



## TH-B460J-TO46HG

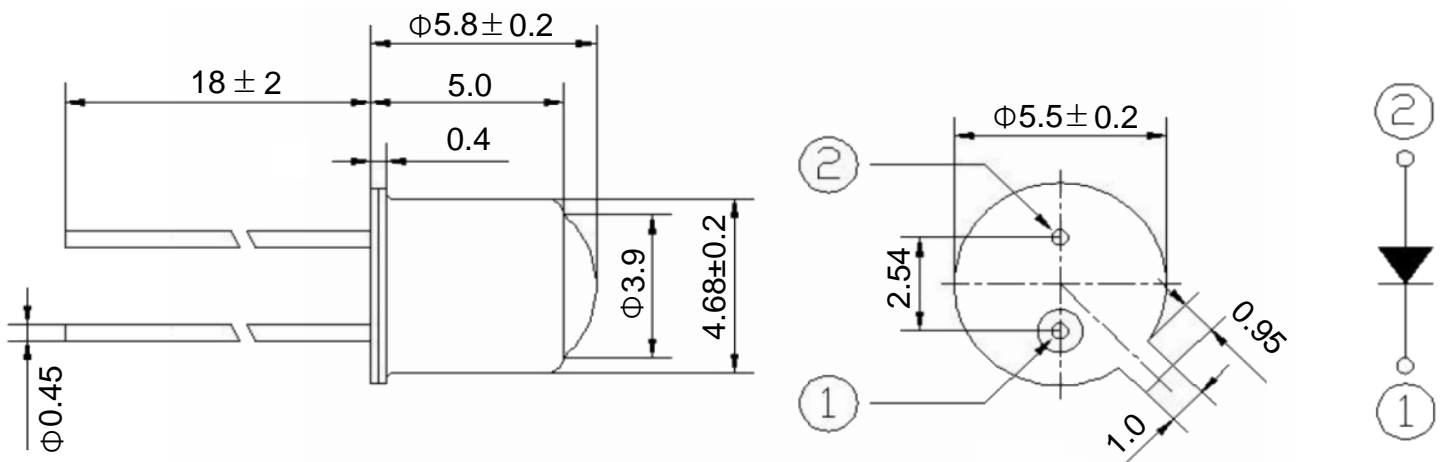


### CAUTION

OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES



### Mechanical Dimensions



### Notes :

- [1] All dimensions are in millimeters.
- [2] Scale : none
- [3] Undefined tolerance is  $\pm 0.3$  mm



## Typical Electrical & Optical Characteristics at Ta = 25°C

Items	Symbol	Condition	Min.	Typ.	Max	Unit
Forward Current	I <sub>F</sub>	-	-	-	50	mA
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	2.9	3.1	3.6	V
Optical Power Output	P <sub>0</sub>	I <sub>F</sub> =20mA	20000	-	30000	mcd
Wavelength	λ <sub>p</sub>	I <sub>F</sub> =20mA	450	460	470	nm
50% Power Angle	2 θ <sub>½</sub>	I <sub>F</sub> =20mA	-	≤ 4.5	-	deg

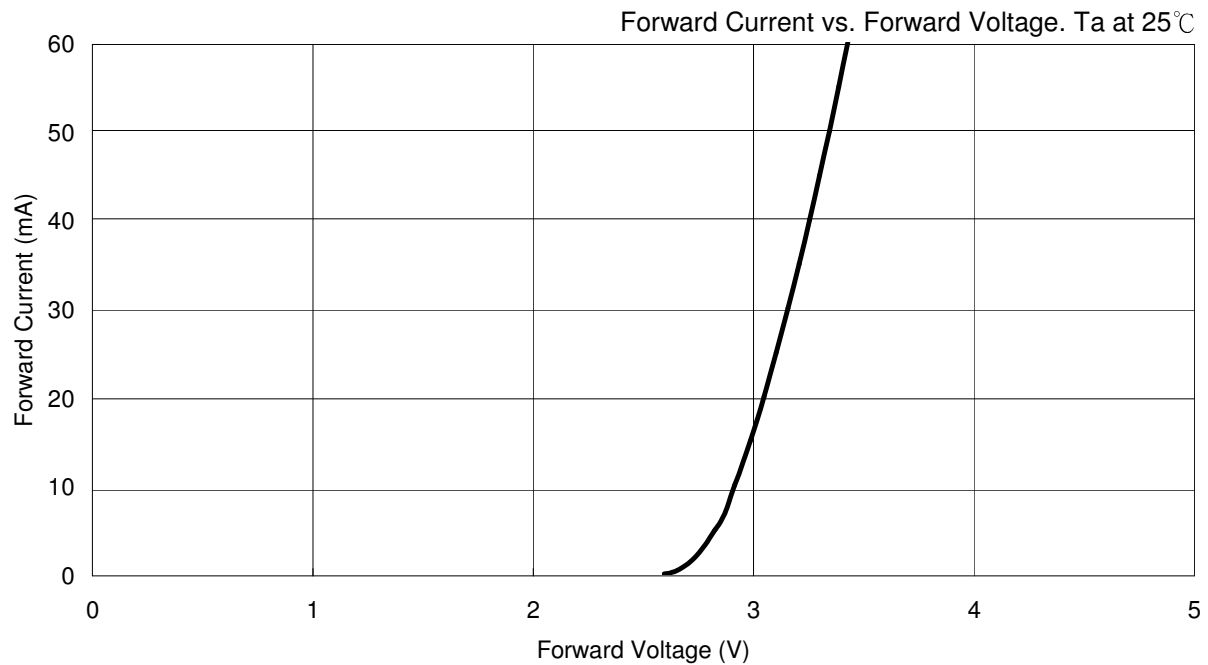
## Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Absolute maximum Rating	Unit
Reverse Voltage	V <sub>R</sub>	5	V
Reverse Current	I <sub>R</sub>	≤5	μA
Power Dissipation	P <sub>D</sub>	150	mW
Operation Temperature	T <sub>opr</sub>	-40 ~ +60	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +100	°C
Lead Soldering Temperature(5mm From The Base Of The Epoxy Bulb)	T <sub>sol</sub>	260 (≤3s)	°C
Electrostatic Discharge Classification (MIL-STD-883E)	ESD	Class1	

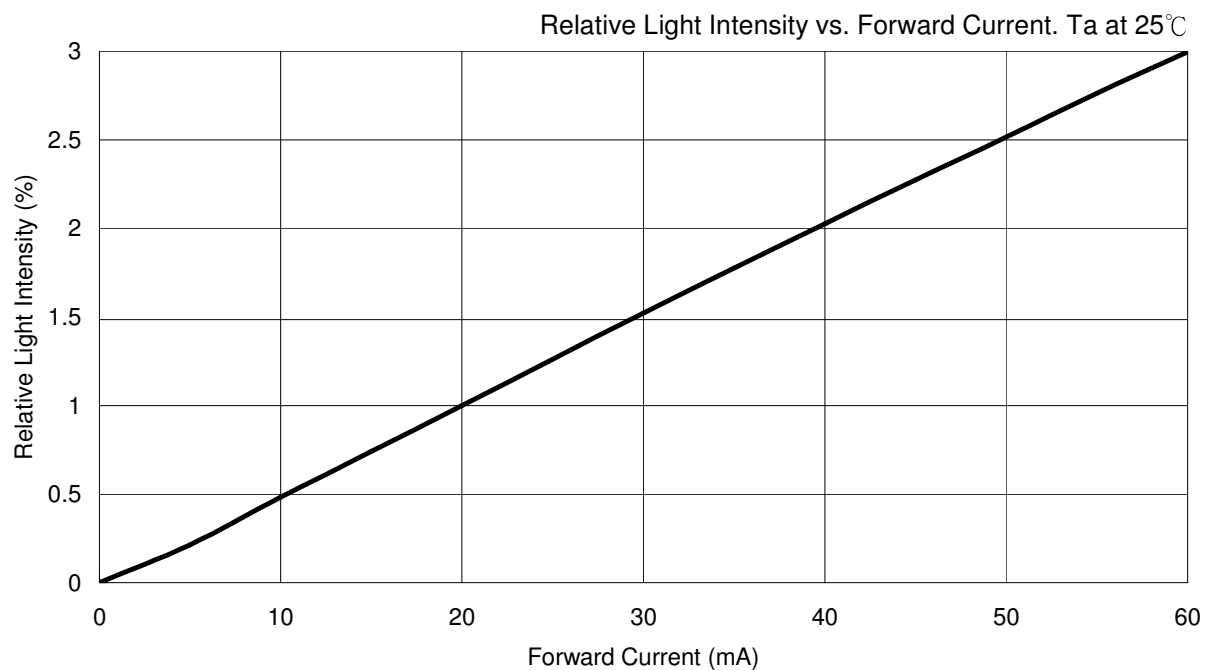
\* Where pulse width ≤ 0.1msec, duty cycle ≤ 1/10



## Electrical Characteristics

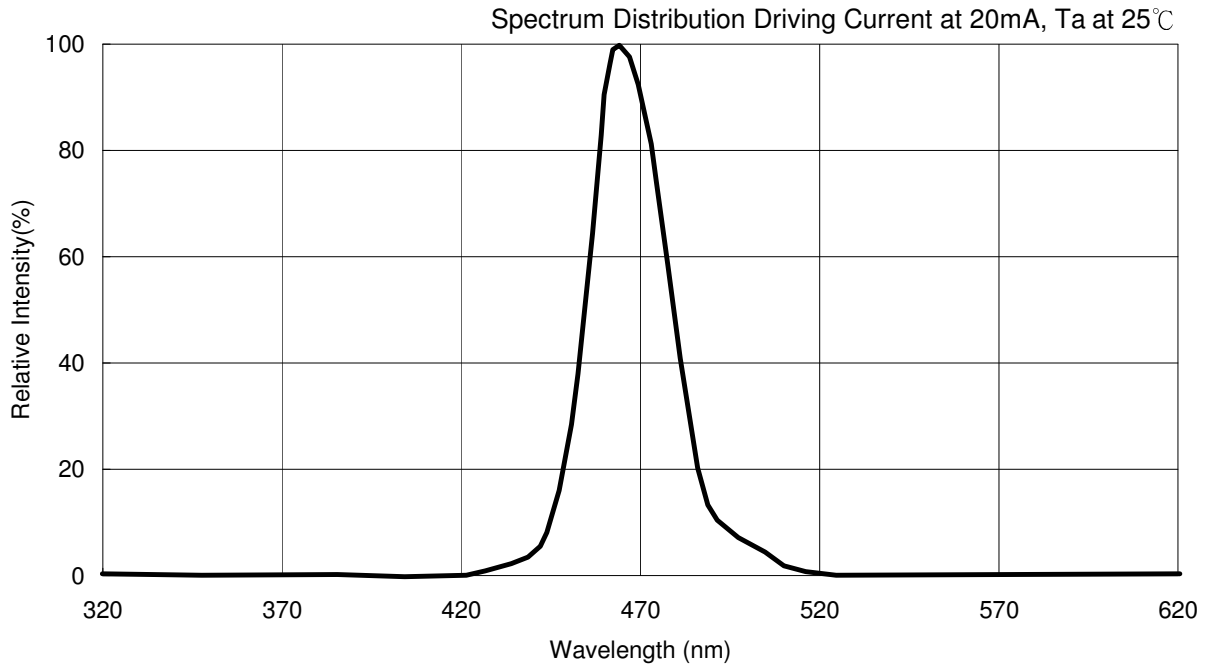


## Optical Characteristics

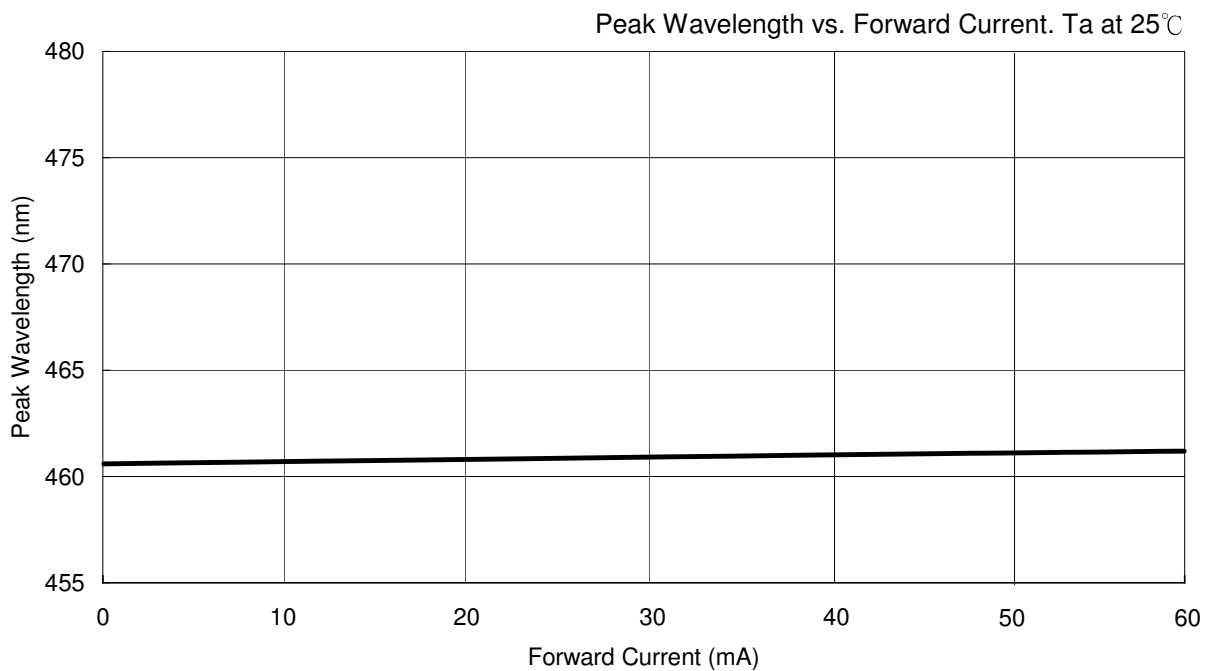




## Optical Characteristics

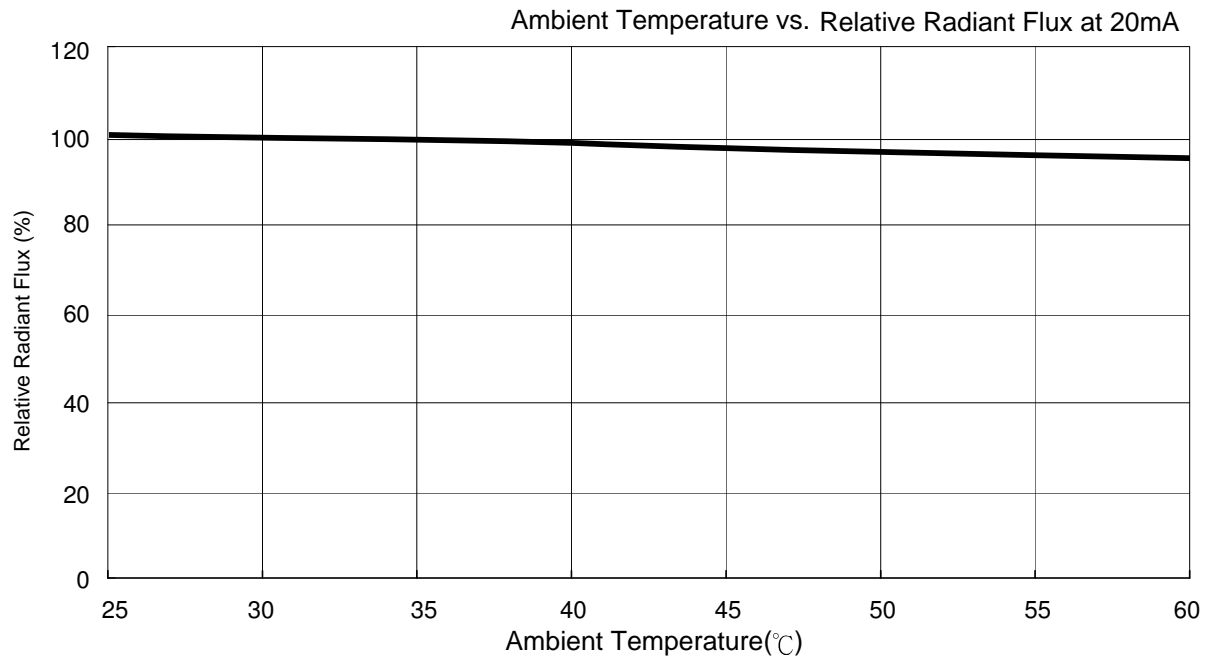


## Optical Characteristics

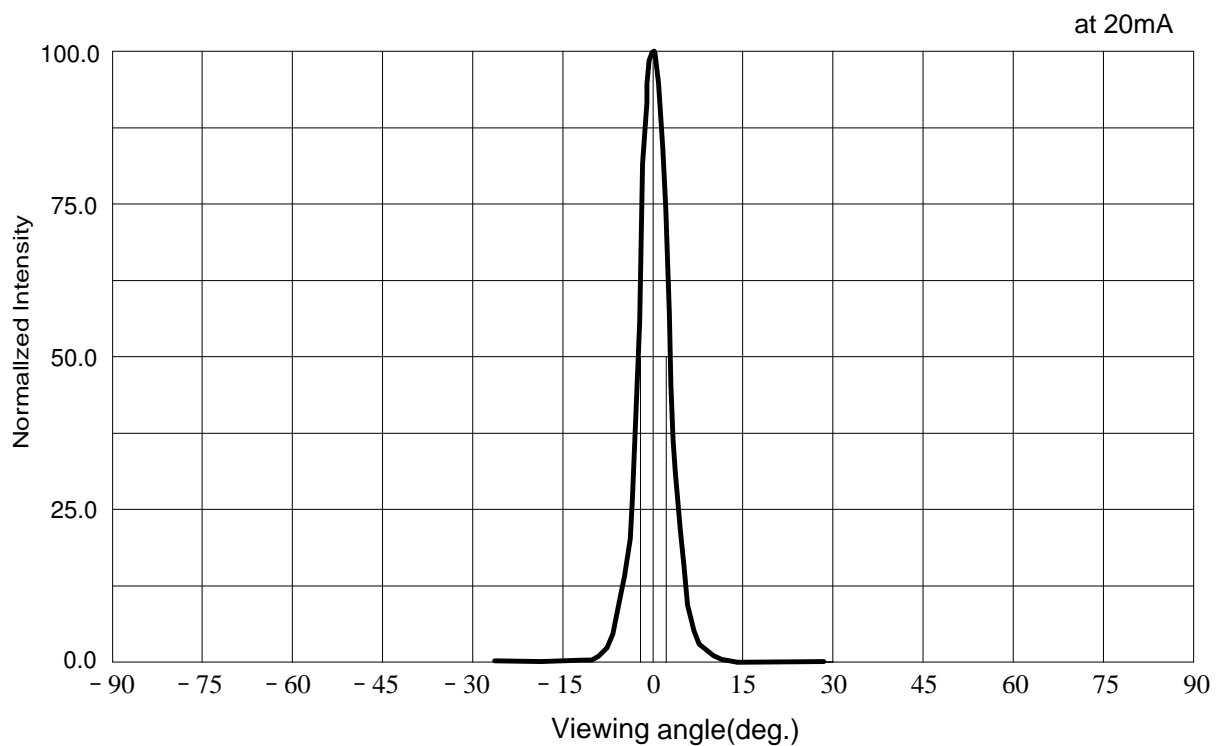




## Optical Characteristics



## Optical Characteristics





## Lead Forming

- When forming leads, the leads should be bent at a point at least 3mm from the base of the lead.  
Do not use the base of the leadframe as a fulcrum during lead forming.
- Lead forming should be done before soldering.
- Do not apply any bending stress to the base of the lead.  
The stress to the base may damage the LED's characteristics or it may break the LEDs.
- When mounting the product onto a printed circuit board, the via-holes on the board should be exactly aligned with the lead pitch of the product. If the LEDs are mounted with stress at the leads, it causes deterioration of the cap and this will degrade the LEDs.

## Storage

- Shelf life of the products in unopened bag is 3 months(max.) at <30°C and 70% RH from the delivery date.  
If the shelf life exceeds 3 months or more, the LEDs need to be stored in a sealed container with silica gel desiccants to ensure their shelf life will not exceed 1 year.
- Tianhui LED leadframe are gold plated iron alloy. This gold surface may be affected by environments which contain corrosive substances. Please avoid conditions which may cause the LED to corrode, tarnish or discolor.  
This corrosion or discoloration may cause difficulty during soldering operation.  
It is recommended that the LEDs be used as soon as possible.
- To avoid condensation, the products must not be stored in the areas where temperature and humidity fluctuate greatly.

## Handling Precautions

- Do not handle LEDs with bare hands, it may contaminate the LED surface and affect optical characteristics.  
In the worst case, catastrophic failure from excess pressure through wire-bond breaks and package damage may result.
- Dropping the product may cause damage.
- Do not stack assembled PCBs together. Failure to comply can cause the cap portion of the product to be cut, chipped, delaminated and/or deformed. It may cause wire to break, leading to catastrophic failures.