

## **SPECIFICATION FOR COTCO LED LAMP**

Document No: SPE/LO494THR4-B0G-A2  
Model No : LO494THR4-B0G-A2  
Rev. No: 02  
Date: 2005-06-27

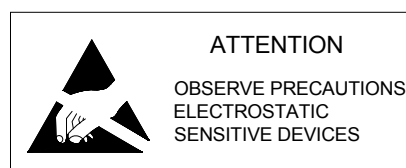
Description:

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

Dice Material: AlGaInP

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

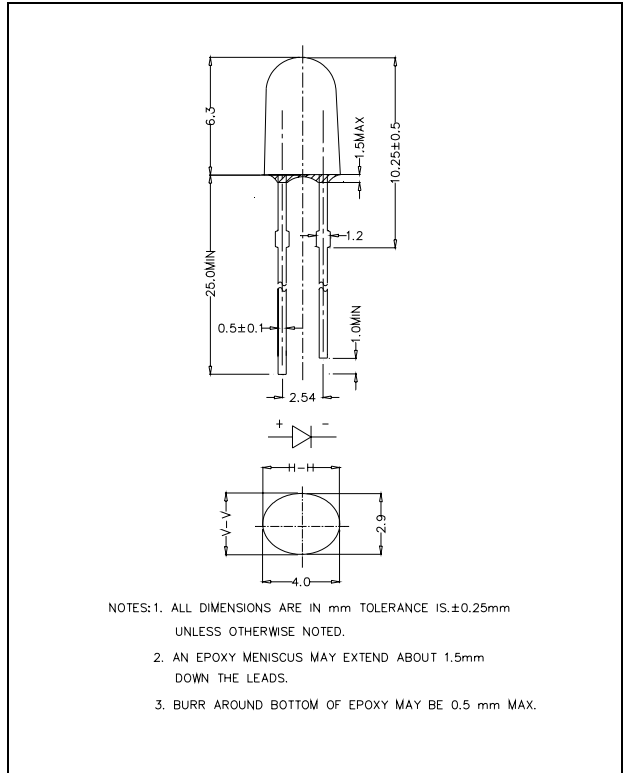
Date: \_\_\_\_\_



**Applications:**

- Full Color Display

**Dimension Drawing**



**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)	

\*1 pulse width  $\leq 0.1$ 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	---	2.3	2.6	V
Reverse Current	$I_R$	$V_R = 5$ V	---	---	100	$\mu$ A
Dominant Wavelength	$\lambda_D$	$I_F = 20$ mA	620	628	635	nm
Luminous Intensity	$I_v$	$I_F = 20$ mA	390	750	---	mcd
50% Power Angle	$2\theta_{\frac{1}{2}}$ H-H	$I_F = 20$ mA	---	100	---	deg
	$2\theta_{\frac{1}{2}}$ V-V	$I_F = 20$ mA	---	50	---	deg

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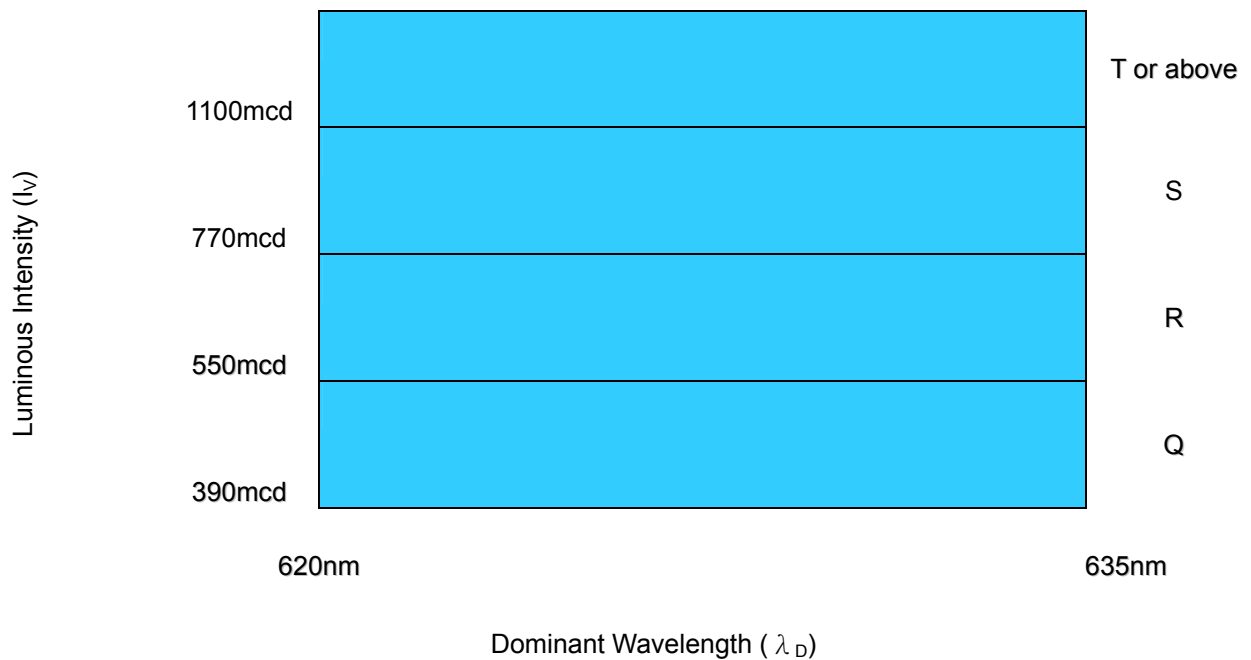
**Standard bins for LO494THR4-B0G-A2 ( $I_F = 20\text{mA}$ ):**

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

Orders for LO494THR4-B0G-A2 may be filled with any or all bins contained as below.

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

\* **Q+**



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

**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

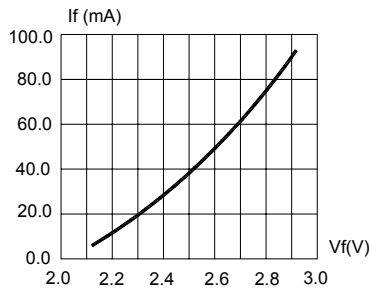


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

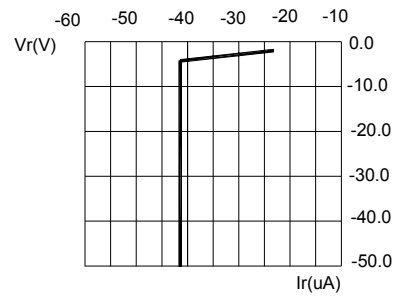


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

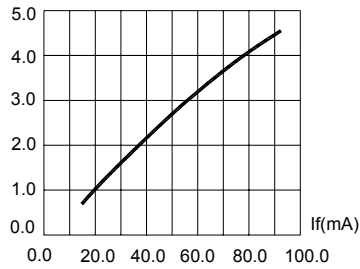


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

Half Power  $\Delta WL=23nm$   
Domi WL= 628nm

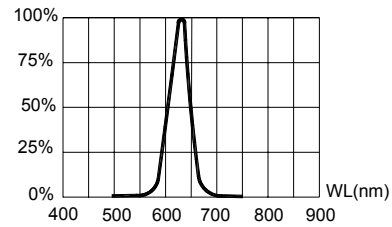


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

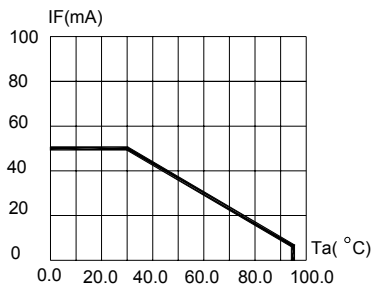


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE ( $T_{jmax}=105^{\circ}C$ )

50% Power Angle : H-H :  $100^{\circ}$   
V-V :  $50^{\circ}$

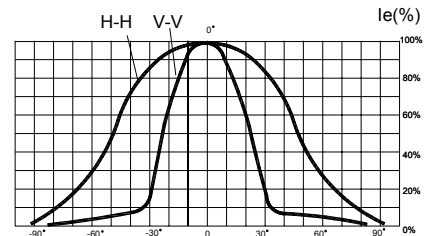


FIG.6 FAR FIELD PATTERN

Items	Signatures	Date
Prepared by	LiuZM	2005-06-27
Checked by	MaJF	2005-06-27
Approved by	David	2005-06-27
FCN#	FCN20050208	

Revision History		
Rev. No	Date	Change Description
02	2005-06-27	Release.

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

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