

## SPECIFICATION FOR COTCO LED LAMP

MODEL No : LC512TYL1-25Q-A-MT  
DOC. No : 02 11Nov04

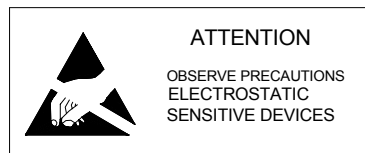
Description:

25 Degree 5mm LED Lamp in Amber Color with  
Water Transparent Lens and No Stopper

\*This specification is only for MT  
Dice Material: AlGaInP

Confirmed  
by Customer: \_\_\_\_\_

Date: \_\_\_\_\_



**COTCO LUMINANT DEVICE (HUIZHOU) LTD.**

### Applications:

- Advertising Signs
- Indicators
- Traffic
- Automotive Lighting

### Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating	Unit
Forward Current <sup>*2</sup>	I <sub>F</sub>	50	mA
Peak Forward Current <sup>*1</sup>	I <sub>FP</sub>	200	mA
Reverse Voltage	V <sub>R</sub>	5	V
Power Dissipation	P <sub>D</sub>	130	mW
Operation Temperature	T <sub>opr</sub>	-40 ~ + 95	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +100	°C
Lead Soldering Temperature	T <sub>sol</sub>	Max.260°C for 3 sec Max. (3mm from the base of the epoxy bulb)	

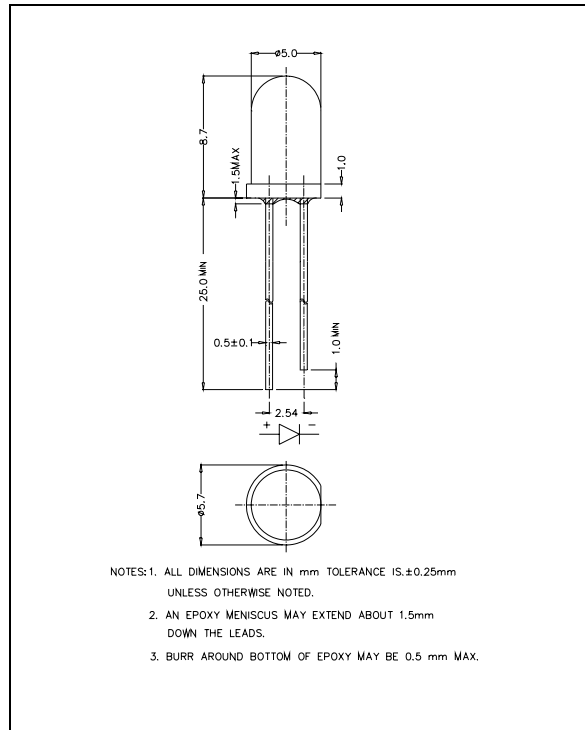
\*1 pulse width <=0.1msec duty <=1/10

\*2 For long term performance the drive currents between 10mA and 30mA are recommended. Please contact COTCO sales representative for more information on recommended drive conditions.

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

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 20mA	---	2.3	2.6	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> = 5V	---	---	100	μA
Dominant Wavelength	λ <sub>D</sub>	I <sub>F</sub> = 20mA	584	591	596	nm
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> = 20mA	2130	4200	---	mcd
50% Power Angle	2θ <sub>1/2</sub> H-H	I <sub>F</sub> = 20mA	---	25	---	deg

### Dimension Drawing



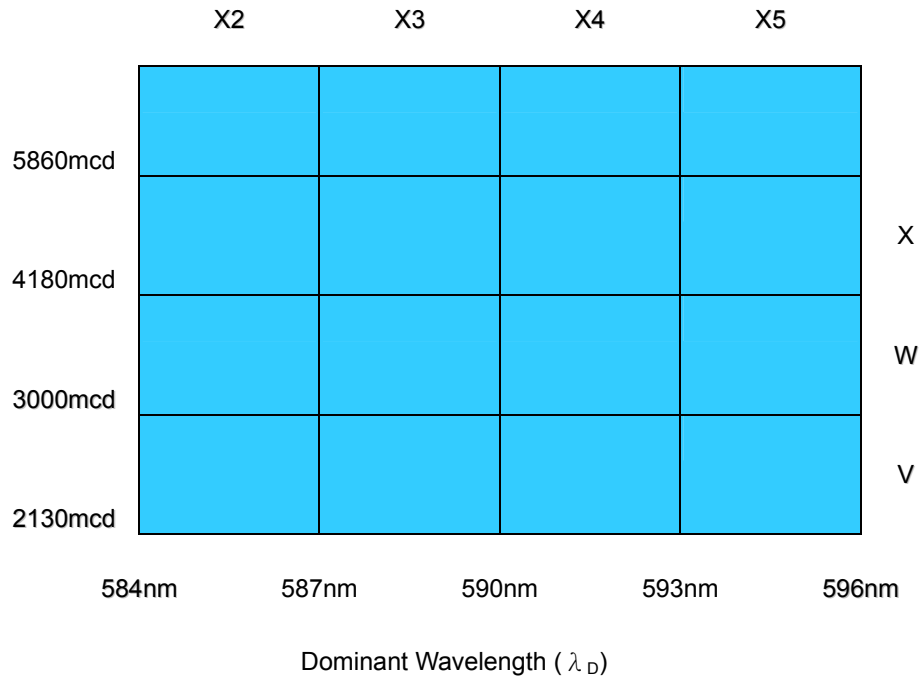
**Standard bins for LC512TYL1-25Q-A-MT (I<sub>F</sub> = 20mA):**

Lamps are sorted to Luminous Intensity –I<sub>V</sub>, V<sub>F</sub>& Dominant Wavelength – λ<sub>D</sub> bins shown.

Orders for LC512TYL1-25Q-A-MT may be filled with any or all bins contained as below.

All Luminous Intensity –I<sub>V</sub>, V<sub>F</sub> & Dominant Wavelength – λ<sub>D</sub> values shown and specified are at I<sub>F</sub>=20mA.

\* **V+**



\* V+ indicates Luminous Intensity is at V bin or above.

**Forward Voltage (V<sub>F</sub>)**

Rank	V2	V3	V4	V5
Voltage	1.8-2.0V	2.0-2.2V	2.2-2.4V	2.4-2.6V

**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 ±15%.
- 4) Tolerance of measurement of dominant wavelength is ±1nm.
- 5) Tolerance of measurement of V<sub>f</sub> is ±0.05 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

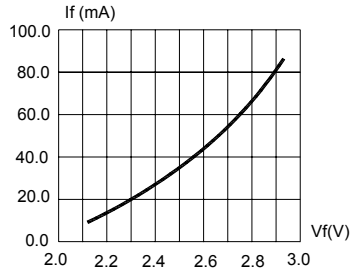


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

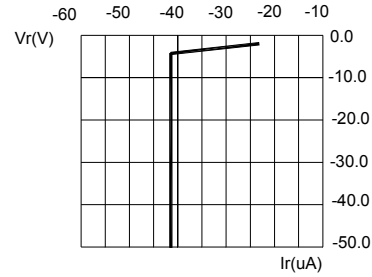


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

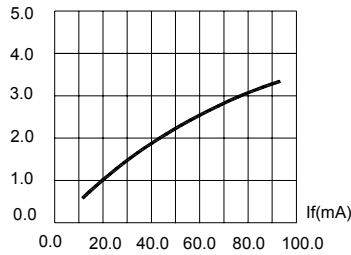


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

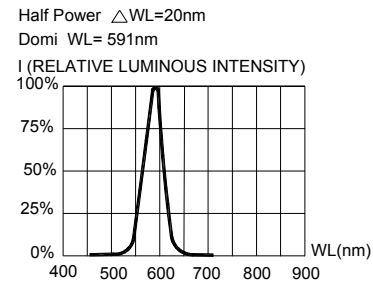


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

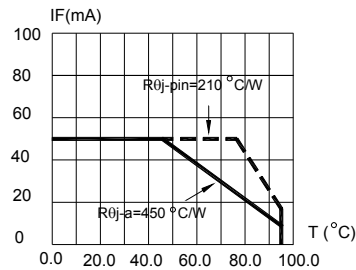


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE. ( $T_{jmax}=105^{\circ}C$ )

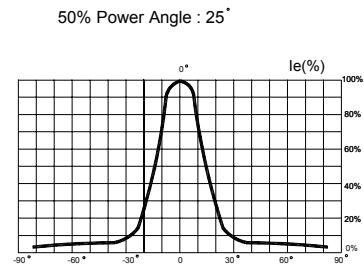


FIG.6 FAR FIELD PATTERN

1. Cathode PAD Area (0.18 X 0.18inch<sup>2</sup>)
2. Height above nominal seating plane in inches(0.3inch)

Items	Signatures	Date	Revision History	
Prepared by	LiuZM	2004/11/11	DOC. No.	CHANGE DESCRIPTION
Checked by	Aldosin	2004/11/11	02 11Nov04	VF cancel V1. Change IV & $\lambda_D$ form.
Approved by	David	2004/11/11		
ECN#	ECN-H20040298			

Data is subject to change without prior notice.

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Obsoletes Doc: A 23Feb04.