SPECIFICATION FOR COTCO LED LAMP

Document No: SPE/LC503TBL1-30H-A1
Model No : LC503TBL1-30H-A1
Rev. No: 01
Date: 2005-02-23

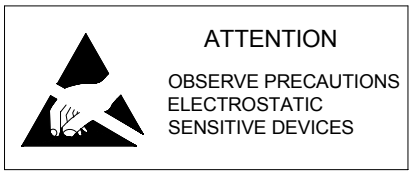
Description:

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

Dice Material: InGaN

Confirmed by Customer: _____

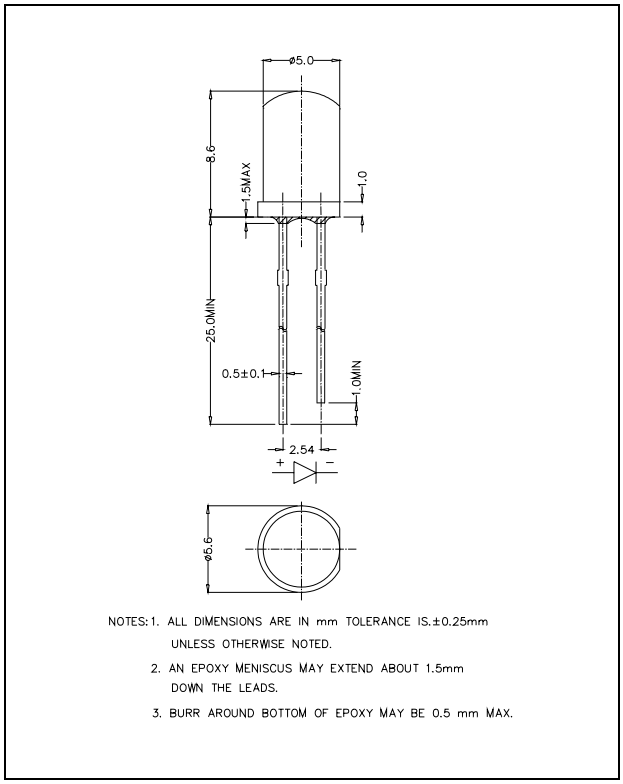
Date: _____



Applications:

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

Dimension Drawing



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 <=0.1msec duty <=1/10

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

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

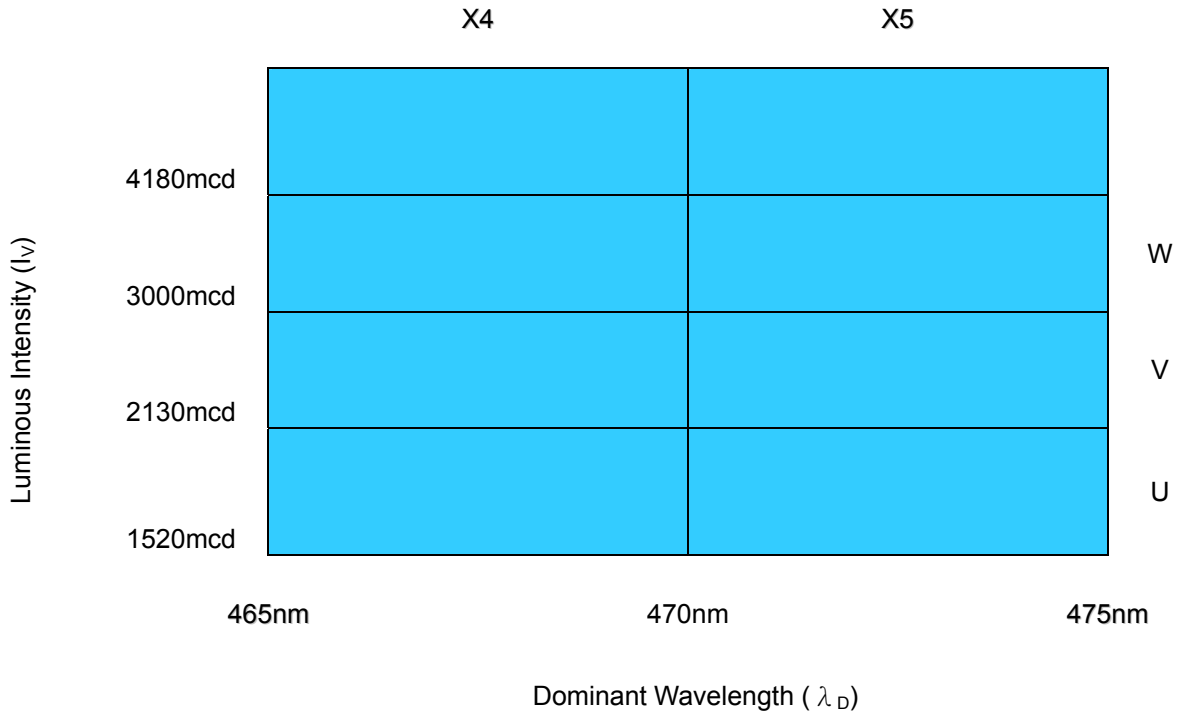
Standard bins for LC503TBL1-30H-A1 (I_F = 20mA):

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

Orders for LC503TBL1-30H-A1 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 =20mA.

*** U+**



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

Forward Voltage (V_F)

Rank	V6	V7	V8	V9	V10	V11	V12
Voltage	2.6-2.8V	2.8-3.0V	3.0-3.2V	3.2-3.4V	3.4-3.6V	3.6-3.8V	3.8-4.0V

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 ±15%.

4) Tolerance of measurement of dominant wavelength is ±1nm.

5) Tolerance of measurement of Vf is ±0.05 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

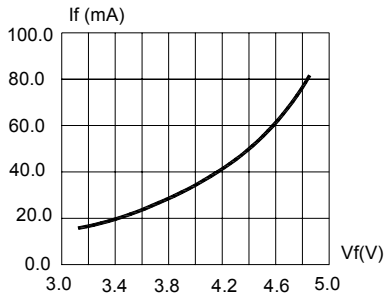


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

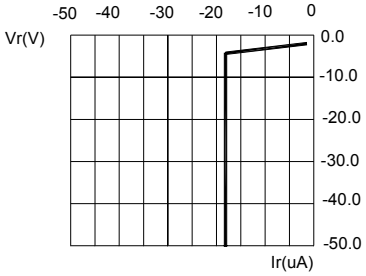


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

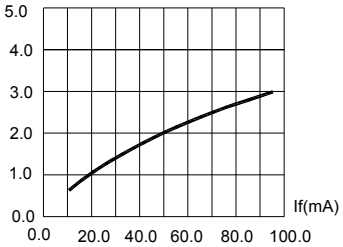


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

Half Power △WL=28nm
Domi WL= 470nm

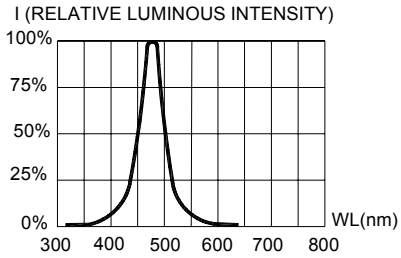


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

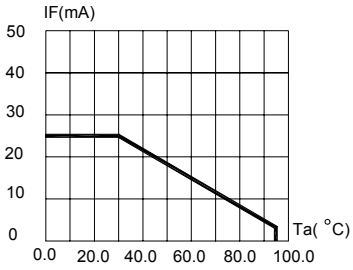


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE (Tjmax=105 °C)

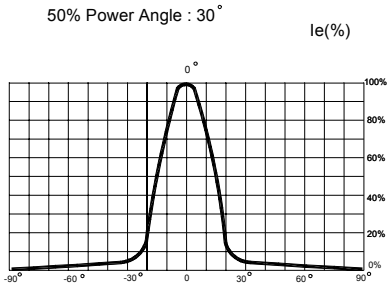


FIG.6 FAR FIELD PATTERN

Items	Signatures	Date
Prepared by	LiuZM	2005-02-23
Checked by	Aldosin	2005-02-23
Approved by	David	2005-02-23
ECN#	ECN-H20050055	

Revision History		
Rev. No	Date	Change Description