



COTCO LUMINANT DEVICE (HUIZHOU) LTD.

SPECIFICATION FOR COTCO LED LAMP

Document No: SPE/LM1-PBL1-01-N1-MT
Model No : LM1-PBL1-01-N1-MT
Rev. No : 02
Date: 2006-02-22

Description:

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

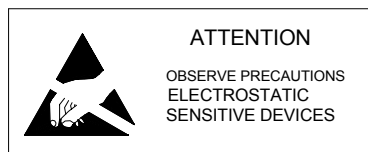
This specification is only for MT

Dice Material: InGaN

Confirmed

By Customer: _____

Date: _____



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For part availability and ordering information please call Toll Free: 800.984.5337
Website: www.marktechopto.com | Email: info@marktechopto.com

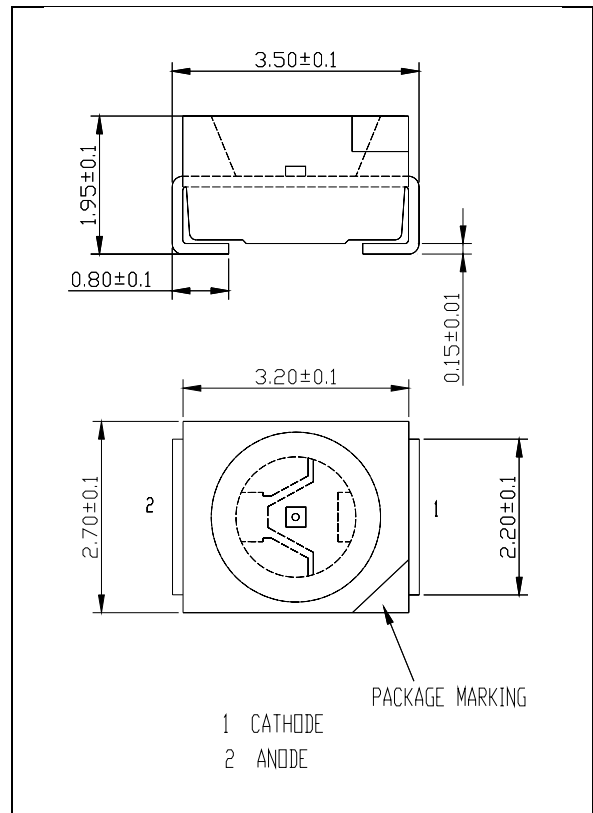
Applications:

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

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	T_j	+110	°C
Junction/ambient **	R_{thJA}	450	°C/W
Junction/solder point	R_{thJS}	300	°C/W

Dimension Drawing



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

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

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 20$ mA	---	3.4	4.0	V
Reverse Current	I_R	$V_R = 5$ V	---	---	10	μ A
Luminous Intensity	I_v	$I_F = 20$ mA	112	160	---	mcd
Dominant Wavelength	λ_D	$I_F = 20$ mA	460	470	480	nm
50% Power Angle	$2 \theta_{\frac{1}{2}}$	$I_F = 20$ mA	---	120	---	deg

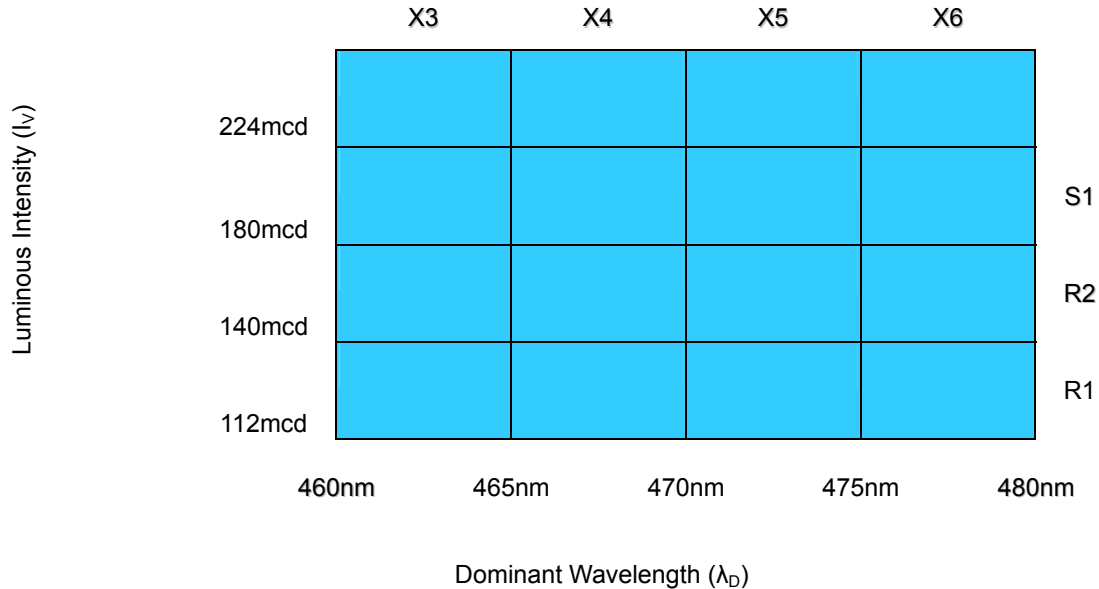
Standard bins for LM1-PBL1-01-N1-MT ($I_F = 20\text{mA}$):

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

Orders for LM1-PBL1-01-N1-MT may be filled with any or all bins contained as below.

All Luminous Intensity $-I_V$ & Dominant Wavelength $-\lambda_D$ values shown and specified are at $I_f=20\text{mA}$.

● **R1+**



- R1+ indicates Luminous Intensity is at R1 bin 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

#The quantity not enough for full reel

VF(V)	2.6-3.4	3.4-4.2
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*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 $\pm 10\%$
 - 3) Tolerance of measurement of dominant wavelength is $\pm 1\text{nm}$.
 - 4) Tolerance of measurement of Vf is $\pm 0.05\text{V}$.
 - 5) Packaging methods are available for selection, please refer to PACKAGING STANDARD.
- #The notice is only apply quantity not enough for full reel.
- 6) Please refer to LED LAMP RELIABILITY TEST STANDARD for reliability test conditions.
 - 7) Please refer to APPLICATION NOTES for Application.

Graphs

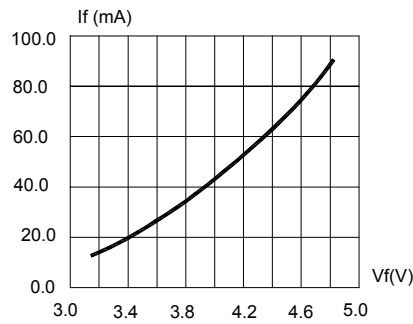


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

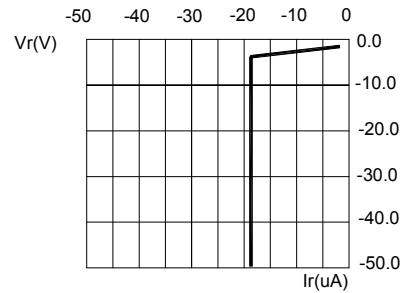


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

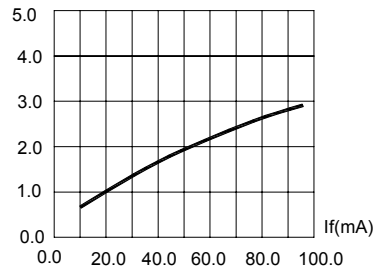


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

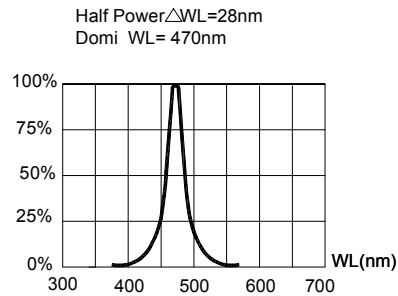


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

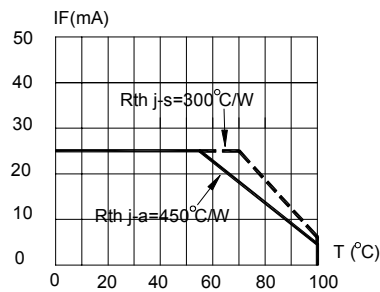


FIG.5 MAXIMUM FORWARD DC CURRENT VS TEMPERATURE. DERATING BASED ON $T_{jmax}=110^{\circ}\text{C}$

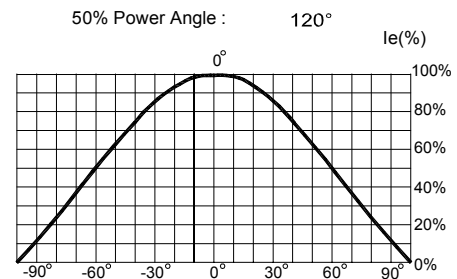


FIG.6 FAR FIELD PATTERN

Items	Signatures	Date	Revision History		
Prepared by	Meiliping	2006-02-22	Rev.No	Date	Change Description
Checked by	XieJH	2006-02-22	02	2006-02-22	Highlight Vd, Ve.
Approved by	DavidLiu	2006-02-22			
FCN#	FCN20060				

Data is subject to change without prior notice.

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