COTCO LUMINANT DEVICE (HUIZHOU) LTD.

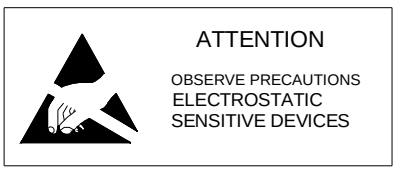
SPECIFICATION FOR COTCO LED LAMP

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



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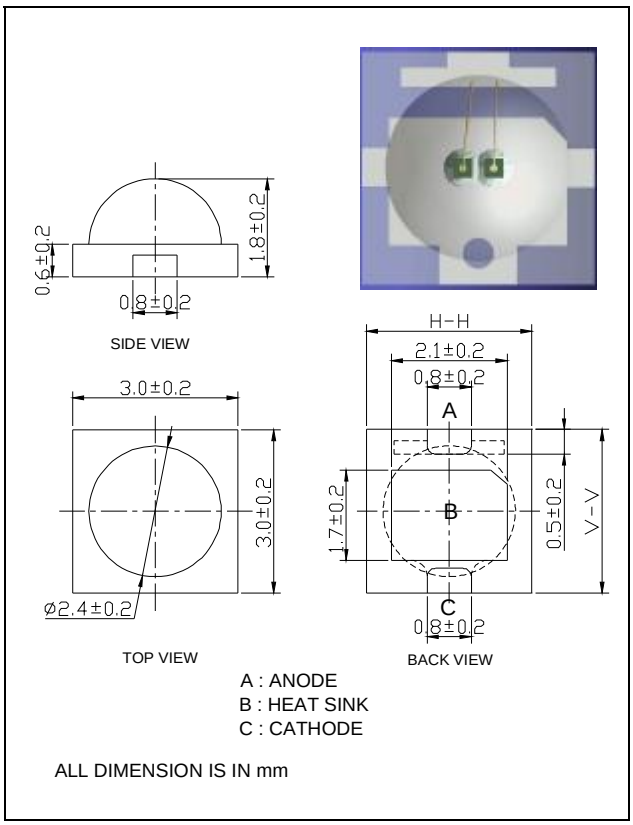
Features

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

Package Outline



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, θ_{jc} <50℃/W could do)

** Where pulse width <= 0.1msec, duty cycle <= 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 = 100mA		4.0	4.8	V
Reverse Current	I_R	V_R = 5V	---	---	10	μA
Luminous Flux	lumen	I_F = 100mA	3	5	---	lm
Dominant Wavelength	λ_D	I_F =100mA	510	525	535	nm
50% Power Angle	2 $\theta_{½}$ H-H	I_F = 100mA	---	125	---	deg
	2 $\theta_{½}$ V-V	I_F = 100mA	---	115	---	deg

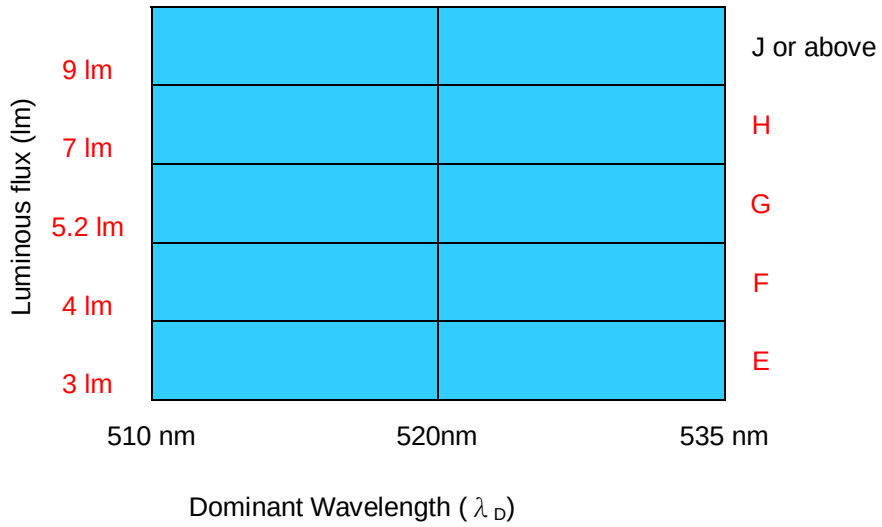
Ranks Combination (I_F = 100mA)

Lamps are sorted to Luminous flux –Im, 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–Im, V_F & Dominant Wavelength –λ_D values shown and specified are at I_F =100mA.

***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

Wavelenth Voltage (Wd)

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 ±10%
4) Tolerance of measurement of dominant wavelength is ±1nm.
5) Tolerance of measurement of Vf is ±0.1 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

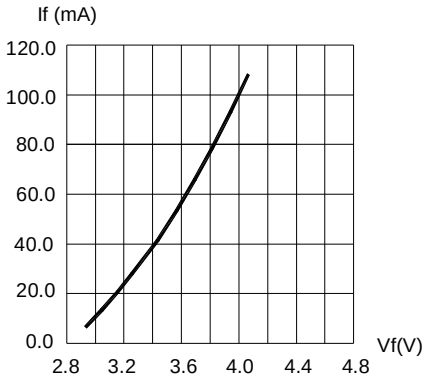


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

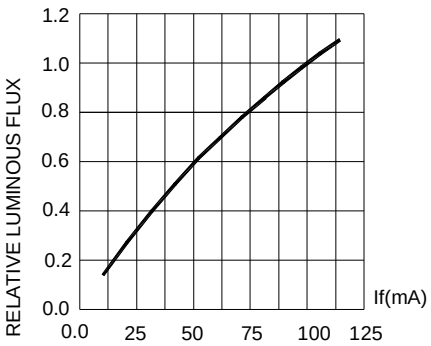


FIG.2 FORWARD CURRENT.

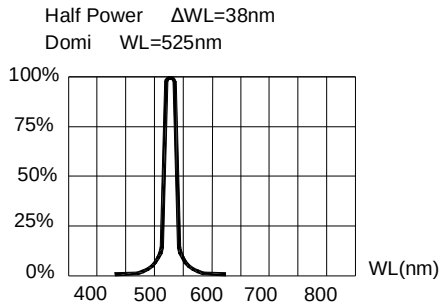


FIG.3 RELATIVE LUMINOUS FLUX VS. WAVELENGTH.

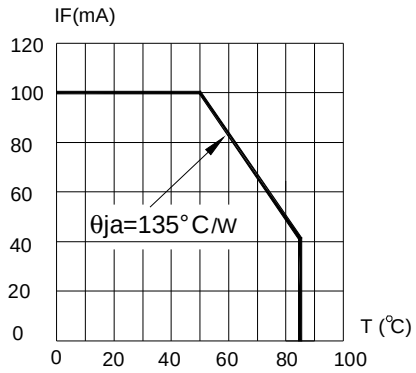


FIG.4 MAXIMUM FORWARD DC CURRENT VS TEMPERATURE. DERATING BASED ON Tjmax=110℃

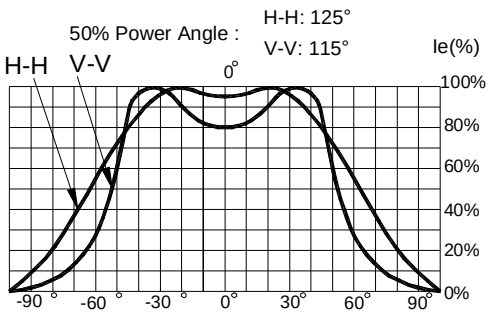


FIG.5 FAR FIELD PATTERN

Items	Signatures	Date
Prepared by	WangFJ	2006-08-29
Checked by	WangXM	2006-08-29
Approved by	David	2006-08-29
FCN#	FCN20060297	

Revision History		
Rev.No	Date	Change Description
02	2006-08-11	Changed λ_D MAX from 530 to 535 and added 530-535 λ_D bin
03	2006-08-29	Change lumen bin range and rank from B,C,D to E,F,G,H

Data is subject to change without prior notice.