voltage rises to  $V_z$ , the zener diode "breakdown." If the voltage tries to rise above  $V_z$  current flows through the zener branch to keep the voltage at exactly  $V_z$ .
5. When the LED is connected using serial circuit, if either piece of LED is no light up but current can't flow through causing others to light down. In new design, the LED is parallel with zener diode. if either piece of LED is no light up but current can flow through causing others to light up.





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6. If the emitter is operated, consider using metal heat sink with the lowest possible thermal resistance. We do not recommend lighting the emitter for more than a few seconds without an additional heat sink. For the thermal performance using a flat heat sink, allow an exposed surface area of about 25mm<sup>2</sup> at least.

#### 7. Soldering Condition

Careful attention should be paid during soldering. When soldering, leave more than 3mm from solder joint to case, and soldering beyond the base of the tie bar 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	400°C Max. (30W Max.)	Preheat temp.	100°C Max. (60 sec Max.)
Soldering time	3 sec Max.	Bath temp.	265 Max.
Distance	3mm Min.(From solder joint to case)	Bath time.	5 sec Max.
		Distance	3mm Min.

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