



SPECIFICATION FOR COTCO LED LAMP

Document No: SPE/LC503TBL1-30Q-A1
Model No : LC503TBL1-30Q-A1
Rev. No: 02
Date: 2006-03-31

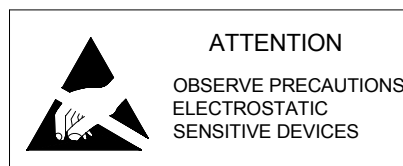
Description:

30 Degree 5mm LED Lamp in Blue Color
with Water Transparent Lens and No Stopper

Dice Material: InGaN

Confirmed
by Customer: _____

Date: _____



Applications:

- Advertising Signs
- Indicators
- LCD Back Light
- Moving Message Signs

Absolute Maximum Ratings at Ta = 25°C

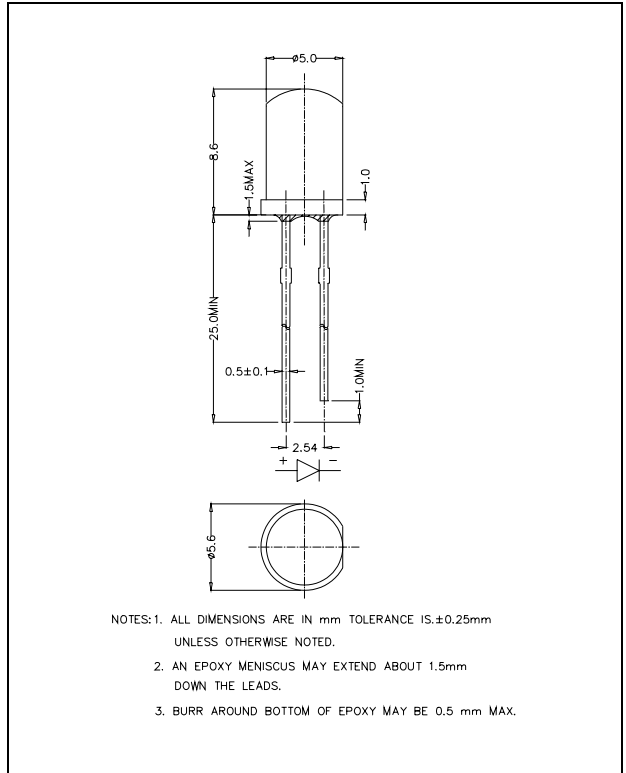
Items	Symbol	Absolute maximum Rating	Unit
Forward Current	I_F	25	mA
Peak Forward Current*	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	100	mW
Operation Temperature	T_{opr}	-40 ~ +95	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Lead Soldering Temperature	T_{sol}	Max.260°C for 3 sec Max. (3mm from the base of the epoxy bulb)	

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

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

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 20\text{mA}$	---	3.4	4.0	V
Forward Voltage	V_F	$I_F = 1.0\mu\text{A}$	1.7	---	2.5	V
Reverse Current	I_R	$V_R = 5\text{V}$	---	---	100	μA
Dominant Wavelength	λ_D	$I_F = 20\text{mA}$	465	470	475	nm
Luminous Intensity	I_v	$I_F = 20\text{mA}$	1520	2100	---	mcd
50% Power Angle	$2\theta_{\frac{1}{2}H-H}$	$I_F = 20\text{mA}$	---	30	---	deg

Dimension Drawing

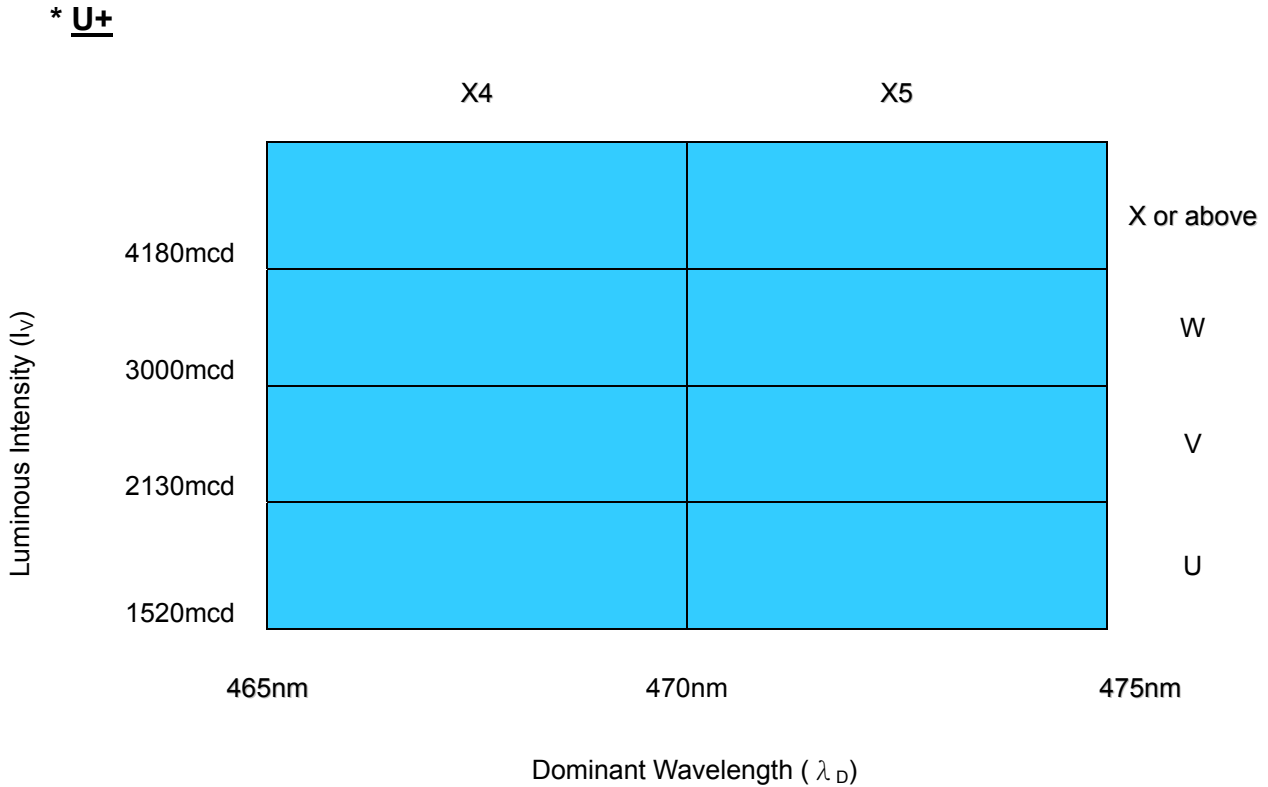


Standard bins for LC503TBL1-30Q-A1 ($I_F = 20\text{mA}$):

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

Orders for LC503TBL1-30Q-A1 may be filled with any or all bins contained as below.

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



* U+ indicates Luminous Intensity is at U 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

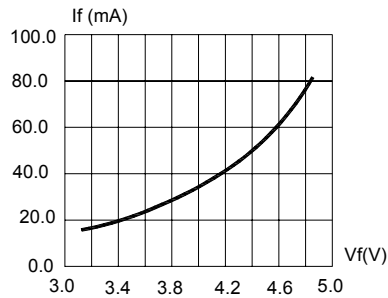


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

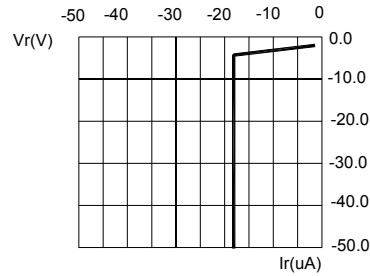


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

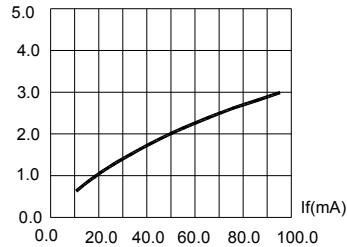


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

Half Power Δ WL=28nm
Domi WL= 470nm

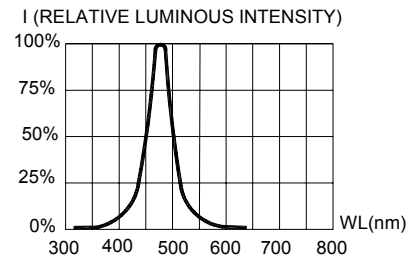


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

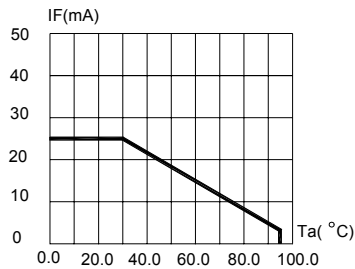


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE ($T_{jmax}=105^{\circ}\text{C}$)

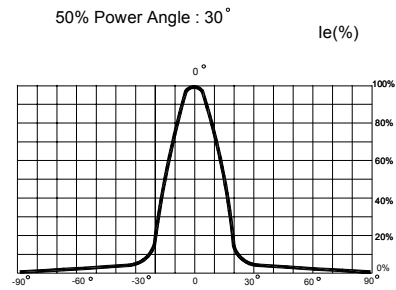


FIG.6 FAR FIELD PATTERN

Items	Signatures	Date
Prepared by	LiuZM	2006-03-31
Checked by	Aldosin	2006-03-31
Approved by	David	2006-03-31
FCN#	FCN20060081	

Revision History		
Rev. No	Date	Change Description
02	2006-03-31	Cancel VF bin.

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

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