



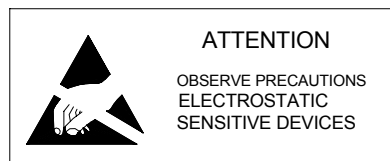
## SPECIFICATION

Description:

15 Degree 5mm LITEFO Lamp in High  
Red Color with Water Transparent  
Lens and Stopper

Dice Material: AlGaInP

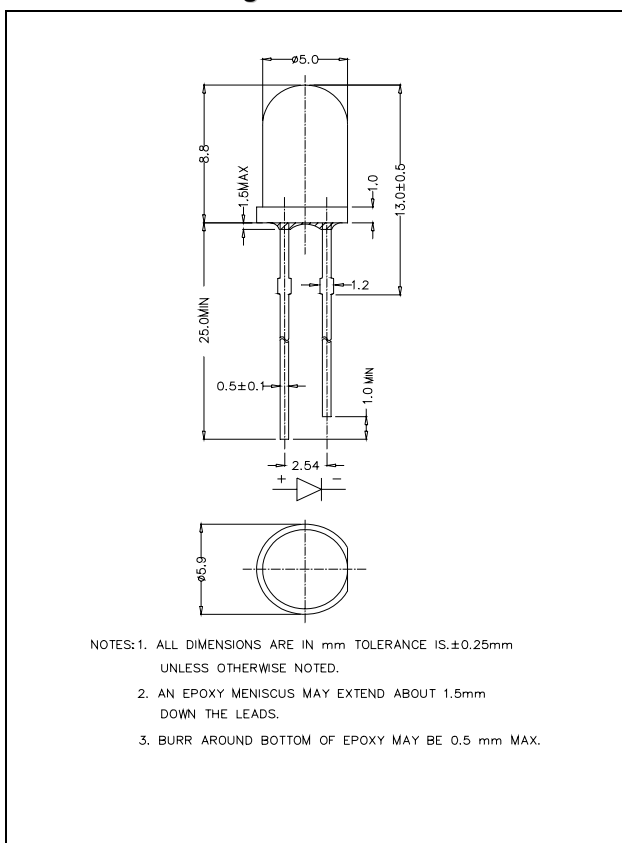
MODEL No : FC515ATHR11



Confirmed  
by Customer: \_\_\_\_\_

Date: \_\_\_\_\_

## Dimension Drawing



## Applications

- Advertising Signs
- Indicators
- Traffic
- Automotive Lighting

## Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating	Unit
Forward Current <sup>*2</sup>	I <sub>F</sub>	50	mA
Peak Forward Current <sup>*1</sup>	I <sub>FP</sub>	200	mA
Reverse Voltage	V <sub>R</sub>	5	V
Power Dissipation	P <sub>D</sub>	130	mW
Operation Temperature	T <sub>opr</sub>	-40 ~ + 95	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +100	°C
Lead Soldering Temperature	T <sub>sol</sub>	Max.260°C for 3 sec Max. (3mm from the base of the epoxy bulb)	

\*1 pulse width ≤0.1msec duty ≤1/10

\*2 For long term performance the drive currents between 10mA and 30mA are recommended. Please contact LITEFO sales representative for more information on recommended drive conditions.

## Typical Electrical & Optical Characteristics ( Ta = 25°C)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 20mA	---	2.3	2.6	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5V	---	---	100	μA
Dominant Wavelength	λ <sub>D</sub>	I <sub>F</sub> = 20mA	620	628	635	nm
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> = 20mA	4180	6500	---	mcd
50% Power Angle	2θ <sub>1/2</sub> H-H	I <sub>F</sub> = 20mA	---	15	---	deg

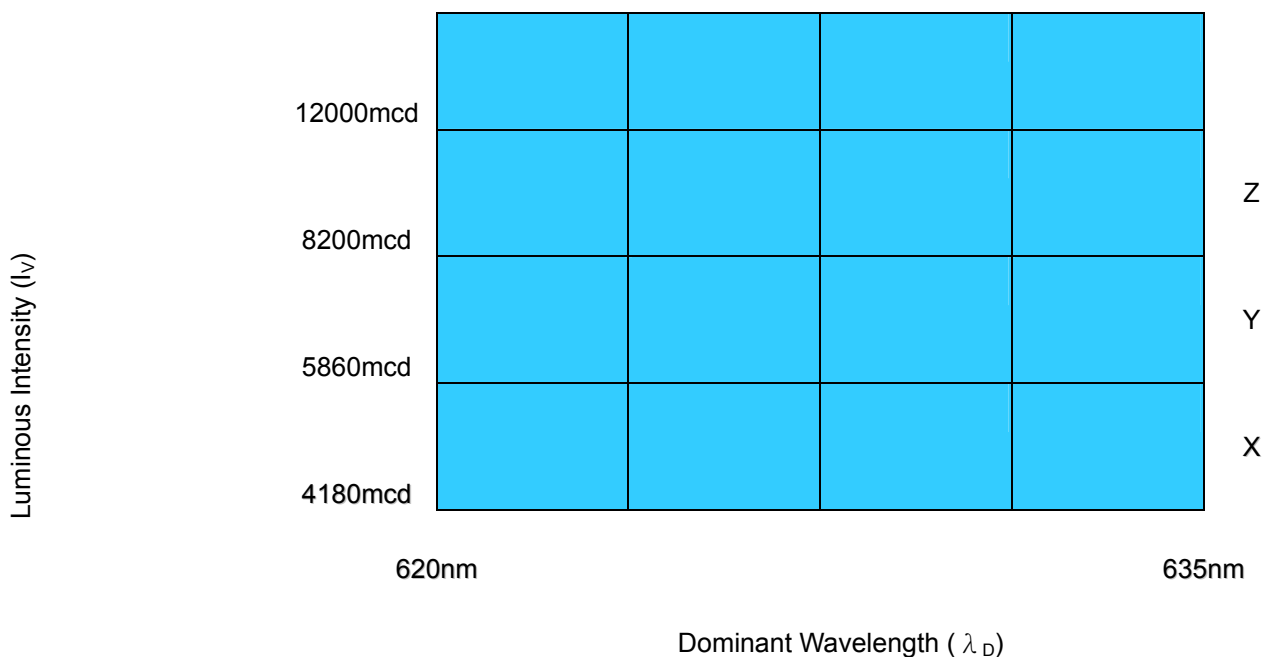
### Standard bins for FC515ATHR11 ( $I_F = 20\text{mA}$ ):

Lamps are sorted to Luminous Intensity –  $I_V$ ,  $V_F$  & Dominant Wavelength –  $\lambda_D$  bins shown.

Orders for FC515ATHR11 may be filled with any or all bins contained as below.

All Luminous Intensity –  $I_V$ ,  $V_F$  & Dominant Wavelength –  $\lambda_D$  values shown and specified are at  $I_F = 20\text{mA}$ .

\* **X+**



\* X+ indicates Luminous Intensity is at X bin or above.

### Forward Voltage ( $V_F$ )

Rank	V2	V3	V4	V5
Voltage	1.8-2.0V	2.0-2.2V	2.2-2.4V	2.4-2.6V

### Important Notes:

- 1) All ranks will be included per delivery, rank ratio will be determined by LITEFO.
- 2) Pb content <1000PPM.
- 3) Tolerance of measurement of luminous intensity is  $\pm 15\%$ .
- 4) Tolerance of measurement of dominant wavelength is  $\pm 1\text{nm}$ .
- 5) Tolerance of measurement of  $V_f$  is  $\pm 0.05\text{ V}$ .

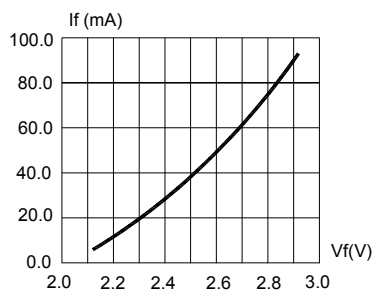


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

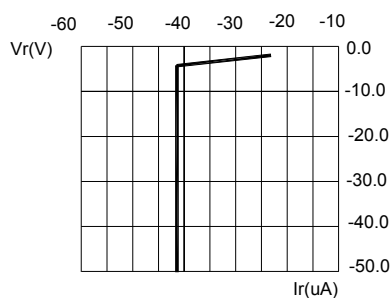


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

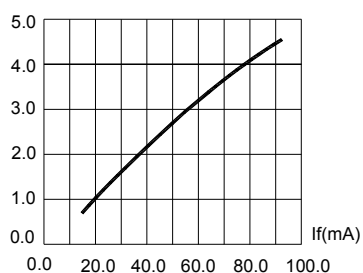


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

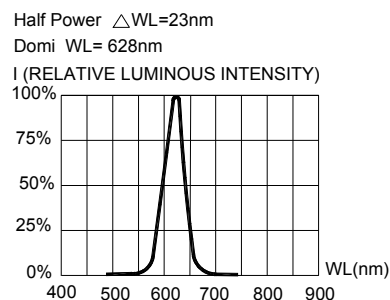


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

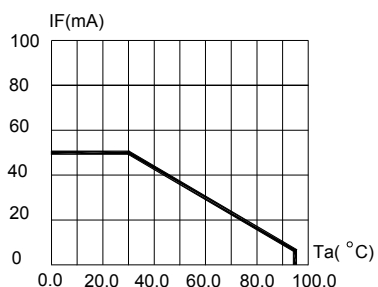


FIG.5 MAXIMUM FORWARD DC CURRENT VS. AMBIENT TEMPERATURE ( $T_{jmax}=105^{\circ}C$ )

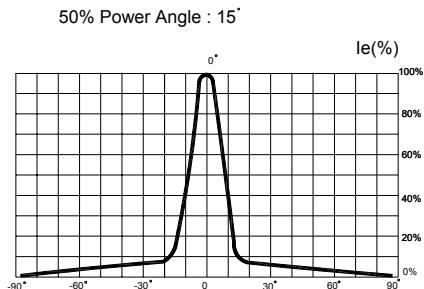


FIG.6 FAR FIELD PATTERN

Items	Signatures	Date	Revision History	
Prepared by	Lois	2004/09/01	DOC. No.	CHANGE DESCRIPTION
Checked by	Jarvis	2004/09/01		
Approved by	D.W.Liu	2004/09/01		
ECN#	ECN-H20040238			

Data is subject to change without prior notice.

Obsoletes Doc: ---