

## Technical Data Sheet

### – High Power LED 1W (Preliminary)

#### [EHP-AX08LS-HA/DT01C-P01](#)

#### ● Features

- (1) Feature of the device: small package with high efficiency
- (2) Typical light flux output: 80 lm @ 350 mA.
- (3) ESD protection.
- (4) Grouping parameter: total luminous flux, color coordinates.
- (5) Typical optical efficiency: 64 lm/W
- (6) Thermal resistance (junction to heatsink): 17 K/W.
- (7) The product itself will remain within RoHS compliant version.



#### ● Applications

- (1) TFT LCD display backlight
- (2) Decorative and entertainment illumination
- (3) Signal and symbol luminaries for orientation market lights (e.g. steps, exit ways, etc.)

#### ● Materials

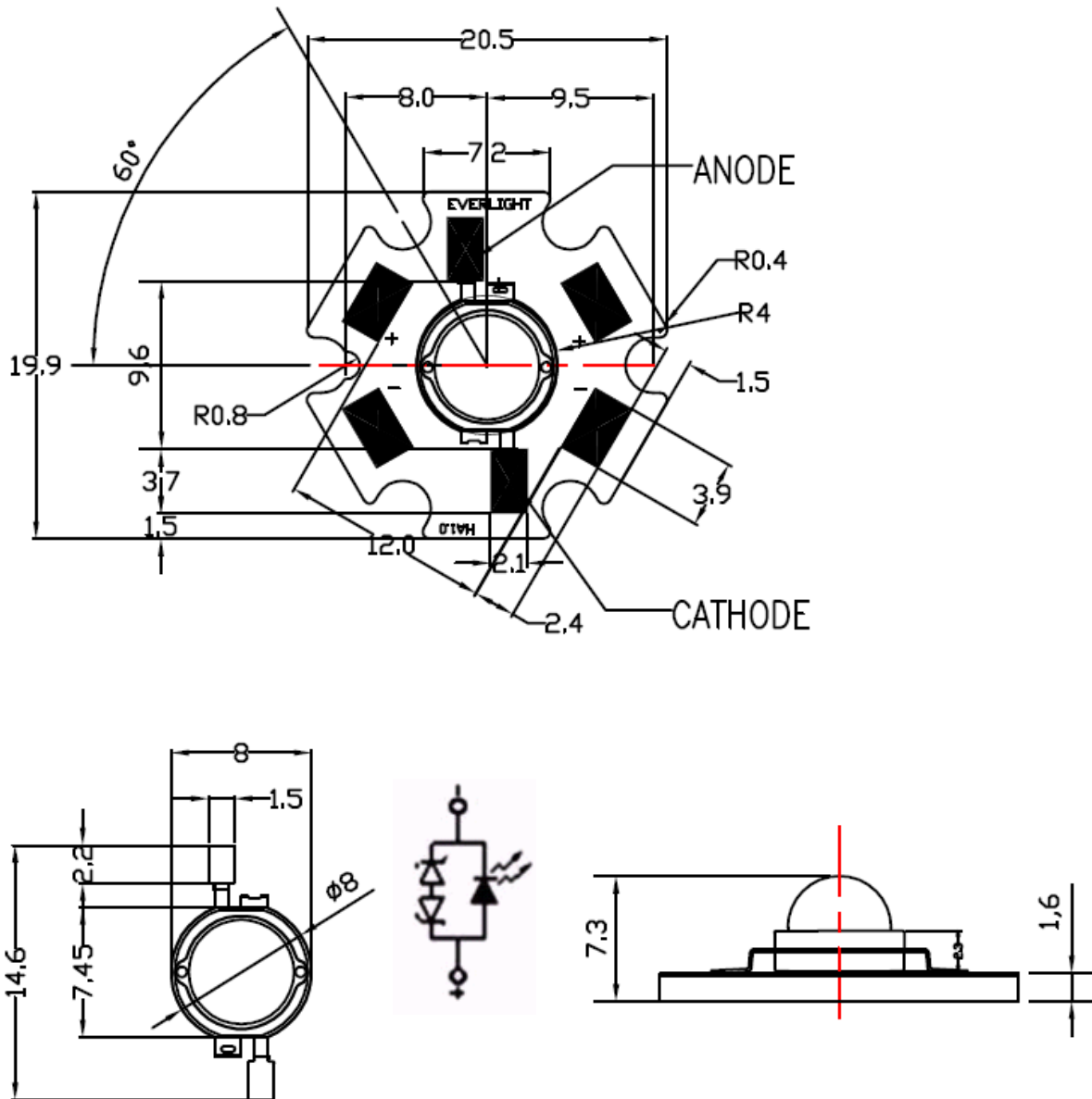
Items	Description
Heatsink	MCPCB
Housing black body	Heat resistant polymer
Encapsulating Resin	Silicone resin
Lens	Silicone
Electrodes	Ag plating copper alloy
Die attach	Flux
Chip	InGaN

Notes: 1. In order to keep the LED contacting with heatsink completely, don't hit the LED.

2. If LED doesn't contacting with heatsink completely, the LED could be damaged by heat

**EHP-AX08LS-HA/DT01C-P01**

● **Dimensions**



- Notes: 1. Dimensions are in millimeters
- 2. Tolerances unless dimensions  $\pm 0.25\text{mm}$

EHP-AX08LS-HA/DT01C-P01● **Maximum Ratings ( $T_{\text{Ambient}}=25^{\circ}\text{C}$ )**

Parameter	Symbol	Rating	Unit
Operating Temperature	$T_{\text{opr}}$	-40 ~ +100	$^{\circ}\text{C}$
Storage Temperature	$T_{\text{stg}}$	-40 ~ +110	$^{\circ}\text{C}$
Junction temperature	$T_{\text{j}}$	125	$^{\circ}\text{C}$
Forward Current	$I_{\text{F}}$	1000	mA
Power Dissipation	$P_{\text{d}}$	4.2	W
Junction to heat-sink thermal	$R_{\text{th}}$	17	K/W

● **Electro-Optical Characteristics ( $T_{\text{Ambient}}=25^{\circ}\text{C}$ )**

Parameter	Bin	Symbol	Min	Typ.	Max	Unit	Condition
Luminous Flux <sup>(1)</sup>	K3	$\Phi_{\text{v}}$	70	----	85	lm	If=350mA
	K4		85	----	100		
Viewing Angle <sup>(2)</sup>	----	$2\theta_{1/2}$		120		deg	
Forward Voltage <sup>(3)</sup>	V1	$V_{\text{F}}$	2.95	----	3.25	V	
	V2		3.25	----	3.55		
	V3		3.55	----	3.85		
	V4		3.85	----	4.15		
Color Temperature <sup>(4)</sup>	----	CCT	4500	6500	10000	K	

Note. 1. Luminous flux measurement tolerance :  $\pm 10\%$

2.  $2\theta_{1/2}$  is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.

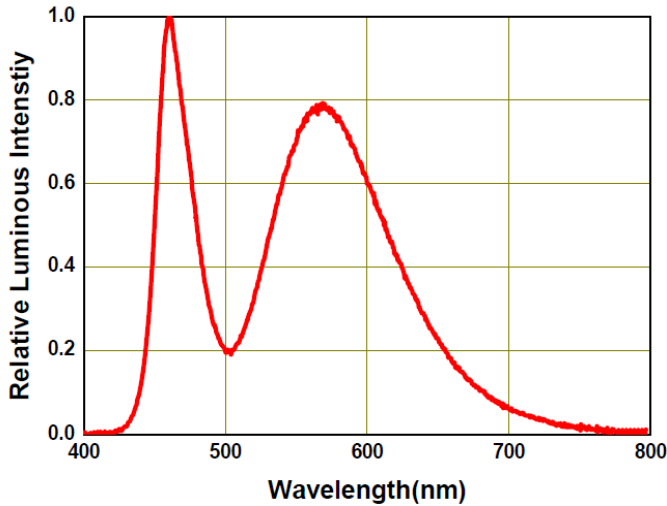
3. Forward Voltage measurement tolerance:  $\pm 0.1\text{V}$

4. X, Y coordination for white light bin areas refer to EHP-A08-AX08 series White and Warm White Binning (DSE-A08-001)

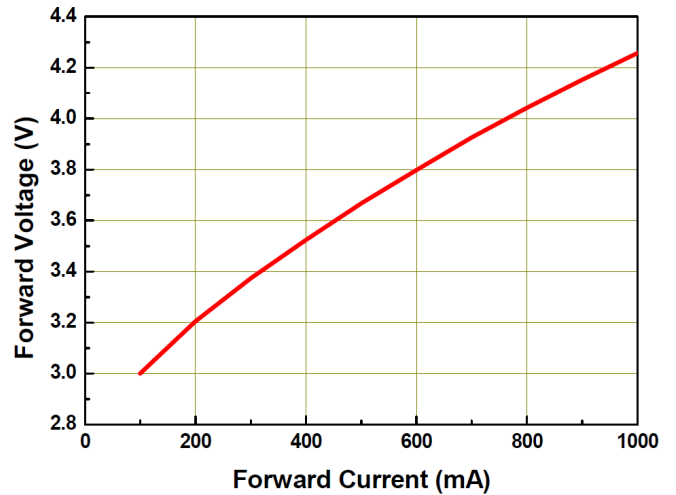
**EHP-AX08LS-HA/DT01C-P01**

● **Typical Electro-Optical Characteristics Curves**

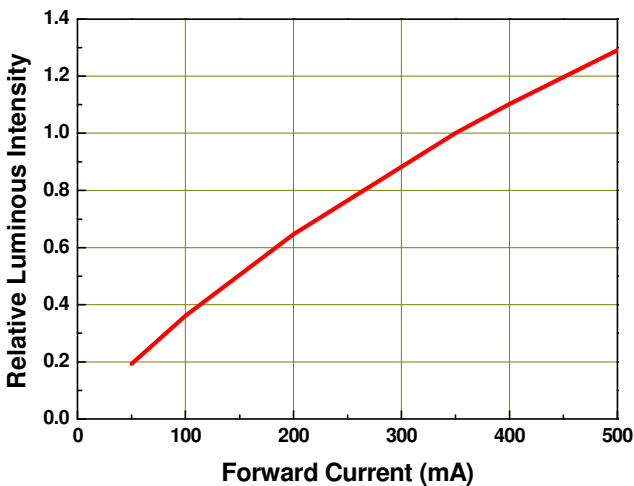
**Relative Spectral Distribution,**  
 $I_F=350\text{mA}$ ,  $T_{\text{Ambient}}=25^\circ\text{C}$



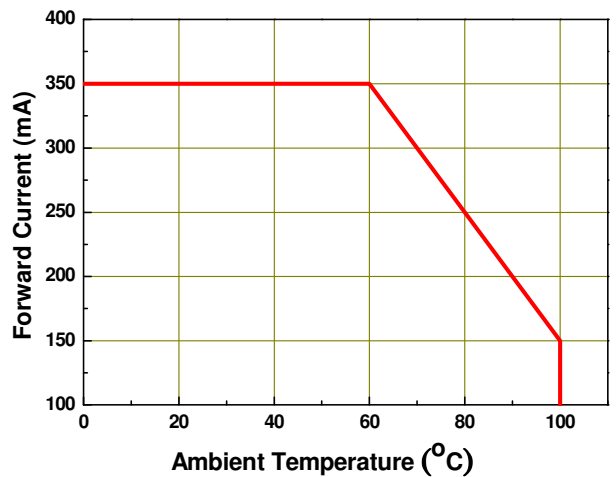
**Forward Voltage vs Forward Current,**  
 $T_{\text{Ambient}}=25^\circ\text{C}$

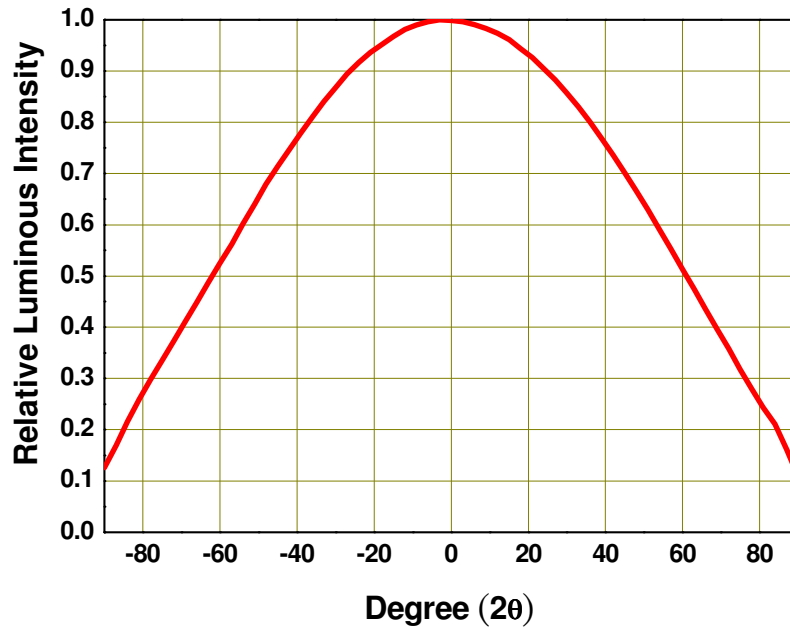


**Relative Luminous Intensity vs Forward Current,**  
 $T_{\text{Ambient}}=25^\circ\text{C}$



**Forward Current Derating Curve,**  
Derating based on  $T_{\text{imax}}=125^\circ\text{C}$



**● Typical Representative Spatial Radiation Pattern**

EHP-AX08LS-HA/DT01C-P01

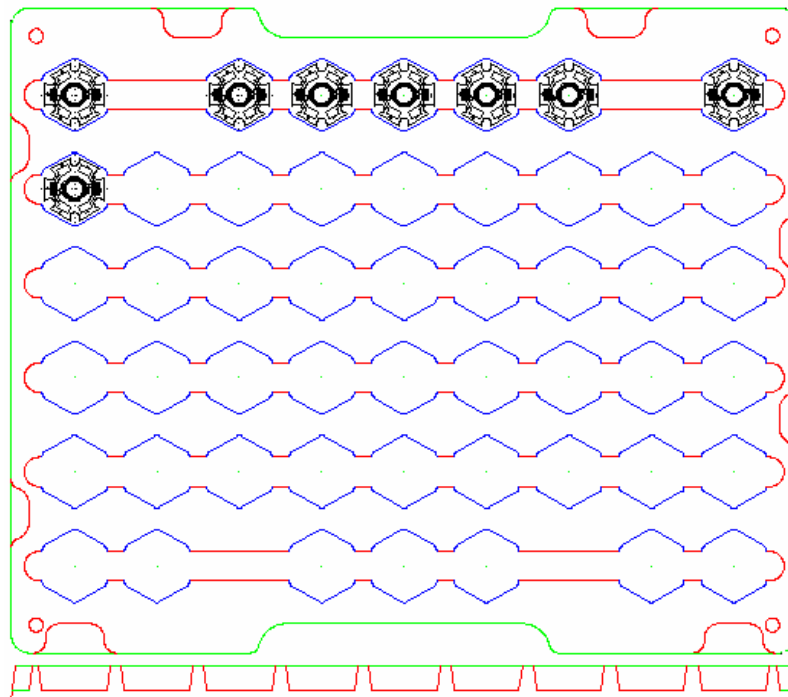
● **Label explanation**

- 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



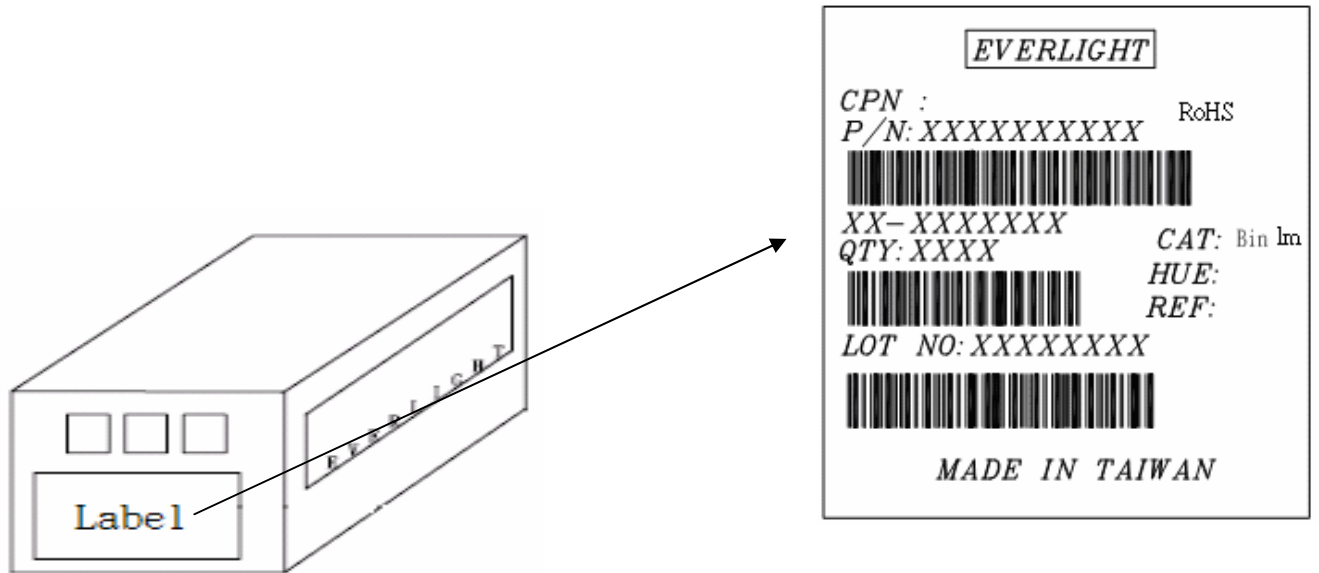
● **Carrier Tray Specifications**

- 1. Loaded quantity 50 PCS per tray



**EHP-AX08LS-HA/DT01C-P01**

**2. Outside Carton**



● **Packing Quantity**

**1.50 Pcs / Per Tray**

**2.10 Trays / Outside Carton**

## ● Precautions For Use

### 1. Over-current-proof

Though EHP-A08-HA series has conducted ESD protection mechanism, customer must not use the device in reverse and should apply resistors for extra protection. Otherwise slight voltage shift may cause enormous current change and burn out failure would happen.

### 2. Storage

- 2.1 The LEDs should be used within a year.
- 2.2 Storage should be kept at 30°C or less and 70%RH or less, including opening the package.
- 2.3 The LEDs should be used within 168 hours (7 days) after opening the package.
- 2.4 If the moisture absorbent material (silicone gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.
- 2.5 Before using, Please pre-curing treatment: 60±5°C for 24 hours.

### 3. Thermal Management

- 3.1 For maintaining the high flux output and achieving reliability, EHP-A08-HA series should be with proper thermal connection to dissipate approximately 1W of thermal energy under 350mA operation.
- 3.2 Special thermal designs are also recommended to take in outer adding heat sink design with thermal conductive adhesive, etc.
- 3.3 Sufficient thermal management must be conducted, or the die junction temperature will be over the limit under large electronic driving and LED lifetime will decrease critically.

### 4. Soldering Iron

- 4.1 It is recommended to hand solder the leads with a solder tip temperature of 260°C for less than 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal.
- 4.2 Don't over heating, keep the  $T_b$  under 140°C.