

SPECIFICATION FOR COTCO LED LAMP

MODEL No : LC503NBG1-15Q-A
DOC. No : D 02Aug04

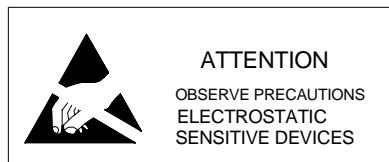
Description:

15 Degree 5mm LED Lamp in Bluish Green Color
with Water Transparent Lens and No Stopper

Dice Material: InGaN

Confirmed
by Customer: _____

Date: _____



COTCO LUMINANT DEVICE (HUIZHOU) LTD.

Model No.	LC503NBG1-15Q-A
Doc. No.	D 02Aug04

Applications:

- Advertising Signs
- Indicators
- Traffic

Absolute Maximum Ratings at Ta = 25°C

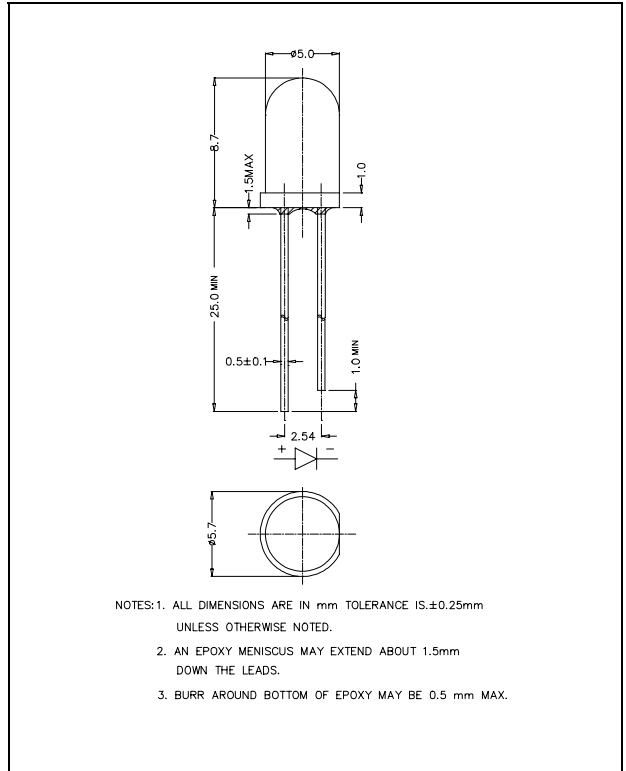
Items	Symbol	Absolute maximum Rating	Unit
Forward Current	I_F	25	mA
Peak Forward Current*	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	105	mW
Operation Temperature	T_{opr}	-40 ~ +95	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Lead Soldering Temperature	T_{sol}	Max.260°C for 3 sec Max. (3mm from the base of the epoxy bulb)	

*pulse width $\leq 0.1\text{msec}$ duty $\leq 1/10$

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

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 20\text{mA}$	---	3.6	4.2	V
Reverse Current	I_R	$V_R = 5\text{V}$	---	---	100	μA
Dominant Wavelength	λ_D	$I_F = 20\text{mA}$	495	505	510	nm
Luminous Intensity	I_V	$I_F = 20\text{mA}$	3000	5000	---	mcd
50% Power Angle	20½H-H	$I_F = 20\text{mA}$	---	15	---	deg

Dimension Drawing



Model No.	LC503NBG1-15Q-A
Doc. No.	D 02Aug04

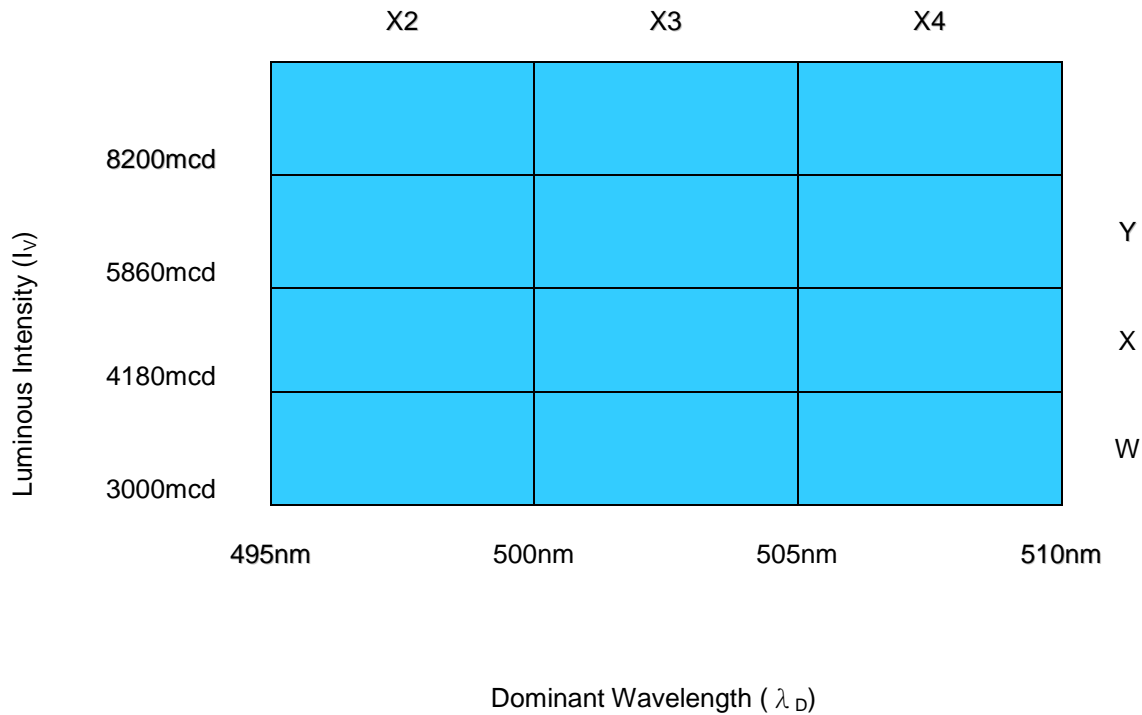
Standard bins for LC503NBG1-15Q-A ($I_F = 20\text{mA}$):

Lamps are sorted to Luminous Intensity – I_V , V_F & Dominant Wavelength – λ_D bins shown.

Orders for LC503NBG1-15Q-A may be filled with any or all bins contained as below.

All Luminous Intensity – I_V , V_F & Dominant Wavelength – λ_D values shown and specified are at $I_F = 20\text{mA}$.

* **W+**



* W+ indicates Luminous Intensity is at W bin or above.

Forward Voltage (V_F)

Rank	V8	V9	V10	V11	V12	V13
Voltage	3.0-3.2V	3.2-3.4V	3.4-3.6V	3.6-3.8V	3.8-4.0V	4.0-4.2V

Important Notes:

- 1) All ranks will be included per delivery, rank ratio will be determined by Cotco.
- 2) Pb content <1000PPM.
- 3) Tolerance of measurement of luminous intensity is $\pm 15\%$.
- 4) Tolerance of measurement of dominant wavelength is $\pm 1\text{nm}$.
- 5) Tolerance of measurement of V_f is $\pm 0.05\text{V}$.
- 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.

Graphs

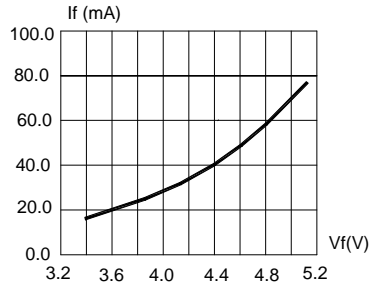


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

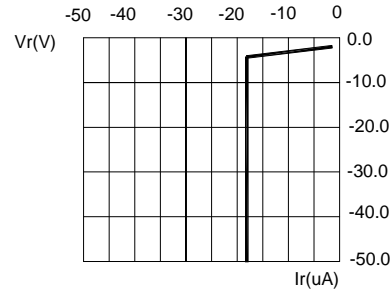


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

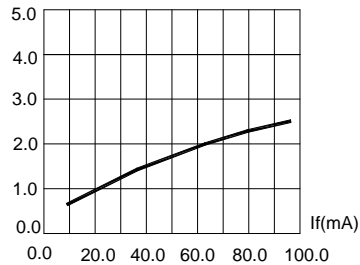


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

Half Power Δ WL=38nm
Domi WL= 505nm

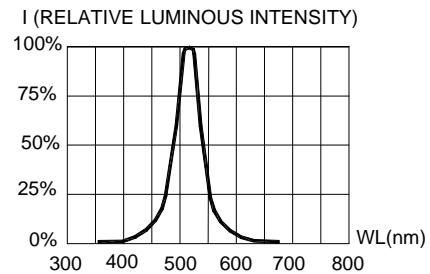


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

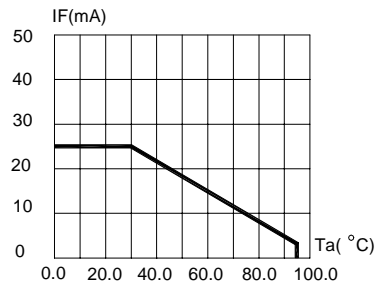


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE ($T_{jmax}=105^{\circ}$ C)

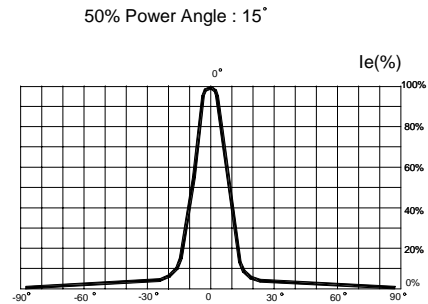


FIG.6 FAR FIELD PATTERN

Items	Signatures	Date	Revision History	
Prepared by	LiuZM	2004/08/02	DOC. No.	CHANGE DESCRIPTION
Checked by	ZouGR	2004/08/02	B 11Jun04	λ_D add X2, VF add V8.
Approved by	David	2004/08/02	C 28Jun04	Dimension Drawing from ϕ 5.9 to ϕ 5.7
ECN#	ECN-H20040190	D 02Aug04	Change T_{opr} & T_{stg} ; Change FIG.1&3&5; Change IV& λ_D Rank form.	

Data is subject to change without prior notice.

Copyright©2002 Cotco International Ltd.

Obsoletes Doc: C 28Jun04.