



## **SPECIFICATION FOR COTCO LED LAMP**

Document No: SPE/LP377TYL1-70G-01  
Model No : LP377TYL1-70G-01  
Rev. No: 02  
Date: 2005-05-18

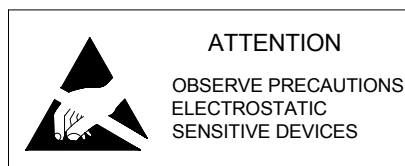
Description:

70 Degree 7.6 x 7.6mm LED Lamp in  
Amber Color with Water Transparent Lens  
and Stopper

Dice Material: AlGaInP

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

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



### Applications:

- Advertising Signs
- Indicators
- Traffic
- Automotive Lighting

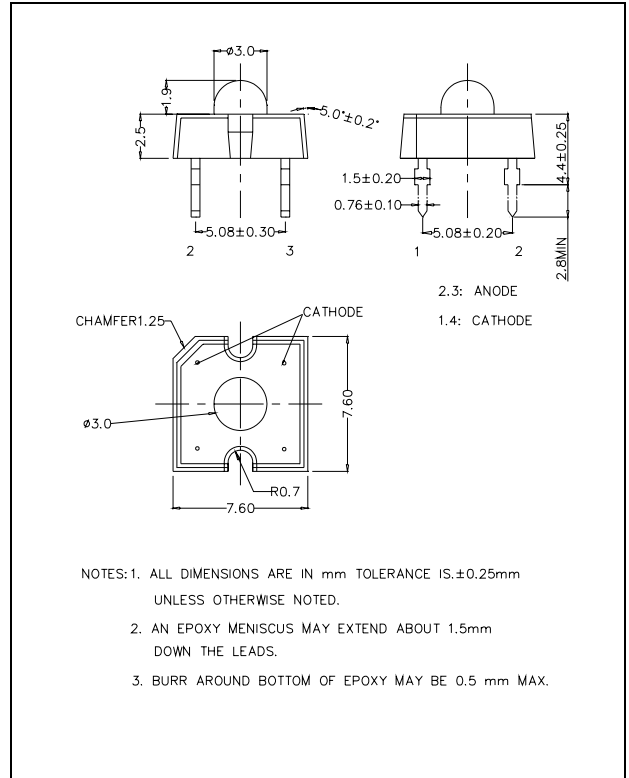
### Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating	Unit
Forward Current*2	$I_F$	70	mA
Peak Forward Current*1	$I_{FP}$	200	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	220	mW
Operation Temperature	$T_{opr}$	-40 ~ +100	°C
Storage Temperature	$T_{stg}$	-40 ~ +100	°C
Lead Soldering Temperature	$T_{sol}$	Max.260°C for 5 sec Max. (3mm from the base of the epoxy bulb)	

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

\*2 Heat sink is recommended to be adequated if the device is operated at ambient temperatures higher than 25 deg C. For long term performance the drive currents between 10mA and 50mA are recommended. Please contact COTCO sales representative for more information on recommended drive conditions.

### Dimension Drawing



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

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	$V_F$	$I_F = 70$ mA	---	2.6	3.2	V
Reverse Current	$I_R$	$V_R = 5$ V	---	---	100	$\mu$ A
Dominant Wavelength	$\lambda_D$	$I_F = 70$ mA	584	591	599	nm
Luminous Flux	$\Phi_V$	$I_F = 70$ mA	2000	3200	---	mlm
50% Power Angle	$2\theta_{1/2}$	$I_F = 70$ mA	---	70	---	deg

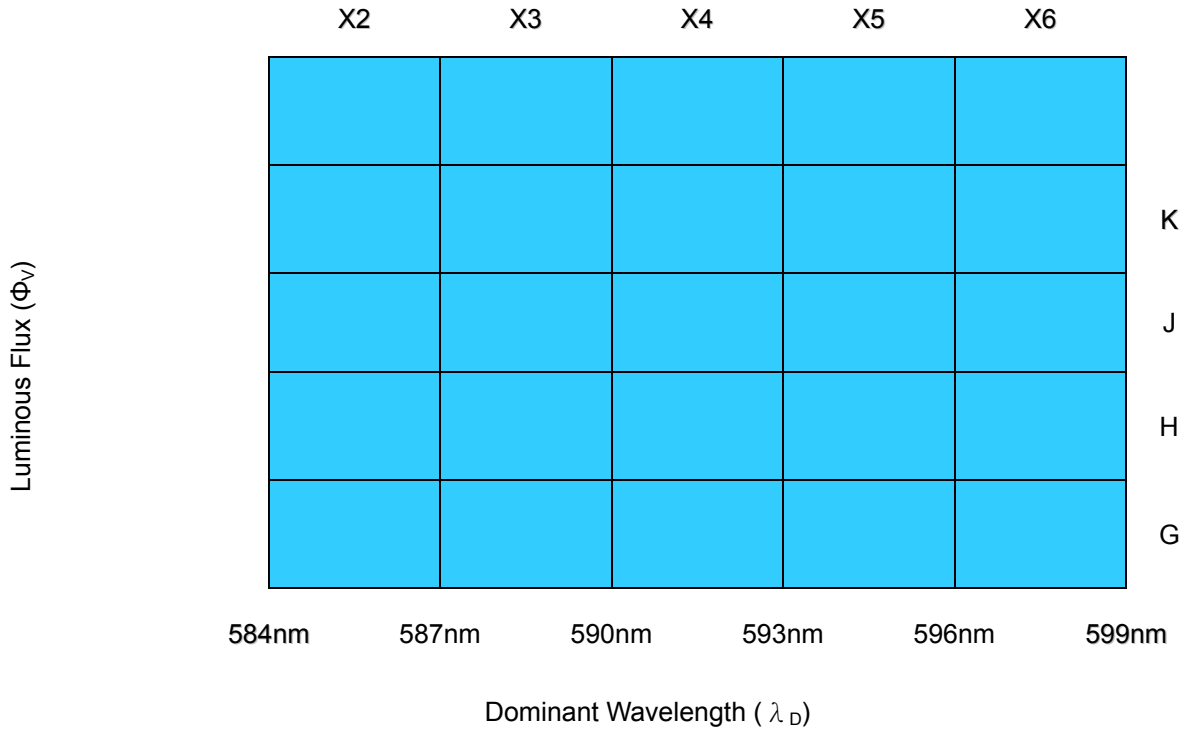
**Standard bins for LP377TYL1-70G-01 ( $I_F = 70\text{mA}$ ):**

Lamps are sorted to Luminous Flux –  $\Phi_V$ ,  $V_F$  & Dominant Wavelength –  $\lambda_D$  bins shown.

Orders for LP377TYL1-70G-01 may be filled with any or all bins contained as below.

All Luminous Flux –  $\Phi_V$ ,  $V_F$  & Dominant Wavelength –  $\lambda_D$  values shown and specified are at  $I_F=70\text{mA}$ .

**\* G+**



Rank	G	H	J	K
Luminous Flux	2000-3000 mlm	2500-3600 mlm	3000-4200 mlm	3500-4800 mlm

\* G+ indicates Luminous Flux is at G bin or above.

**Forward Voltage ( $V_F$ )**

Rank	V4	V5	V6	V7	V8
Voltage	2.2-2.4V	2.4-2.6V	2.6-2.8V	2.8-3.0V	3.0-3.2 V

**Important Notes:**

- 1) All ranks will be included per delivery; rank ratio will be based on the Dices distribution.
- 2) No tolerance in the measurement of luminous flux.
- 3) Tolerance of measurement of dominant wavelength is  $\pm 1\text{nm}$ .
- 4) Tolerance of measurement of  $V_f$  is  $\pm 0.05\text{ V}$ .
- 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.
- 7) Please refer to APPLICATION NOTES for Application.

## Graphs

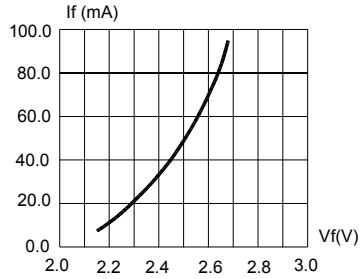


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

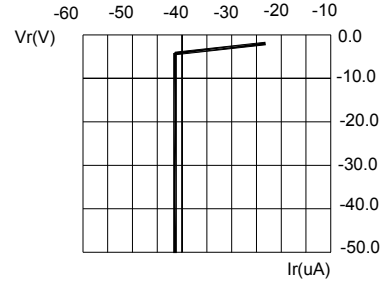


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

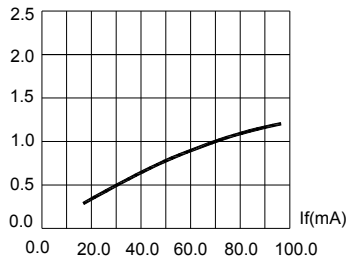


FIG.3 RELATIVE LUMINOUS FLUX VS. FORWARD CURRENT.

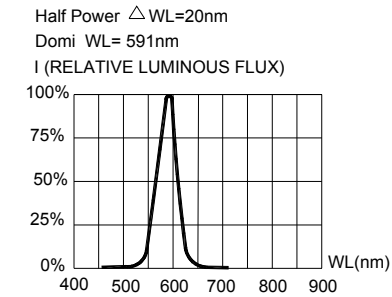


FIG.4 RELATIVE LUMINOUS FLUX VS. WAVELENGTH.

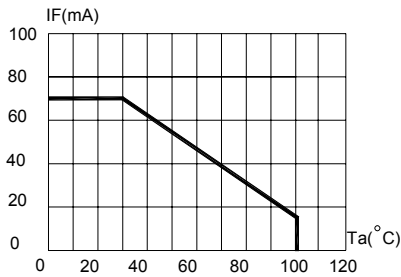


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE ( $T_{jmax}=120^{\circ}C$ )

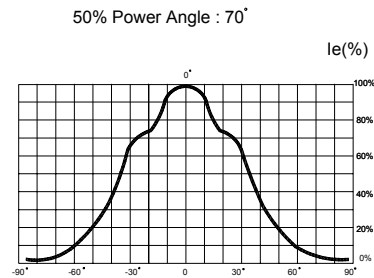


FIG.6 FAR FIELD PATTERN

Items	Signatures	Date
Prepared by	LiuZM	2005-05-18
Checked by	Aldosin	2005-05-18
Approved by	David	2005-05-18
FCN#	FCN20050163	

Revision History		
Rev. No	Date	Change Description
02	2005-05-18	Release. Change $2\theta_{1/2}$ from 75deg to 70deg.

Data is subject to change without prior notice; please refer to COTCO Website for the latest version.

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