COTCO LUMINANT DEVICE (HUIZHOU) LTD.

SPECIFICATION FOR COTCO LED LAMP

Document No: SPE/LM1-EBL1-01-N2-MT
Model No : LM1-EBL1-01-N2-MT
Rev. No : 02
Date: 2007-12-07

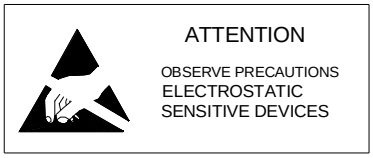
Description:

120 Degree 3.2 x 2.7mm SMT-LED in Blue Color with Water Transparent

*This specification is only for MT
Dice Material: InGaN

Confirmed
By Customer: _____

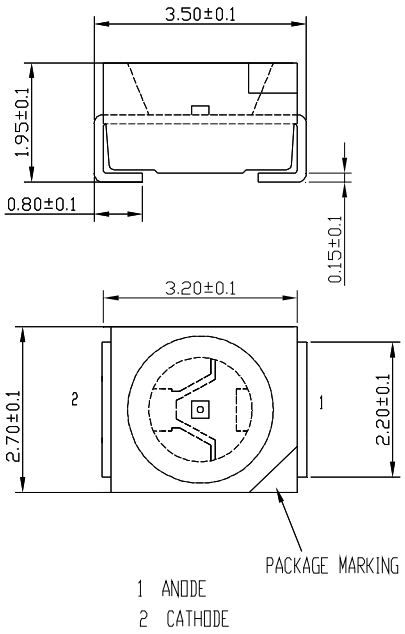
Date: _____



Applications:

- Indicators
- Illuminations
- LCD Back Lights
- Automobile's Applications
- Blue Color Displays

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 ~ + 100	°C
Storage Temperature	T_{stg}	-40 ~ + 100	°C
Junction temperature	Tj	+110	°C
Junction/ambient **	$R_{th\ JA}$	450	°C/W
Junction/solder point	$R_{th\ JS}$	300	°C/W

*pulse width <=0.1msec duty <=1/10 ** Rth test condition: Mounted on PC Board FR 4(pad size>=16mm^2)

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
Reverse Current	I_R	V_R = 5V	---	---	10	μA
Luminous Intensity	I_V	I_F = 20mA	112	320	---	mcd
Dominant Wavelength	λ_D	I_F = 20mA	460	470	480	nm
50% Power Angle	2 $\theta_{1/2}$	I_F = 20mA	---	120	---	deg

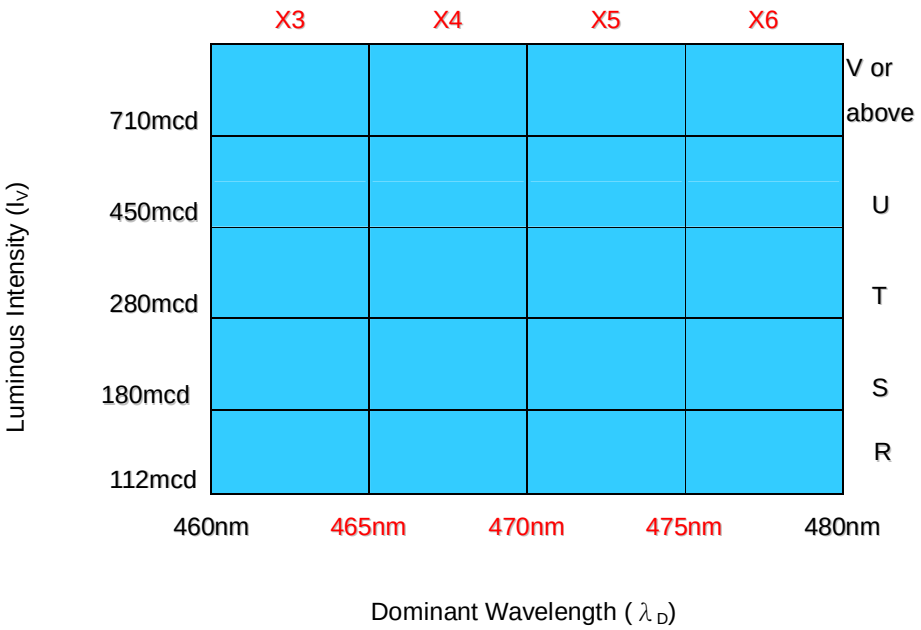
Standard bins for LM1-EBL1-01-N2-MT (I_F = 20mA):

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

Orders for LM1-EBL1-01-N2-MT 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 If=20mA.

*** R+**



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

Forward Voltage (V_F)

Rank	Vh	Vd	Ve	Vf
Voltage	2.6-3.0V	3.0-3.4V	3.4-3.8V	3.8-4.2V

*Majority VF bins are highlighted in Yellow.

Important Notes:

1) All ranks will be included per delivery, rank ratio will be based on Dices distribution.

2) Tolerance of measurement of luminous intensity is ±10%

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

4) Tolerance of measurement of Vf is ±0.05 V.

5) Packaging methods are available for selection, please refer to PACKAGING STANDARD.

6) Please refer to LED LAMP RELIABILITY TEST STANDARD for reliability test conditions.

7) Please refer to APPLICATION NOTES for Application.

8) Do not handle the device by the SMD surface. care must be taken to avoid damage to the SMD surface or the interior of the device that can be damaged by excessive force to the SMD surface.

Graphs

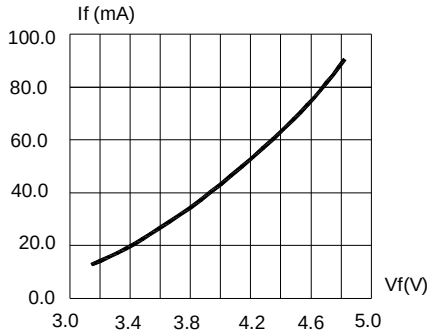


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

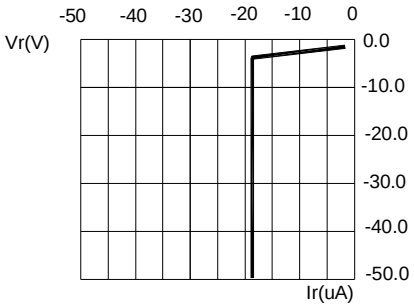


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

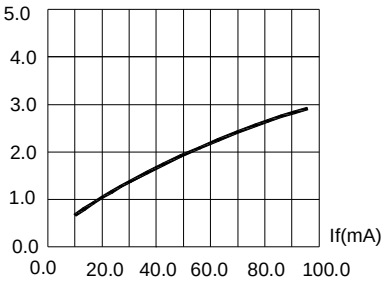


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

Half Power△WL=28nm
Domi WL= 470nm

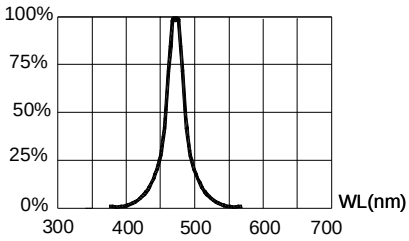


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

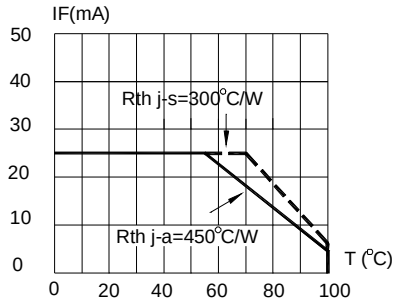


FIG.5 MAXIMUM FORWARD DC CURRENT VS TEMPERATURE. DERATING BASED ON Tjmax=110°C

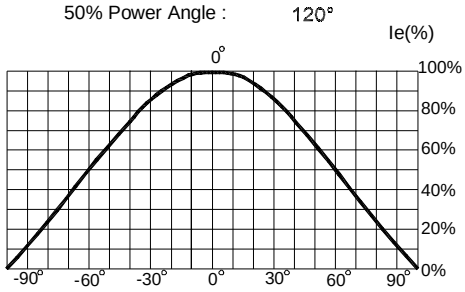


FIG.6 FAR FIELD PATTERN

Items	Signatures	Date
Prepared by	LiuYin	2007-12-07
Checked by	WangXuan	2007-12-07
Approved by	DavidLiu	2007-12-07
FCN#	FCN200703	

Revision History		
Rev.No	Date	Change Description
02	2007-12-07	Add WD rank X3-X6

Data is subject to change without prior notice.