

SPECIFICATION FOR COTCO LED LAMP

Document No: SPE/LC503AHR2-30Q-A-MT
Model No : LC503AHR2-30Q-A-MT
Rev. No: 03
Date: 2006-04-18

Description:

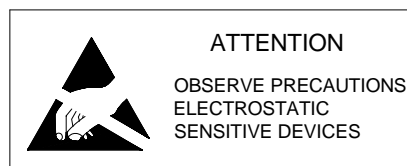
30 Degree 5mm Round LED Lamp in High Red Color with White Diffused Lens and No Stopper

*This specification is only for MT

Dice Material: AlGaInP

Confirmed
by Customer: _____

Date: _____



Applications:

- Advertising Signs
- Indicators
- Traffic
- Automotive Lighting

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	

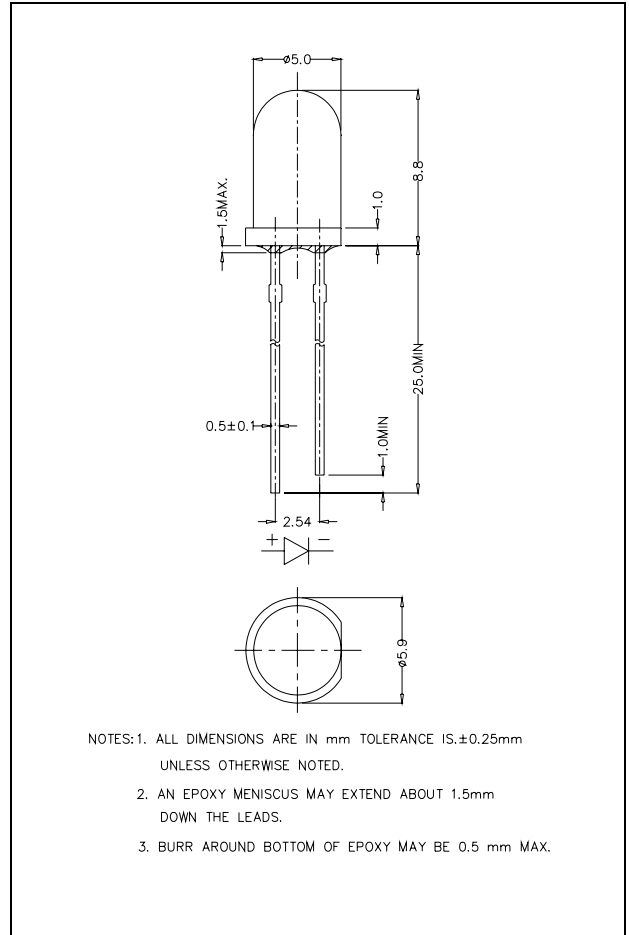
*1 pulse width ≤ 0.1 msec duty $\leq 1/10$

*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	2130	3500	---	mcd
50% Power Angle	20½H-H	$I_F = 20$ mA	---	30	---	deg

Dimension Drawing



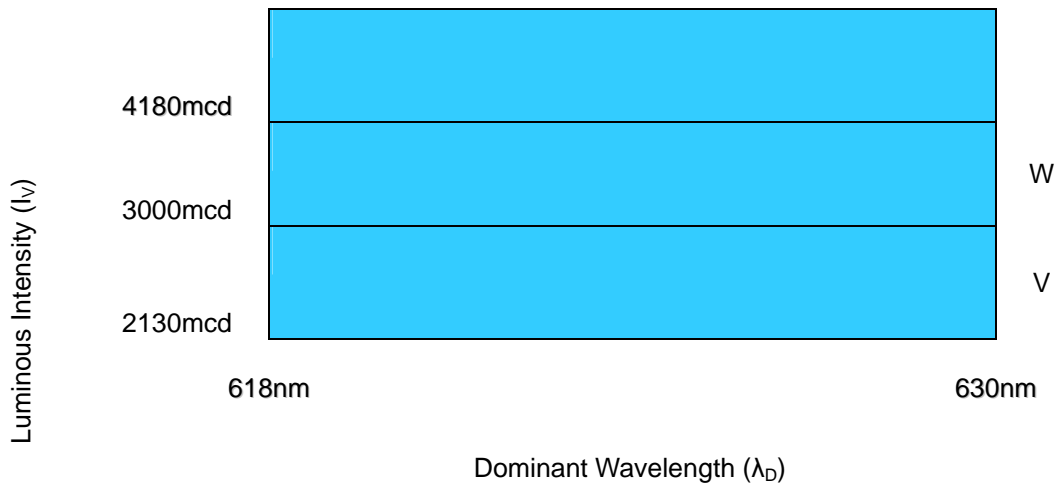
Standard bins for LC503AHR2-30Q-A-MT ($I_F = 20\text{mA}$):

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

Orders for LC503AHR2-30Q-A-MT 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 $I_f=20\text{mA}$.

* V+



* V+ indicates Luminous Intensity is at V 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

*Majority VF bins are highlighted in Yellow.

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

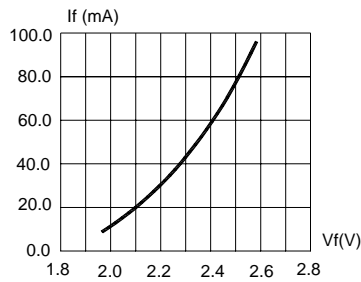


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

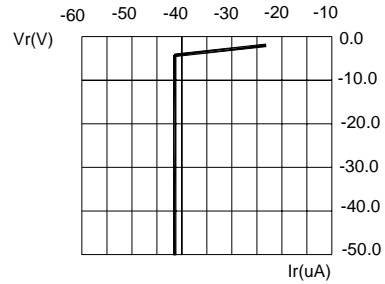


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

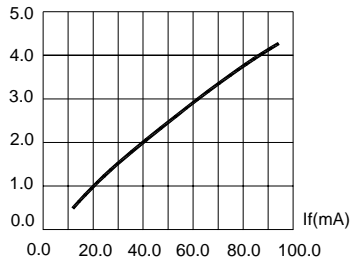


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

Half Power Δ WL=23nm
Domi WL= 624nm

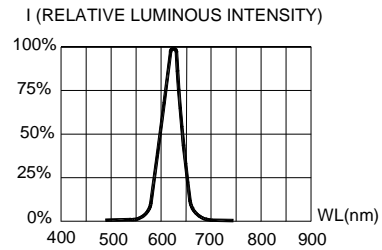


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

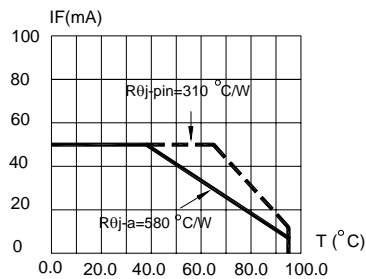


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE ($T_{jmax}=105\text{ }^{\circ}\text{C}$)

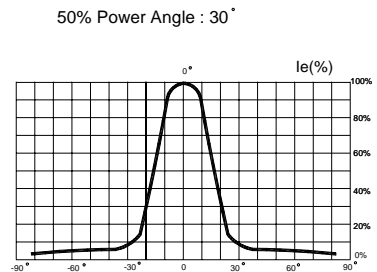


FIG.6 FAR FIELD PATTERN

1. Cathode PAD Area (0.18 X 0.18inch²)
2. Height above nominal seating plane in inches(0.3inch)

Items	Signatures	Date
Prepared by	LiuZM	2006-04-18
Checked by	Aldosin	2006-04-18
Approved by	David	2006-04-18
FCN#	FCN20060060	

Revision History		
Rev. No	Date	Change Description
02	11Nov04	Add R _e .
03	2006-04-18	Cancel X rank. Highlight V2~V4.

Data is subject to change without prior notice.

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