

SPECIFICATION FOR COTCO LED LAMP

Document No: SPE/LO494AHR4-B0G-A
Model No : LO494AHR4-B0G-A
Rev. No: 04
Date: 2005-08-11

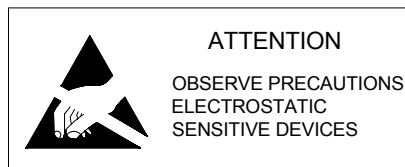
Description:

110 Degree Oval LED Lamp in High Red
Color with Tinted Diffused Lens and
Stopper

Dice Material: AlGaInP

Confirmed
by Customer: _____

Date: _____



Applications:

- Variable Message Signs
- Message Board

Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating	Unit
Forward Current*2	I_F	50	mA
Peak Forward Current*1	I_{FP}	200	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	130	mW
Operation Temperature	T_{opr}	-40 ~ +95	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Lead Soldering Temperature	T_{sol}	Max.260°C for 3 sec Max. (3mm from the base of the epoxy bulb)	
Electrostatic Discharge Classification (MIL-STD-883E)	ESD	Class 1	

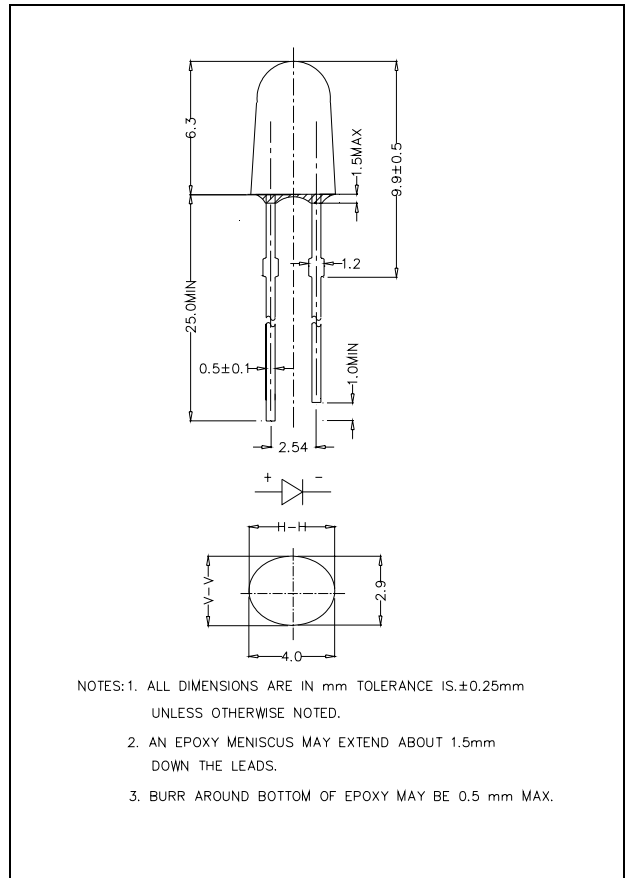
*1 pulse width ≤ 0.1 msec duty $\leq 1/10$

*2 For long term performance the drive currents between 10mA and 30mA are recommended. Please contact COTCO 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_F	$I_F = 20$ mA	---	2.1	2.6	V
Reverse Current	I_R	$V_R = 5$ V	---	---	100	μ A
Dominant Wavelength	λ_D	$I_F = 20$ mA	618	624	630	nm
Luminous Intensity	I_v	$I_F = 20$ mA	550	800	---	mcd
50% Power Angle	$2\theta_{\frac{1}{2}H-H}$	$I_F = 20$ mA	---	110	---	deg
	$2\theta_{\frac{1}{2}V-V}$	$I_F = 20$ mA	---	45	---	deg

Dimension Drawing



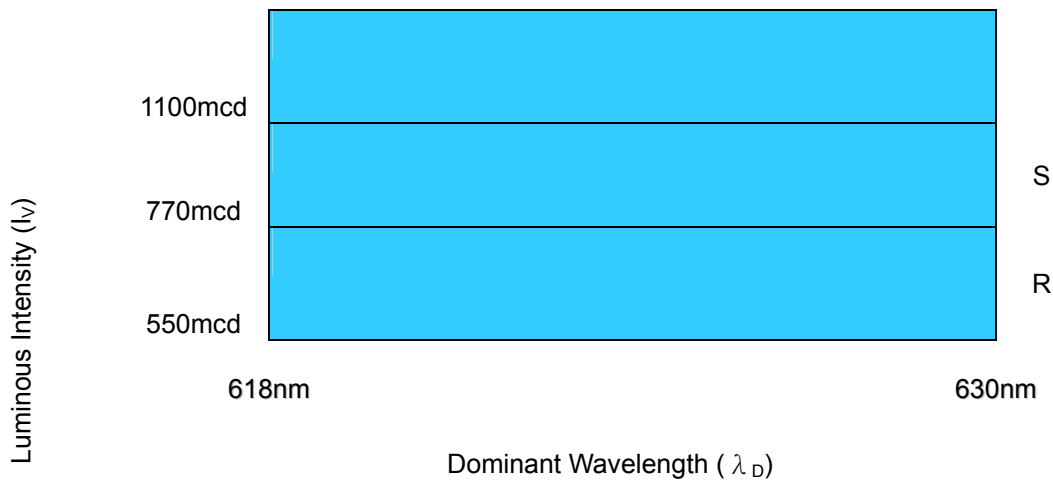
Standard bins for LO494AHR4-B0G-A ($I_f = 20\text{mA}$):

Lamps are sorted to Luminous Intensity – I_v , V_f & Dominant Wavelength – λ_D bins shown.

Orders for LO494AHR4-B0G-A 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 $I_f=20\text{mA}$.

* **R+**



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

Forward Voltage (V_f)

Rank	V1	V2	V3	V4	V5
Voltage	1.6-1.8 V	1.8-2.0 V	2.0-2.2 V	2.2-2.4 V	2.4-2.6 V

Important Notes:

- 1) All ranks will be included per delivery; rank ratio will be based on the Dices distribution.
- 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 $\pm 0.05\text{ V}$.
- 6) Packaging methods are available for selection, Please refer to PACKAGING STANDARD.
- 7) Please refer to LED LAMP RELIABILITY TEST STANDARD for reliability test conditions.
- 8) Please refer to APPLICATION NOTES for Application.

Graphs

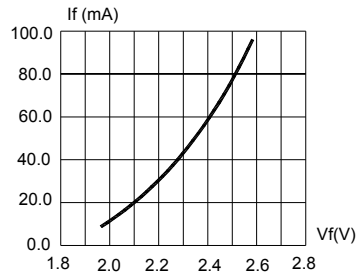


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

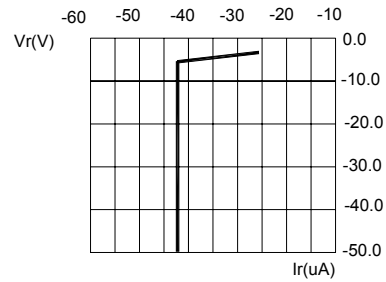


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

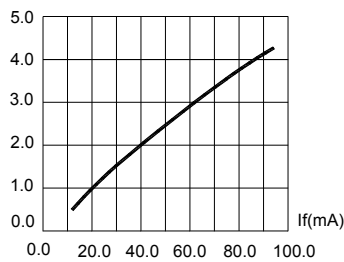


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

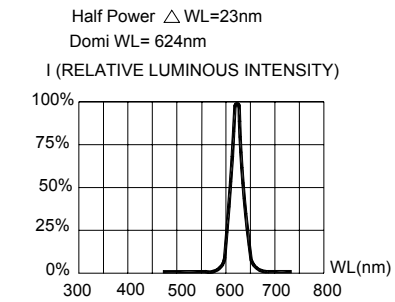


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

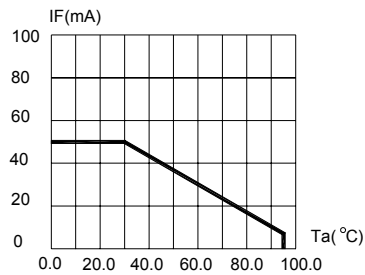


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE ($T_{jmax}=105^{\circ}C$)

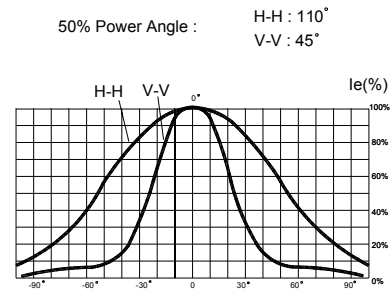


FIG.6 FAR FIELD PATTERN

Items	Signatures	Date
Prepared by	LiuZM	2005-08-11
Checked by	MaJF	2005-08-11
Approved by	David	2005-08-11
FCN#	FCN20050255	

Revision History		
Rev. No	Date	Change Description
02	07Sep04	Release. IV(typ) from 900 to 800mcd.
03	2005-03-15	Correct Dimension Drawing from 3.0nm to 2.9nm.
04	2005-08-11	IV cancel T rank.

Data is subject to change without prior notice; please refer to COTCO Website for the latest version.

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