



COTCO LUMINANT DEVICE (HUIZHOU) LTD.

SPECIFICATION FOR COTCO LED LAMP

Document No : SPE/LD-301DYL1-B0-MT
Model No: LD-301DYL1-B0-MT
Rev. No : 03
Date: 2006-08-29

Description:

3 x 3mm, QFN Type,
High Power Amber LED For Illumination,
Clear Compound Encapsulated.

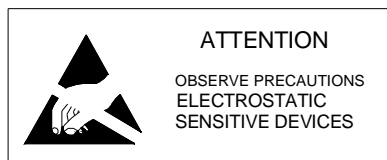
*This specification is only for MT

Dice Material: AlGaInP

Confirmed

by Customer: _____

Date: _____



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Website: www.marktechopto.com | Email: info@marktechopto.com

Features

- High luminous flux output for illumination
- Exposed pad design for excellent heat transfer
- Designed for high current operation
- Reflow soldering applicable

Absolute Maximum Ratings at Ta = 25°C (on metal core PCB)*

Items	Symbol	Absolute maximum Rating	Unit
Forward Current	I_F	100	mA
Peak Forward Current**	I_{FP}	200	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	360	mW
Operation Temperature	T_{opr}	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +85	°C
Junction Temperature	T_j	+110	°C
Junction-to-Ambient***	θ_{ja}	220	°C/W
Junction-to-Case***	θ_{jc}	85	°C/W

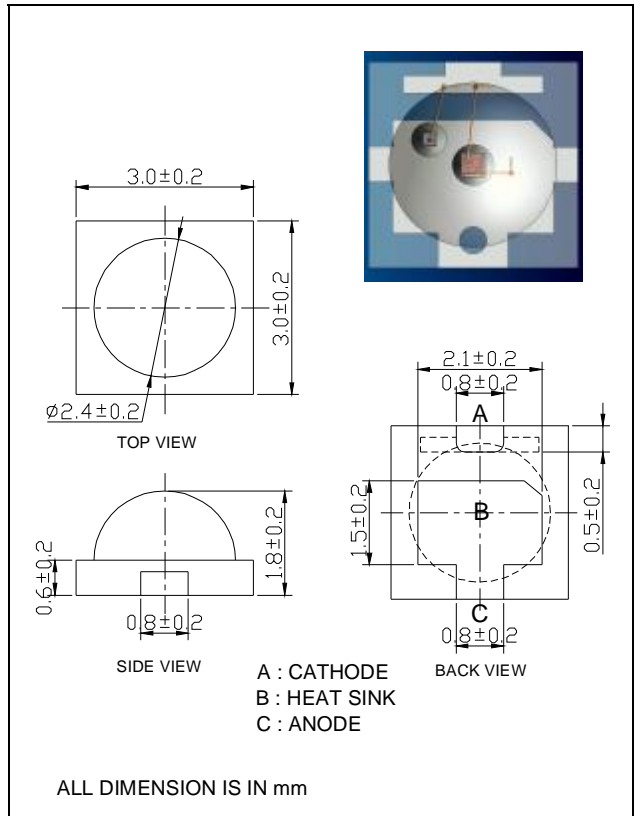
*Metal core PCB defines as good heat transmission substrate (thickness of 1.7mm Al-based PCB in 12x12mm, $\theta_{jc} < 85^\circ\text{C/W}$ could do)

** Where pulse width $\leq 0.1\text{msec}$, duty cycle $\leq 1/10$ *** Rth test condition: mounted on 1.7mm Al-based PCB in size of 12x12mm

Typical Electrical & Optical Characteristics at Ta = 25°C (on metal core PCB)*

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 100\text{mA}$		2.8	3.6	V
Reverse Current	I_R	$V_R = 5\text{V}$	---	---	10	μA
Luminous Flux	lumen	$I_F = 100\text{mA}$	5.2	7	---	lm
Dominant Wavelength	λ_D	$I_F = 100\text{mA}$	588	594	600	nm
50% Power Angle	$2\theta_{\frac{1}{2}}$	$I_F = 100\text{mA}$	---	110	---	deg

Package Outline



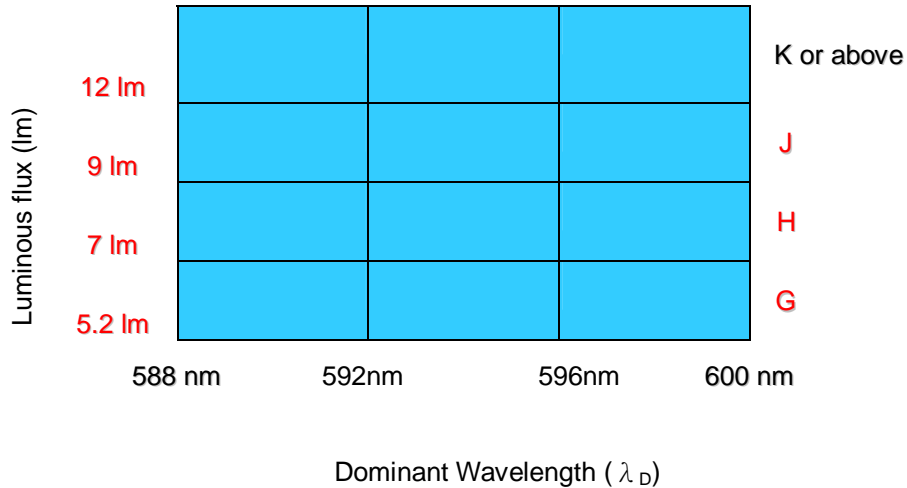
Standard bins for LD-301DYL1-B0-MT ($I_F = 100\text{mA}$):

Lamps are sorted to Luminous flux – lm , V_F & Dominant Wavelength – λ_D bins shown.

Orders for LD-301DYL1-B0-MT may be filled with any or all bins contained as below.

All Luminous flux– lm , V_F & Dominant Wavelength – λ_D values shown and specified are at $I_F=100\text{mA}$.

***G+**



* G+ indicates Luminous Flux is at G bin or above.

Voltage Combination ($I_F = 100\text{mA}$)

Rank	V2	V3	V4	V5
Voltage (V)	2.0-2.4V	2.4-2.8V	2.8-3.2V	3.2-3.6V

Wavelength Combination ($I_F = 100\text{mA}$)

Rank	X3	X4	X5
Wavelength (nm)	588 – 592	592 – 596	596 – 600

Important Notes:

- 1) All ranks will be included per delivery; rank ratio will be based on Dices distribution.
- 2) Pb content < 1000PPM.
- 3) Tolerance of measurement of luminous flux is $\pm 10\%$
- 4) Tolerance of measurement of dominant wavelength is $\pm 1\text{nm}$.
- 5) Tolerance of measurement of V_f is $\pm 0.1\text{ V}$.
- 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 Notes.

Graphs

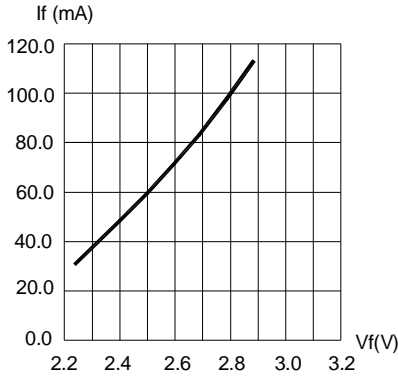


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

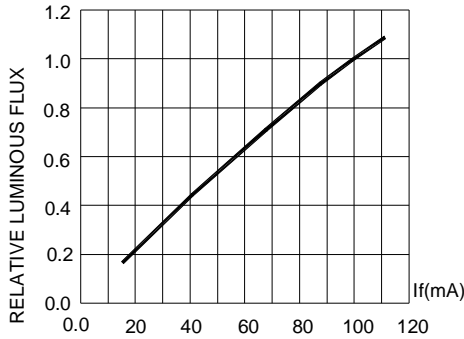


FIG.2 FORWARD CURRENT.

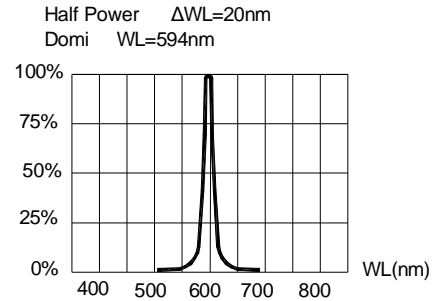


FIG.3 RELATIVE LUMINOUS FLUX VS. WAVELENGTH.

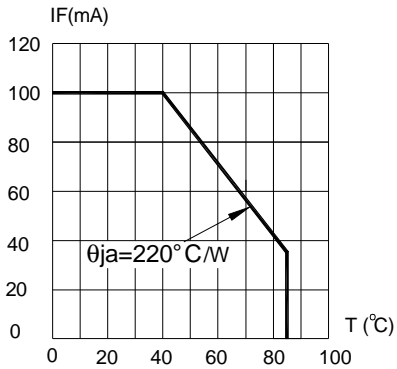


FIG.4 MAXIMUM FORWARD DC CURRENT VS TEMPERATURE DERATING BASED ON $T_{jmax}=110^{\circ}C$

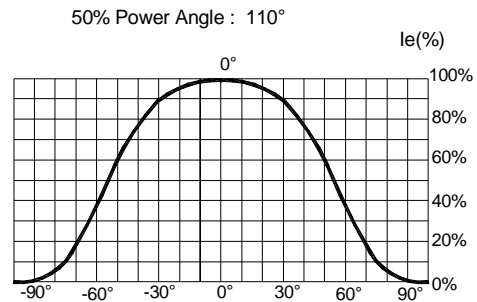


FIG.5 FAR FIELD PATTERN

Items	Signatures	Date	Revision History		
			Rev.No	Date	Change Description
Prepared by	WangFJ	2006-08-29			
Checked by	WangXM	2006-08-29	02	06-07-12	Added 3.2-3.6 vf bin
Approved by	David	2006-08-29	03	2006-08-29	Change lumen bin range and rank from C,D,E(min)5.0 to G,H,J(min)5.2
FCN#	FCN20060297				

Data is subject to change without prior notice;

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