COTCO LUMINANT DEVICE (HUIZHOU) LTD.

SPECIFICATION FOR COTCO LED LAMP

Document No :	SPE/ LD-700ABL1-E0
Model No:	LD-700ABL1-E0
Rev. No :	06
Date:	2006-02-16

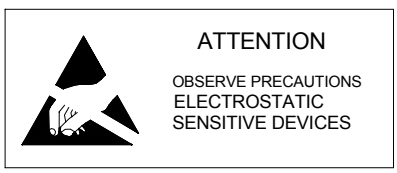
Description:

7 x 7mm, QFN Type,
High Power Blue LED For Illumination,
Clear Compound Encapsulated.

Dice Material: InGaN

Confirmed
by Customer: _____

Date: _____



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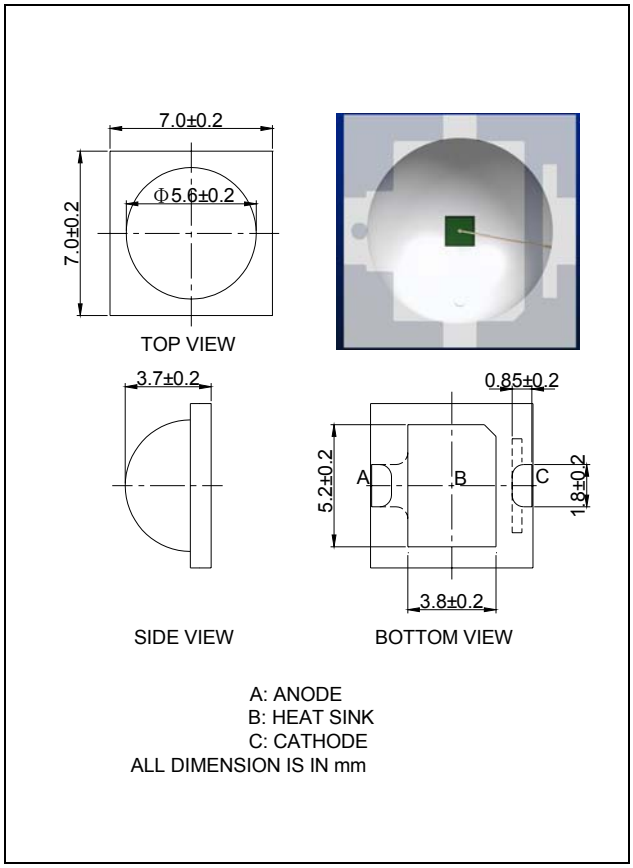
Features

- 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	300	mA
Peak Forward Current**	I_{FP}	500	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	1.3	W
Operation Temperature	T_{opr}	-40 ~ +85	°C
Storage Temperature	T_{stg}	-40 ~ +85	°C
Junction temperature	T_j	+125	°C
Junction-to-Ambient***	θ_{ja}	45	°C/W
Junction-to-Case***	θ_{jc}	15	°C/W

*Metal core PCB defines as good heat transmission substrate (thickness of 2.0mm Al-based PCB in 20x20mm, θ_{jc} <15℃/W could do)

** Where pulse width <= 0.1msec, duty cycle <= 1/10 *** Rth test condition: mounted on 2.0mm Al-based PCB in size of 20x20mm

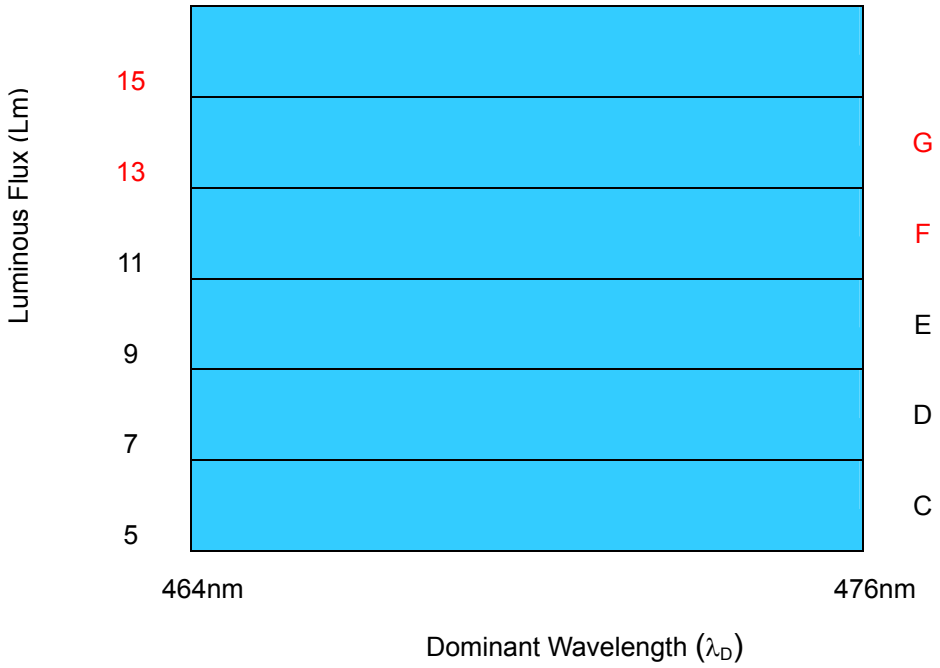
Typical Electrical & Optical Characteristics at Ta = 25°C (on metal core PCB)*

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F = 300mA		3.6	4.4	V
Reverse Current	I_R	V_R = 5V	---	---	10	μA
Luminous Flux	lumen	I_F = 300mA	5	11	---	lm
Dominant Wavelength	λ_D	I_F = 300mA	464	470	476	nm
50% Power Angle	2 $\theta_{½}$	I_F = 300mA	---	140	---	deg

Ranks Combination (I_F = 300mA)

Lamps are sorted to Luminous flux - Im & Wavelength -λ_D and rank as below:

*C+



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

Forward Voltage (V_F)

Rank	V5	V6	V7
Voltage (V)	3.2~3.6V	3.6~4.0V	4.0~4.4V

Important Notes:

1) All ranks will be included per delivery, rank ratio will be based on the 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.

Graphs

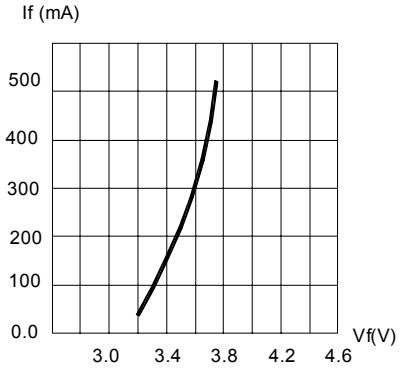


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

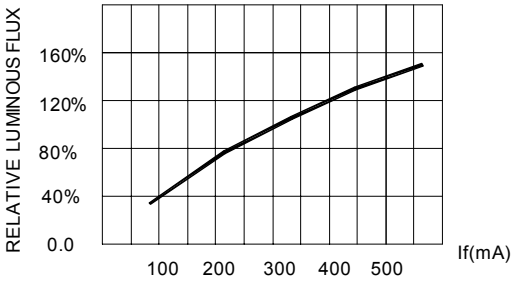


FIG.2 FORWARD CURRENT.

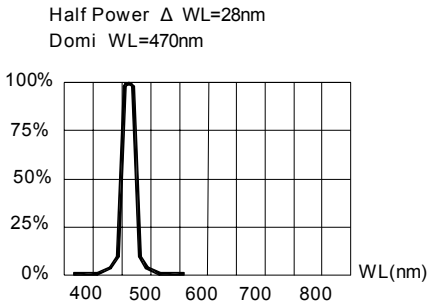


FIG.3 RELATIVE LUMINOUS FLUX VS. WAVELENGTH.

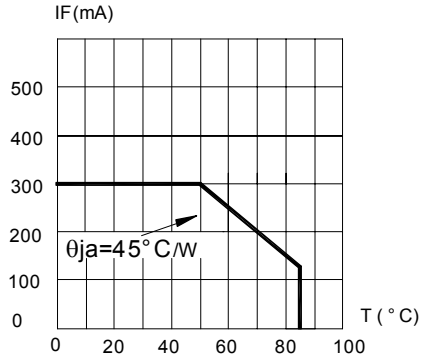


FIG.4 MAXIMUM FORWARD DC CURRENT VS TEMPERATURE. DERATING BASED ON Tjmax=110°C

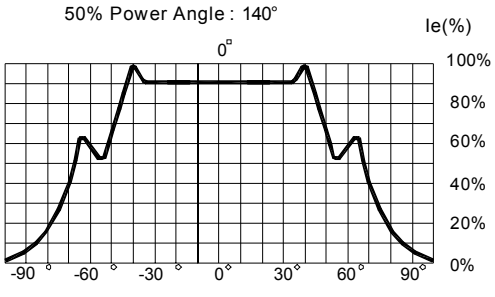


FIG.5 FAR FIELD PATTERN

Items	Signatures	Date
Prepared by	LiuYin	2006-02-16
Checked by	ShaBM	2006-02-16
Approved by	Thomson	2006-02-16
ECN#	FCN20060048	

Revision History		
Rev. No	Date	Change Description
04	2005-04-22	Change T_{opr} & $T_{stg\ from}$ -20 ~ +85 to -30 ~ +85 Lumen Tvp from 9lm to 11lm
05	2005-07-26	Adding Junction-to-Ambient Adding Vf range & modifying Graphs Change P_D from 1W to 1.3 W, T_{opr} & $T_{stg\ from}$ -30 ~ +85 to -40 ~ +85
06	2006-02-16	Adding Sorting Ranks: F; G