

SPECIFICATION FOR COTCO LED LAMP

MODEL No : LC503QBG1-15G
DOC. No : A 24Nov03

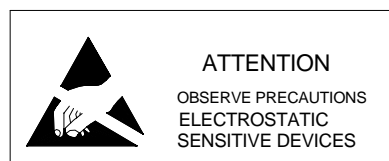
Description:

15 Degree 5mm Round LED Lamp in
Bluish Green Color with Water
Transparent Lens and Stopper

Dice Material: InGaN

Confirmed
by Customer: _____

Date: _____



COTCO LUMINANT DEVICE (HUIZHOU) LTD.

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Applications:

- Advertising Signs
- Indicators
- Traffic

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	105	mW
Operation Temperature	T_{opr}	-20 ~ +75	°C
Storage Temperature	T_{stg}	-30 ~ +80	°C
Lead Soldering Temperature	T_{sol}	Max.260°C for 3 sec Max. (3mm from the base of the epoxy bulb)	

*pulse width ≤ 0.1 msec duty $\leq 1/10$

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

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 20$ mA	---	3.6	4.2	V
Forward Voltage	V_F	$I_F = 1.0$ μ A	1.7	---	2.5	V
Reverse Current	I_R	$V_R = 5$ V	---	---	100	μ A
Dominant Wavelength	λ_D	$I_F = 20$ mA	500	505	510	nm
Luminous Intensity	I_V	$I_F = 20$ mA	12000	18000	---	mcd
50% Power Angle	$2\theta_{\frac{1}{2}}$	$I_F = 20$ mA	---	15	---	deg

Ranks Combination ($I_F = 20$ mA)

Rank	Z1	Z2	Z3
Luminous Intensity	12000-16800 mcd	16800-23500 mcd	23500-32900 mcd

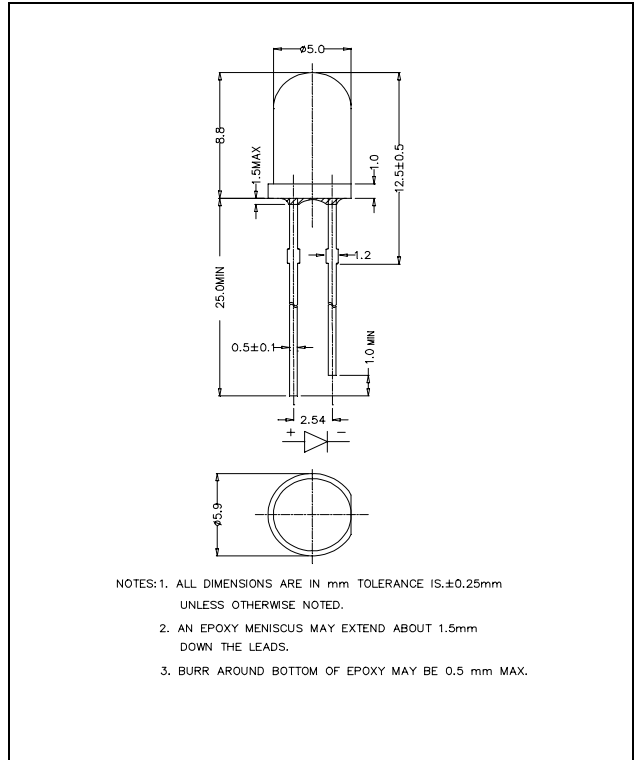
Rank	X3	X4
Dominant Wavelength	500-505 nm	505-510 nm

Rank	V9	V10	V11	V12	V13
Voltage(V)	3.2-3.4 V	3.4-3.6 V	3.6-3.8 V	3.8-4.0 V	4.0-4.2 V

Important Notes:

- 1) All ranks will be included per delivery, rank ratio will be determined by Cotco.
- 2) Tolerance of measurement of luminous intensity is $\pm 15\%$.
- 3) Tolerance of measurement of dominant wavelength is ± 1 nm.
- 4) Tolerance of measurement of V_f is ± 0.05 V.
- 5) Packaging methods are available for selection, please refer to PACKAGING STANDARD.
- 6) Please refer to LED LAMP RELIABILITY TEST STANDARD for reliability test conditions.

Dimension Drawing



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Graphs

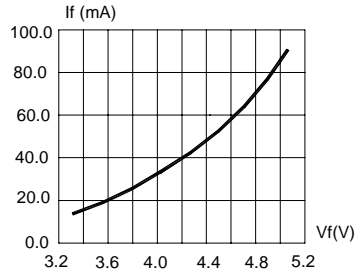


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

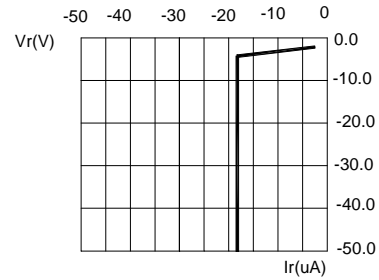


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

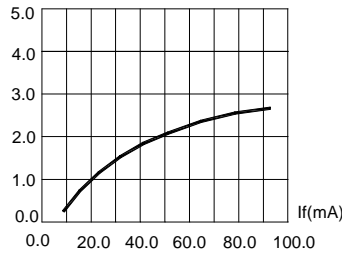


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

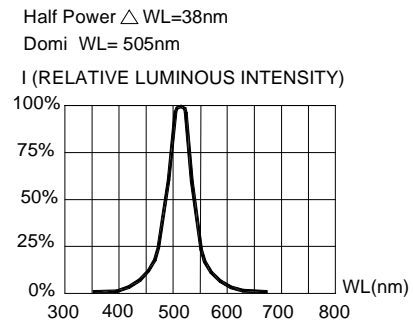


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

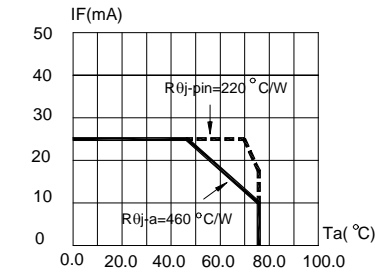


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE (Tjmax=95°C)

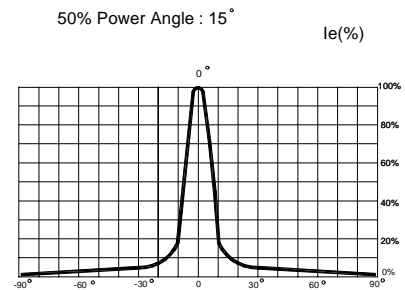


FIG.6 FAR FIELD PATTERN

1. Cathode PAD Area (0.18 X 0.18inch²)
2. Height above nominal seating plane in inches(0.3inch)

Items	Signatures	Date	Revision History	
Prepared by	LiuZM	2003/11/24	DOC. No.	CHANGE DESCRIPTION
Checked by	ZouGR	2003/11/24		
Approved by	David	2003/11/24		
ECN#	ECN-H20030404			

Data is subject to change without prior notice.

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Obsoletes Doc: ---