



COTCO LUMINANT DEVICE (HUIZHOU) LTD.

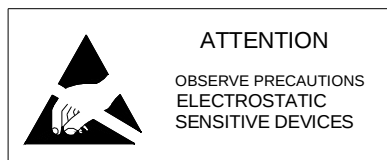
SPECIFICATION FOR COTCO LED LAMP

Document No : SPE/LD-300CPG2-C5-MT
Model No: LD-300CPG2-C5-MT
Rev. No : 03
Date: 2006-08-29

Description:

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

This specification is only for MT
Dice Material: InGaN



For part availability and ordering information please call Toll Free: 800.984.5337
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}	150	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	0.48	W
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}	135	°C/W
Junction-to-Case***	θ_{jc}	70	°C/W

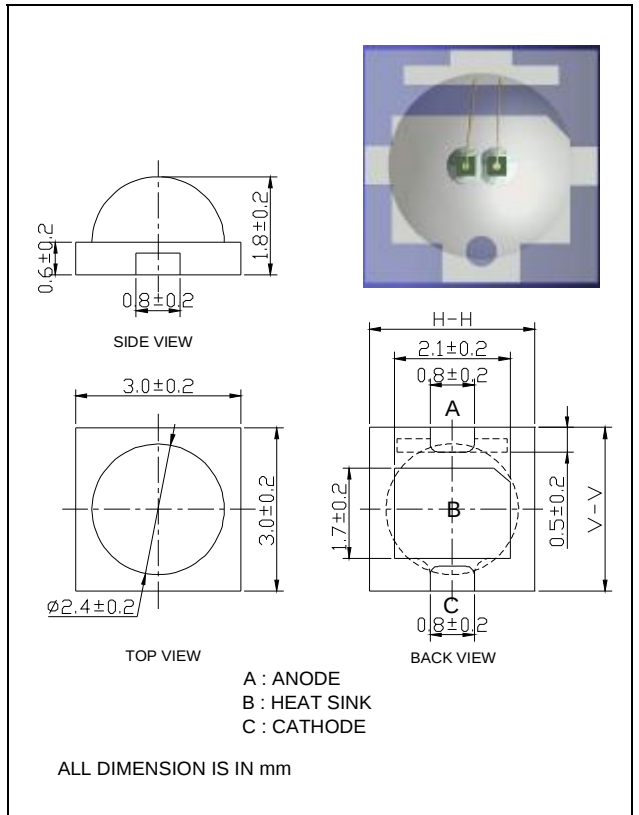
*Metal core PCB defines as good heat transmission substrate (thickness of 1.7mm Al-based PCB in 12x12mm, $\theta_{jc} < 50^\circ\text{C/W}$ could do)

** 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	$I_F = 100\text{mA}$		4.0	4.8	V
Reverse Current	I_R	$V_R = 5\text{V}$	---	---	10	μA
Luminous Flux	lumen	$I_F = 100\text{mA}$	3	5	---	lm
Dominant Wavelength	λ_D	$I_F = 100\text{mA}$	510	525	535	nm
50% Power Angle	$2\theta_{\frac{1}{2}} \text{ H-H}$	$I_F = 100\text{mA}$	---	125	---	deg
	$2\theta_{\frac{1}{2}} \text{ V-V}$	$I_F = 100\text{mA}$	---	115	---	deg

Package Outline



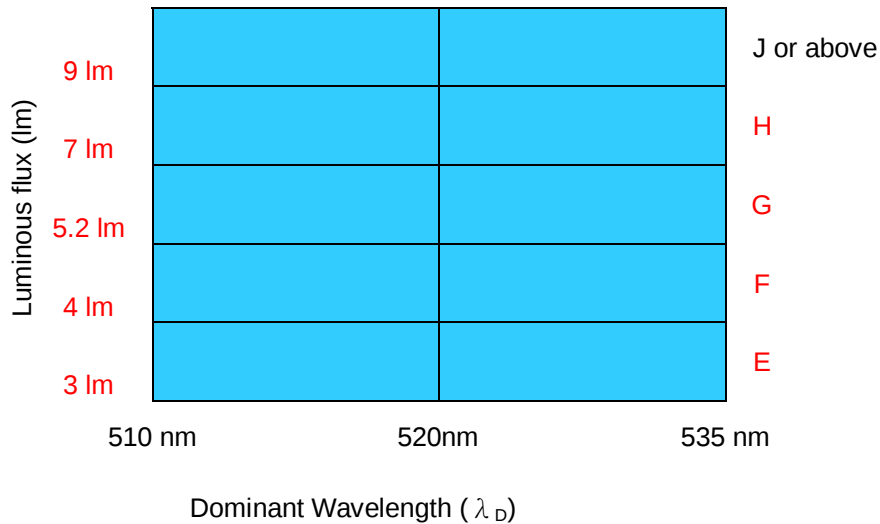
Ranks Combination ($I_F = 100\text{mA}$)

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

Orders for LD-300CPG2-C5-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 $I_F=100\text{mA}$.

***E+**



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

Forward Voltage (V_F)

Rank	V5a	V5b	V6a	V6b	V7a	V7b	V8a	V8b
Voltage (V)	3.2-3.4V	3.4-3.6V	3.6-3.8V	3.8-4.0V	4.0-4.2V	4.2-4.4V	4.4-4.6V	4.6-4.8V

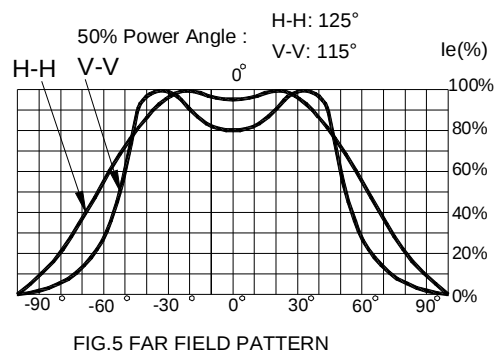
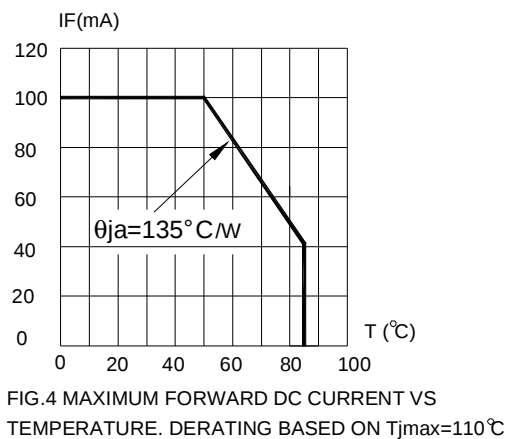
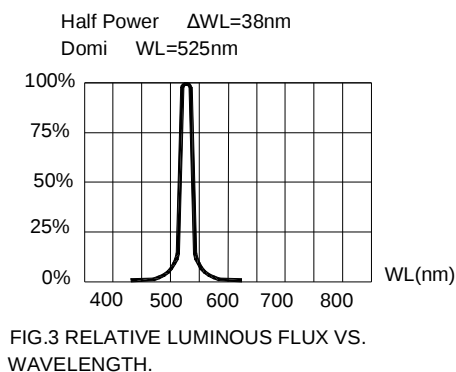
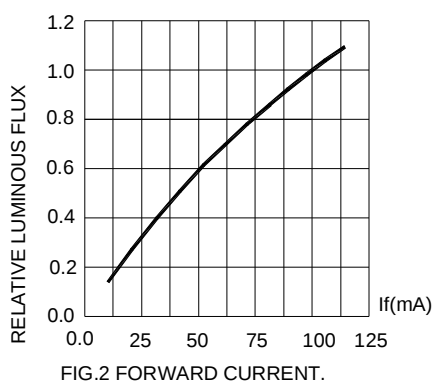
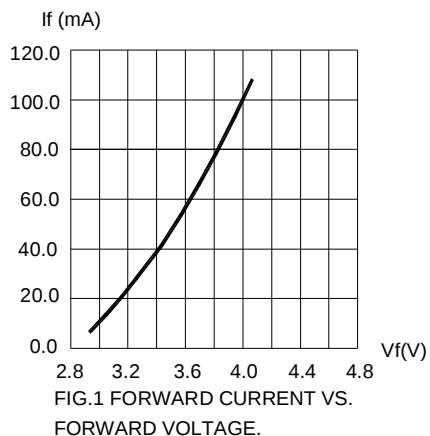
Wavelength Voltage (W_d)

Rank	X5	X6	X7	X8	X9
Wavelength (nm)	510-515nm	515-520nm	520-525nm	525-530nm	530-535nm

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



Items	Signatures	Date	Revision History		
Prepared by	WangFJ	2006-08-29	Rev.No	Date	Change Description
Checked by	WangXM	2006-08-29	02	2006-08-11	Changed λ_D MAX from 530 to 535 and added 530-535 λ_D bin
Approved by	David	2006-08-29	03	2006-08-29	Change lumen bin range and rank from B,C,D to E,F,G,H
FCN#	FCN20060297				

Data is subject to change without prior notice.

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