



## 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:  $25^{\circ}$ .
- 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





## Technical Data Sheet

### High Power Lamp

Preliminary

**EHP-5393/UT01-P01**

#### 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	$\mu\text{A}$	$V_R=5\text{V}$
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	--	--	



## Technical Data Sheet

### High Power Lamp

Preliminary

**EHP-5393/UT01-P01**

#### 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



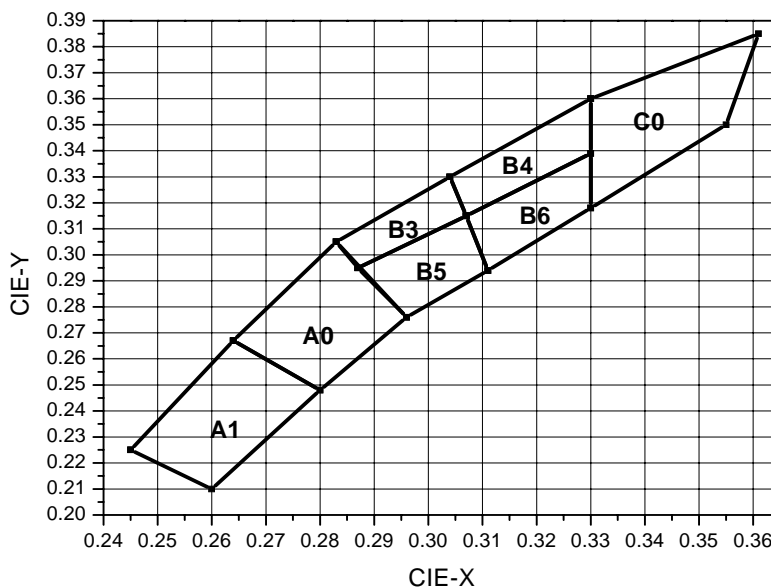
## Technical Data Sheet

### High Power Lamp

Preliminary

**EHP-5393/UT01-P01**

#### CIE Chromaticity Diagram





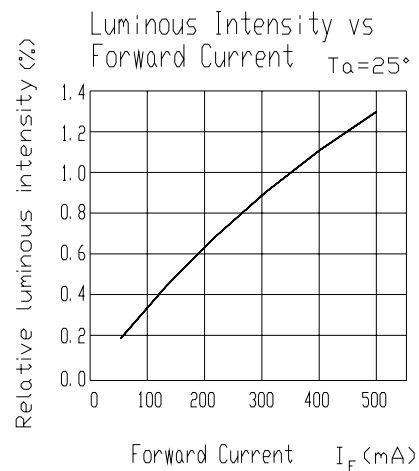
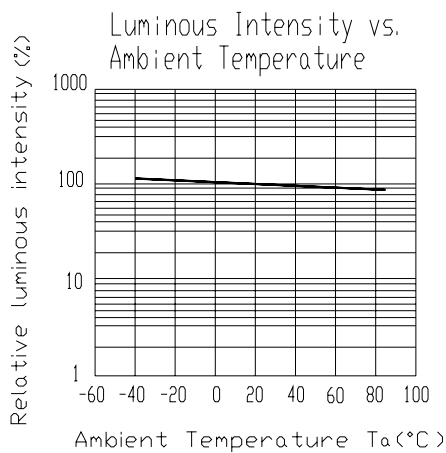
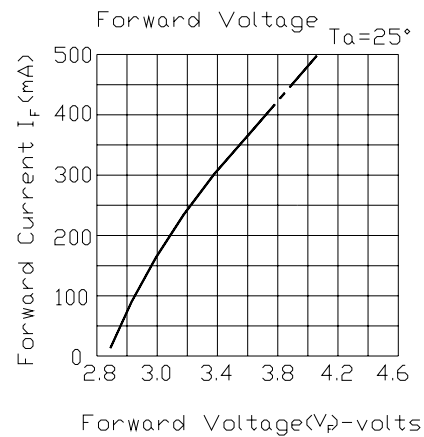
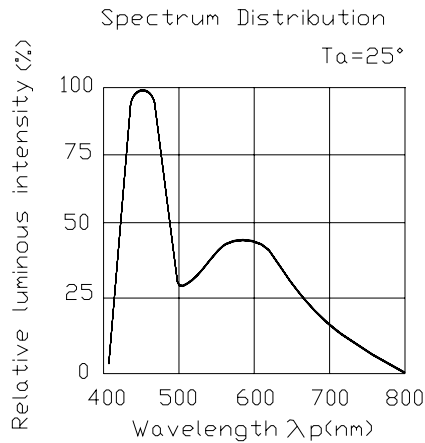
# Technical Data Sheet

## High Power Lamp

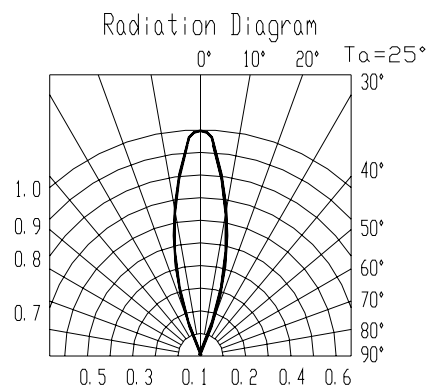
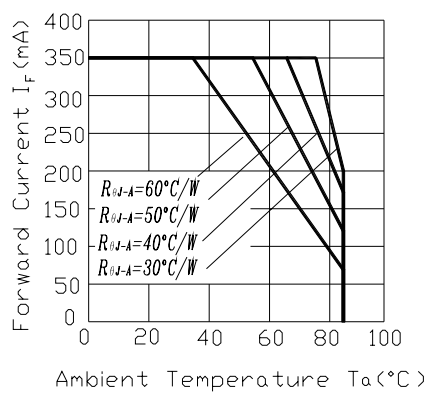
Preliminary

**EHP-5393/UT01-P01**

### Typical Electro-Optical Characteristics Curves



Forward Current Derating Curve





## Technical Data Sheet

### High Power Lamp

Preliminary

**EHP-5393/UT01-P01**

#### Packing Quantity Specification

1.250PCS/1Bag , 5Bags/1Box

2.10Boxes/1Carton

#### Label Form Specification

<div>EVERLIGHT</div>	
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



## Technical Data Sheet

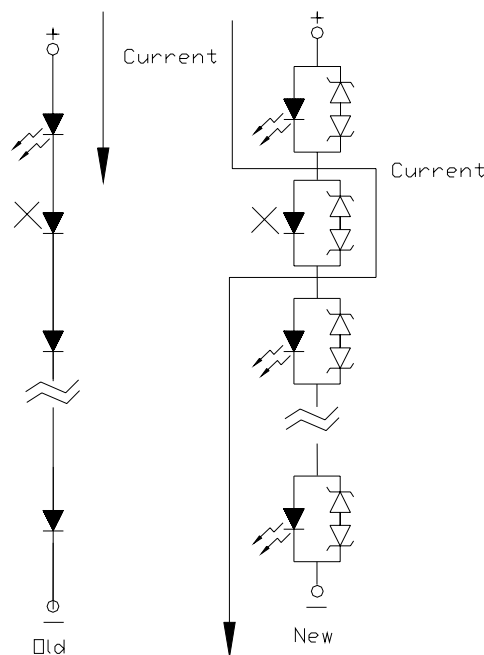
### High Power Lamp

Preliminary

**EHP-5393/UT01-P01**

#### 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.







## Technical Data Sheet

### High Power Lamp

Preliminary

#### **EHP-5393/UT01-P01**

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 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.

**EVERLIGHT ELECTRONICS CO., LTD.**  
Office: No 25, Lane 76, Sec 3, Chung Yang Rd,  
Tucheng, Taipei 236, Taiwan, R.O.C

Tel: 886-2-2267-2000, 2267-9936  
Fax: 886-2267-6244, 2267-6189, 2267-6306  
<http://www.everlight.com>