

EVERLIGHT

Technical Data Sheet

High Power Lamp

Preliminary**EHP-5393/UT01-P01**

Features

- Popular 10mm package.
- Color coordinates: $x=0.29$, $y=0.28$ according to CIE.
- View angle: 25° .
- High light flux output
- Soldering methods: Dip soldering.
- Grouping parameter: total luminous flux, color coordinates.
- Optical efficiency: 35 lm/W
- Thermal resistance (junction to leadframe): 10K/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/UT01-P01	InGaN	White	Water Clear



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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
LED Junction Temperature	T_j	120	$^{\circ}\text{C}$
Operating Temperature	T_{opr}	-40 ~ +100	$^{\circ}\text{C}$
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
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	27	37	--	lm	$I_F=350\text{mA}$
Viewing Angle	$2\theta_{1/2}$	--	25	--	deg	
Forward Voltage	V_F	3.0	3.5	4.0	V	
Reverse Current	I_R	--	--	10	μA	$V_R=5\text{V}$
Zener Reverse Voltage	V_Z	5.2	--	--	V	$I_z=5\text{mA}$
Chromaticity Coordinates	x	--	0.29	--	--	$I_F=350\text{mA}$
	y	--	0.28	--	--	



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

Rank	J2	J3	J4	J5
Luminous Flux	27~33	33~39	39~45	45~52

*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)

Color Ranks		CIE			
A1	X	0.245	0.264	0.28	0.26
	Y	0.225	0.267	0.248	0.21
A0	X	0.264	0.283	0.296	0.28
	Y	0.267	0.305	0.267	0.248
B3	X	0.283	0.304	0.307	0.287
	Y	0.305	0.33	0.315	0.295
B4	X	0.304	0.33	0.33	0.307
	Y	0.33	0.36	0.339	0.315
B5	X	0.287	0.307	0.311	0.296
	Y	0.295	0.315	0.294	0.276
B6	X	0.307	0.33	0.33	0.311
	Y	0.315	0.339	0.318	0.294
C0	X	0.33	0.361	0.355	0.33
	Y	0.36	0.385	0.35	0.318



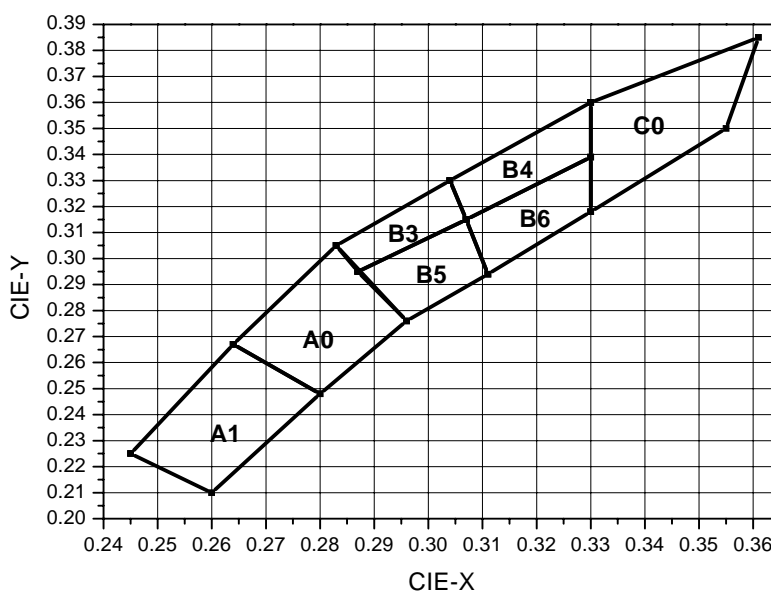
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CIE Chromaticity Diagram





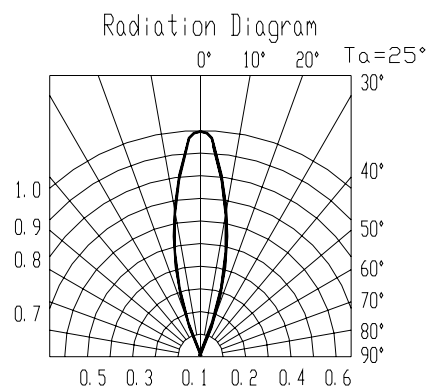
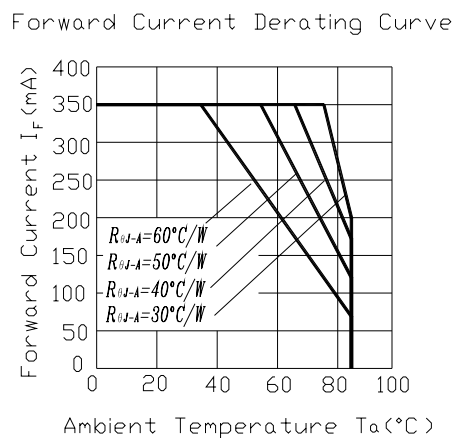
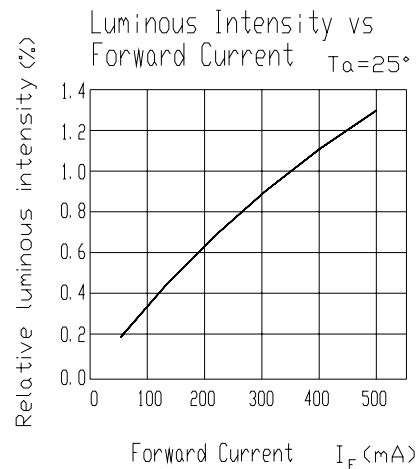
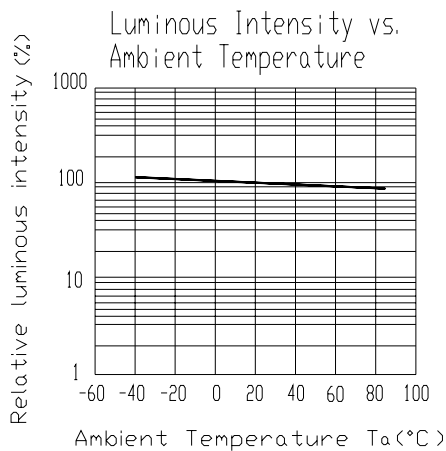
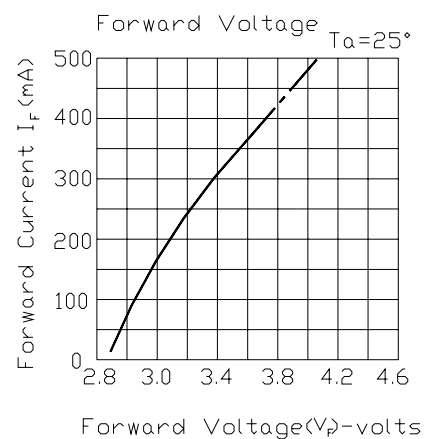
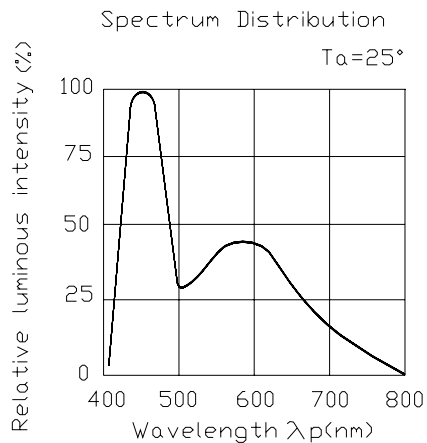
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Typical Electro-Optical Characteristics Curves





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Packing Quantity Specification

1.250PCS/1Bag , 5Bags/1Box

2.10Boxes/1Carton

Label Form Specification

EVERLIGHT	
CPN:	
P/N:	
 RoHS	
EHP-5393/UT01-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: Color Rank

REF: Reference

LOT No: Lot Number

MADE IN TAIWAN: Production Place



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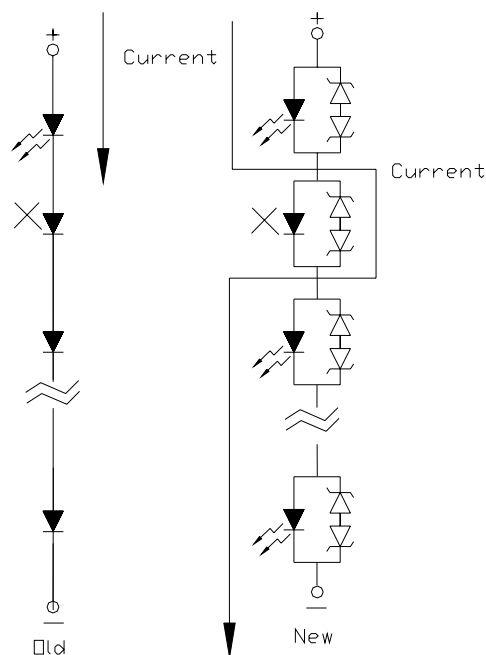
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Notes

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. For the thermal performance using a flat heat sink, allow an exposed surface area of about 25mm² 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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