



COTCO LUMINANT DEVICE (HUIZHOU) LTD

**Part #: LC503NBL1-15Q**

Product Description: Blue 15° 5mm LED lamp with water transparent lens

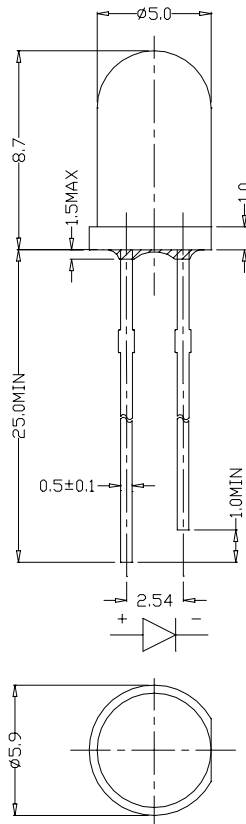
**Resin:** Epoxy

**Lens Color:** Water Transparent

**Lead Frame:** Ag Plating Iron Alloy

**Dice:** InGaN/SiC

**DIMENSION DRAWING**



NOTES:1. ALL DIMENSIONS ARE IN mm TOLERANCE IS:±0.25mm

UNLESS OTHERWISE NOTED.

2. AN EPOXY MENISCUS MAY EXTEND ABOUT 1.5mm  
DOWN THE LEADS.

3. BURR AROUND BOTTOM OF EPOXY MAY BE 0.5 mm MAX.

COTCO-D-074 REV.0

**Pricing and Delivery Information Contact:**

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**Marktech Optoelectronics\***

120 Broadway, Menands, NY 12204

Phone: 800.984.5337 FAX: 518.432.7454

Web Site: [www.marktechopto.com](http://www.marktechopto.com)

\*Marktech is the exclusive North American Technical Sales and Marketing office for COTCO LED products

## SPECIFICATION

Absolute Maximum Rating (T<sub>a</sub> = 25°C)

Items	Symbol	Absolute maximum Rating	Unit
Forward Current	I <sub>F</sub>	25	mA
Peak Forward Current pulse width ≤ 0.1msec duty ≤ 1/10	I <sub>FP</sub>	100	mA
Reverse Voltage	V <sub>R</sub>	5	V
Power Dissipation	P <sub>D</sub>	120	mW
Operation Temperature	T <sub>opr</sub>	-20 ~ +75	°C
Storage Temperature	T <sub>stg</sub>	-30 ~ +80	°C
Lead Soldering Temperature	T <sub>sol</sub>	260°C for 3 sec (3mm from the base of the epoxy bulb)	

Initial Electrical/Optical Characteristics (T<sub>a</sub> = 25°C)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 20mA	3.2	3.6	4.2	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5V	---	---	100	μ A
Wavelength	λ <sub>D</sub>	I <sub>F</sub> = 20mA	---	470	---	nm
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> = 20mA	770	1300	---	mcd
50% Power Angle	2θ <sub>½</sub>	I <sub>F</sub> = 20mA	---	15	---	deg

Ranks Combination

Intensity Dominant Wavelength	Rank S 770-1100 mcd	Rank T 1100-1520 mcd	Rank U 1520-2130 mcd
X3 460-465 nm	☒	☒	☒
X4 465-470 nm	☒	☒	☒
X5 470-475 nm	☒	☒	☒
X6 475-480 nm	☒	☒	☒

\*One normal delivery will include all ranks listed above.

The quantity ratio of the ranks is decided by COTCO.

Upper and lower tolerance limit of the Luminous flux ±15%

Upper and lower tolerance limit of the Dominant Wavelength ±1.0nm

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GRAPHS

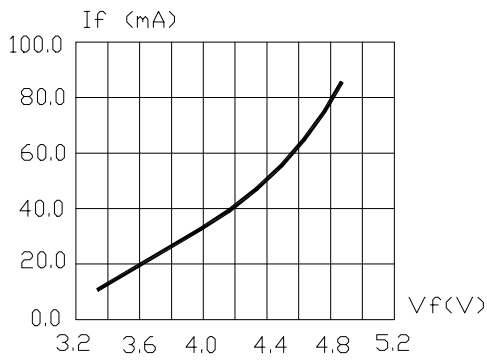


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

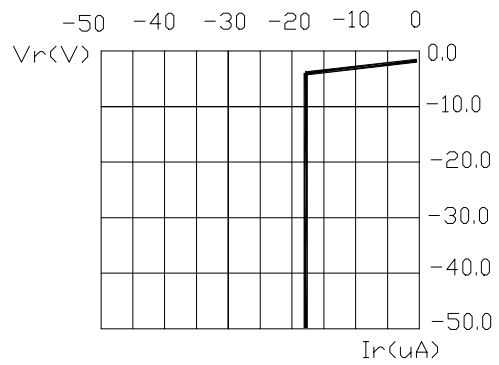


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

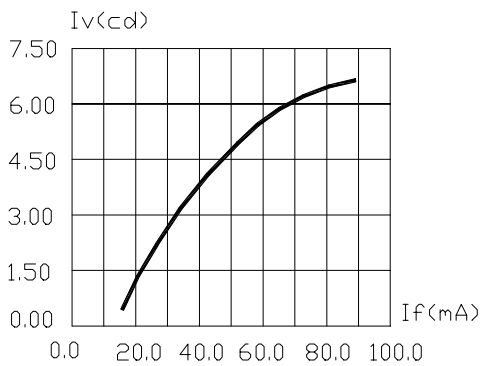


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

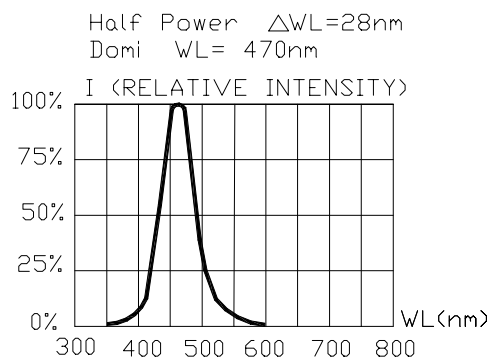


FIG.4 RELATIVE INTENSITY VS. WAVE LENGTH.

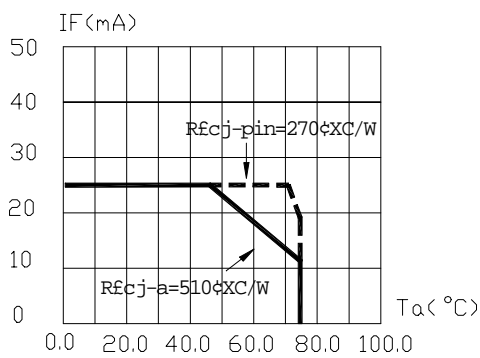


FIG.5 MAXIMUM FORWARD DC CURRENT VS TEMPERATURE. DERATING BASED ON  $T_{jmax} = 95^\circ\text{C}$

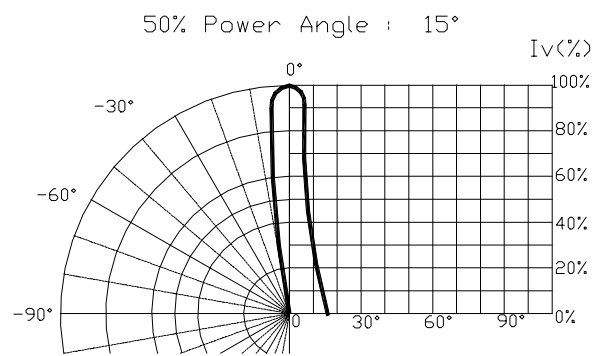


FIG.6 SPATIAL DISTRIBUTION.

- 1.Cathode PAD Area ( $0.18 \times 0.18 \text{ inch}^2$ )
- 2.Height above nominal seating plane in inches(0.3inch)

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