



COTCO LUMINANT DEVICE (HUIZHOU) LTD.

SPECIFICATION FOR COTCO LED LAMP

Document No: SPE/LM1-PBL1-03-N1
Model No : LM1-PBL1-03-N1
Rev. No : 03
Date: 2005-11-29

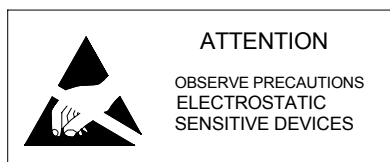
Description:

120 Degree 3.2x 2.8mm SMT-LED in Blue
Color with Water Transparent

Dice Material: InGaN

Confirmed
By Customer: _____

Date: _____



Applications:

- Indicators
- Illuminations
- LCD Back Lights
- Automobile's Applications

Absolute Maximum Ratings at Ta = 25°C

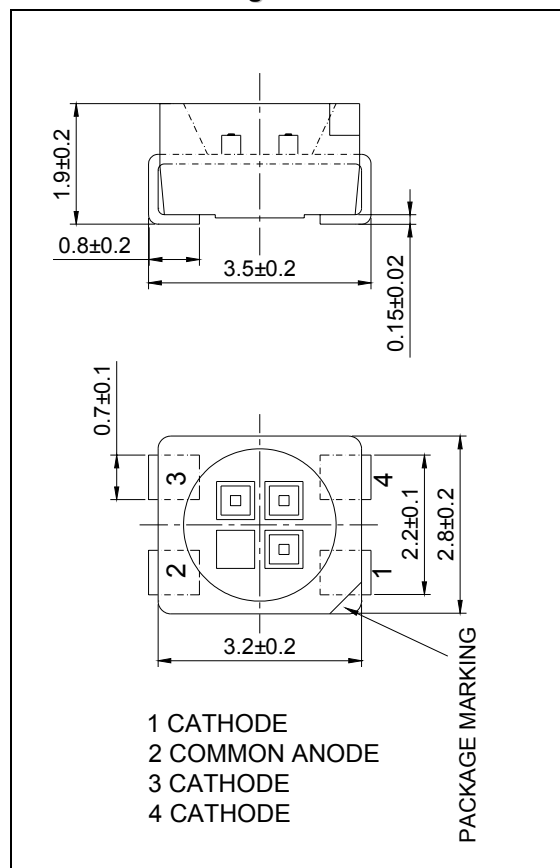
Items	Symbol	Absolute maximum Rating	Unit
Forward Current	I_F	3 X 25	mA
Peak Forward Current*	I_{FP}	3 X 100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	3 X 100	mW
Operation Temperature	T_{opr}	-40 ~ + 100	°C
Storage Temperature	T_{stg}	-40 ~ + 100	°C
Junction temperature	T_j	+110	°C
Junction/ambient *3	$R_{th JA}$	3 X 680	°C /W
Junction/solder point	$R_{th JS}$	3 X 450	°C /W

*pulse width $\leq$ 0.1msec duty $\leq$ 1/10 ** Rth test condition: Mounted on PC Board FR 4(pad size $\geq$ 16mm²)

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

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 3 \times 20\text{mA}$	---	3.4	4.0	V
Reverse Current	I_R	$V_R = 5\text{V}$	---	---	10	μA
Luminous Intensity	I_v	$I_F = 3 \times 20\text{mA}$	280	440	---	mcd
Dominant Wavelength	λ_D	$I_F = 3 \times 20\text{mA}$	460	470	480	nm
50% Power Angle	$2\theta_{1/2}$	$I_F = 3 \times 20\text{mA}$	---	120	---	deg

Dimension Drawing



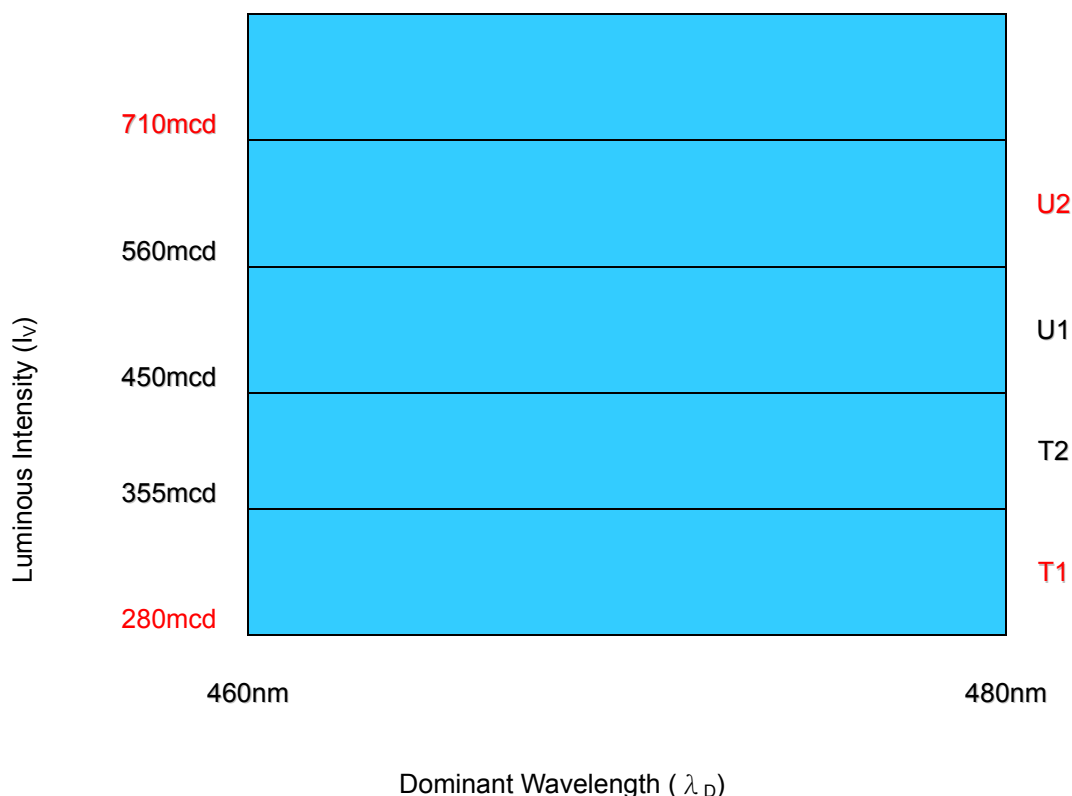
Standard bins for LM1-PBL1-03-N1 ($I_f = 3 \times 20 \text{mA}$):

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

Orders for LM1-PBL1-03-N1 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 $I_f = 3 \times 20 \text{mA}$.

***T1+**



* T1+ indicates Luminous Intensity is at T1 bin or above.

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 $\pm 10\%$
- 3) Tolerance of measurement of dominant wavelength is $\pm 1 \text{nm}$.
- 4) Tolerance of measurement of V_f is $\pm 0.05 \text{V}$.
- 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.

Graphs

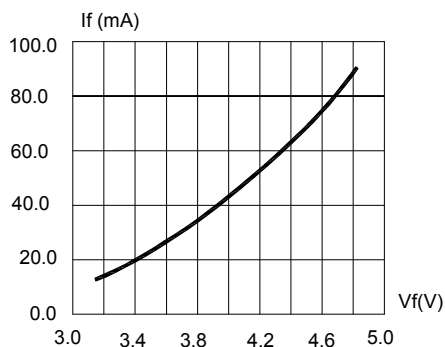


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

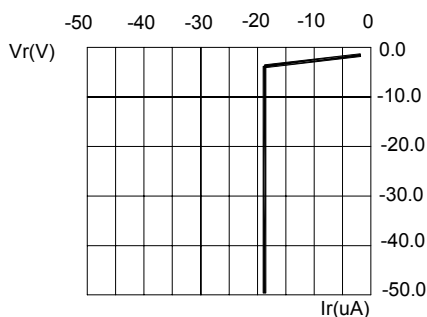


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

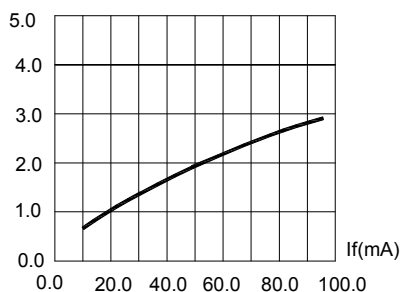


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

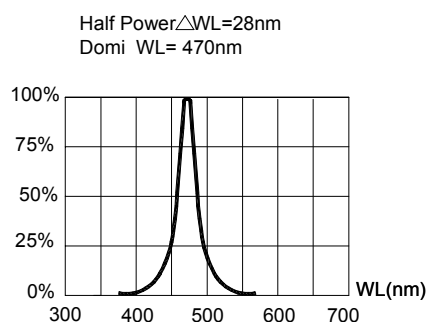


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

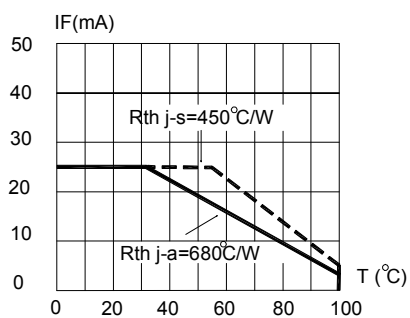


FIG.5 MAXIMUM FORWARD DC CURRENT VS TEMPERATURE. DERATING BASED ON $T_{jmax}=110^{\circ}\text{C}$

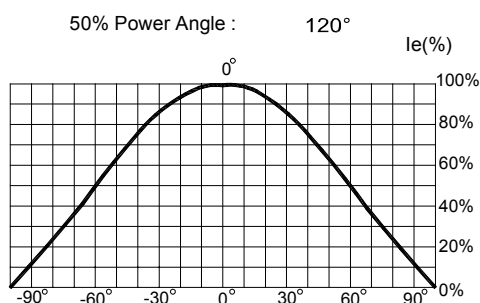


FIG.6 SPATIAL DISTRIBUTION.

Items	Signatures	Date	Revision History		
Prepared by	Meiliping	2005-11-29	Rev.No	Date	Change Description
Checked by	XieJH	2005-11-29	02	2005-07-14	Release.
Approved by	DavidLiu	2005-11-29	03	2005-11-29	Change IV Rank from S2~U1 (avg) 410mcd to T1~U2 (avg) 440mcd.
FCN#	FCN20050422				

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

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