



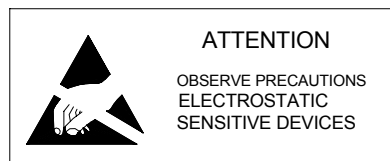
SPECIFICATION

Description:

90 Degree 7.6 x 7.6mm LITEFO Lamp
in High Red Color with Water
Transparent Lens and Stopper

Dice Material: AlGaInP

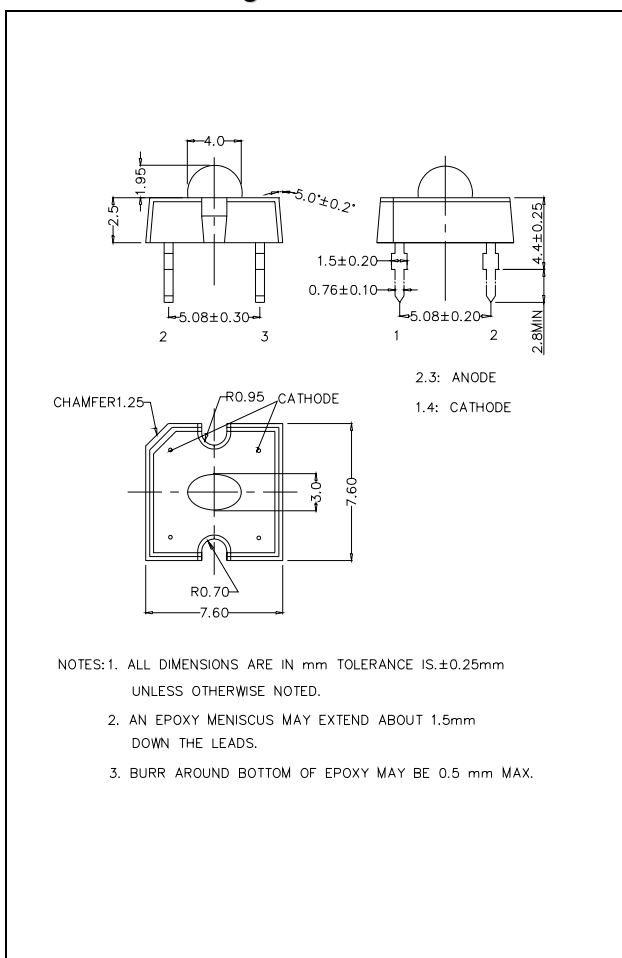
MODEL No : FP490AAHR11



Confirmed
by Customer: _____

Date: _____

Dimension Drawing



Applications

- Advertising Signs
- Indicators
- Message Board

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Items	Symbol	Absolute maximum Rating	Unit
Forward Current ^{*2}	I_F	70	mA
Peak Forward Current ^{*1}	I_{FP}	200	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	210	mW
Operation Temperature	T_{opr}	-40 ~ +100	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 ~ +100	$^\circ\text{C}$
Lead Soldering Temperature	T_{sol}	Max.260 $^\circ\text{C}$ for 5 sec Max. (3mm from the base of the epoxy bulb)	
Electrostatic Discharge Classification (MIL-STD-883E)	ESD	Class 1	

*1 pulse width $\leq 0.1\text{msec}$ duty $\leq 1/10$

*2 Heat sink is recommended to be adequated if the device is operated at ambient temperatures higher than 25 deg C. For long term performance the drive currents between 10mA and 50mA are recommended. Please contact LITEFO sales representative for more information on recommended drive conditions.

Typical Electrical & Optical Characteristics ($T_a = 25^\circ\text{C}$)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 70\text{mA}$	---	2.5	3.0	V
Reverse Current	I_R	$V_R = 5\text{V}$	---	---	100	μA
Dominant Wavelength	λ_D	$I_F = 70\text{mA}$	618	624	630	nm
Luminous Intensity	I_v	$I_F = 70\text{mA}$	1520	3000	---	mcd
50% Power Angle	$2\theta_{\frac{1}{2}\text{H-H}}$	$I_F = 70\text{mA}$	---	90	---	deg
	$2\theta_{\frac{1}{2}\text{V-V}}$	$I_F = 70\text{mA}$	---	35	---	deg

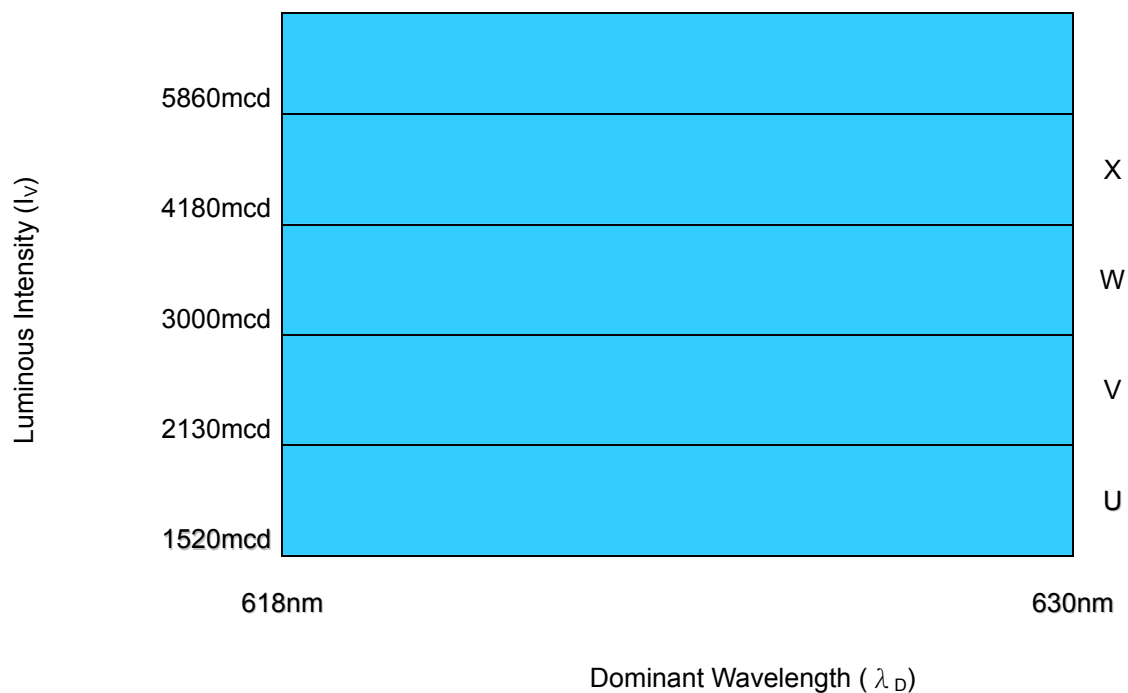
Standard bins for FP490AAHR11 ($I_F = 70\text{mA}$):

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

Orders for FP490AAHR11 may be filled with any or all bins contained as below.

All Luminous Intensity – I_V , V_F & Dominant Wavelength – λ_D values shown and specified are at $I_F=70\text{mA}$.

* **U+**



* U+ indicates Luminous Intensity is at U bin or above.

Forward Voltage (V_F)

Rank	V3	V4	V5	V6	V7
Voltage	2.0-2.2V	2.2-2.4V	2.4-2.6V	2.6-2.8V	2.8-3.0V

Important Notes:

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

Graphs

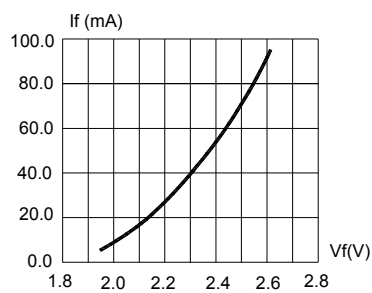


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

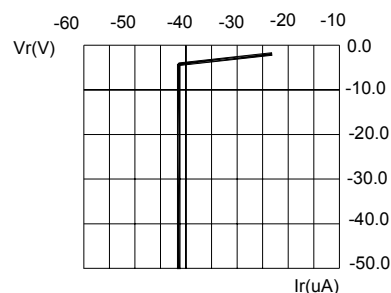


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

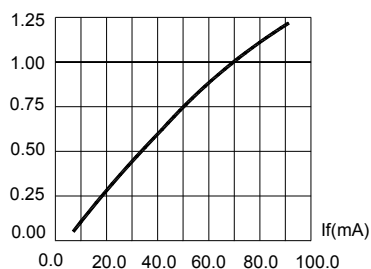


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

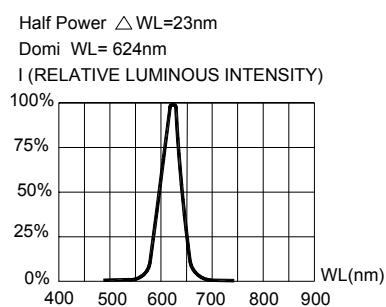


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

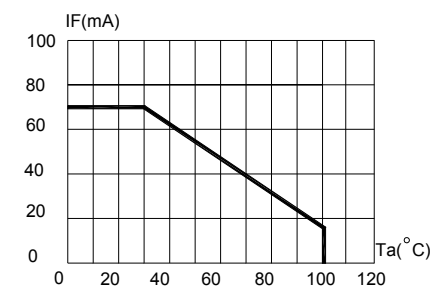


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE ($T_{jmax}=120^{\circ}\text{C}$)

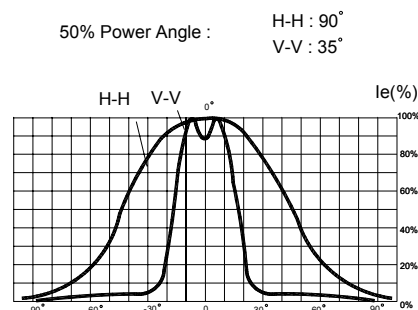


FIG.6 FAR FIELD PATTERN

Items	Signatures	Date	Revision History	
Prepared by	Lois	2004/10/04	DOC. No.	CHANGE DESCRIPTION
Checked by	Jarvis	2004/10/04		
Approved by	D.W.Liu	2004/10/04		
ECN#	ECN-H20040263			

Data is subject to change without prior notice.

Obsoletes Doc: ---