



SPECIFICATION FOR COTCO LED LAMP

Document No: SPE/LC503PBL1-15P-A3
Model No : LC503PBL1-15P-A3
Rev. No: 02
Date: 2006-03-31

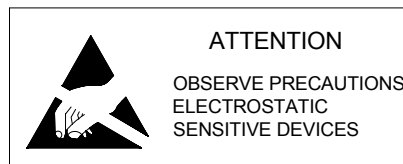
Description:

15 Degree 5mm LED Lamp in Blue Color
with Water Transparent Lens and Stopper

Dice Material: InGaN

Confirmed
by Customer: _____

Date: _____



Applications:

- Advertising Signs
- Indicators
- LCD Back Light
- Moving Message Signs

Absolute Maximum Ratings at Ta = 25°C

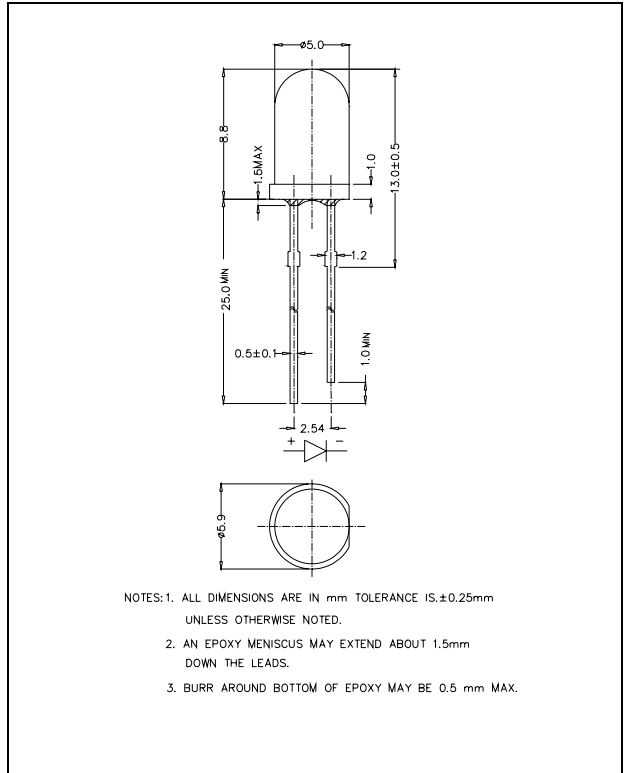
| Items | Symbol | Absolute maximum Rating | Unit |
|----------------------------|-----------|---|------|
| Forward Current | I_F | 25 | mA |
| Peak Forward Current* | I_{FP} | 100 | mA |
| Reverse Voltage | V_R | 5 | V |
| Power Dissipation | P_D | 100 | mW |
| Operation Temperature | T_{opr} | -40 ~ +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 | $I_F = 20\text{mA}$ | --- | 3.4 | 4.0 | V |
| Reverse Current | I_R | $V_R = 5\text{V}$ | --- | --- | 100 | μA |
| Dominant Wavelength | λ_D | $I_F = 20\text{mA}$ | 465 | 470 | 475 | nm |
| Luminous Intensity | I_V | $I_F = 20\text{mA}$ | 1520 | 3800 | --- | mcd |
| 50% Power Angle | $2\theta_{\frac{1}{2}H-H}$ | $I_F = 20\text{mA}$ | --- | 15 | --- | deg |

Dimension Drawing

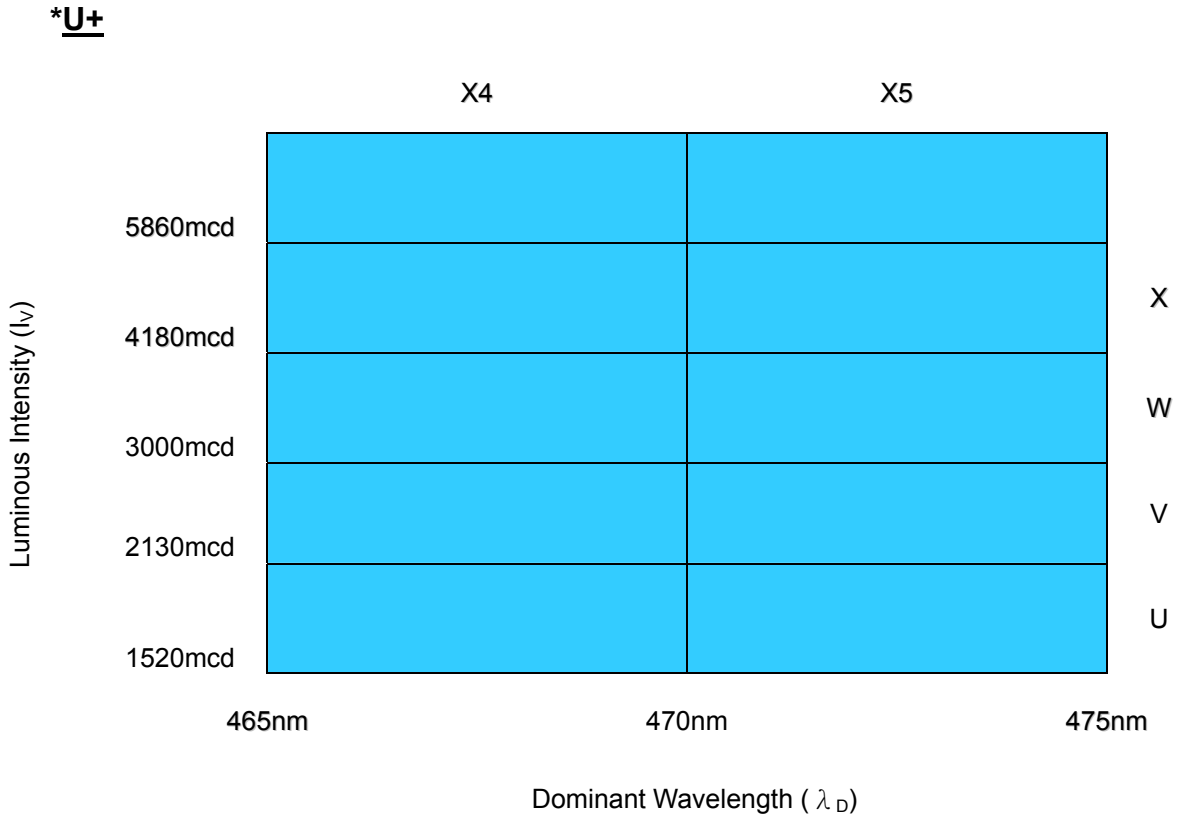


Standard bins for LC503PBL1-15P-A3 ($I_F = 20\text{mA}$):

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

Orders for LC503PBL1-15P-A3 may be filled with any or all bins contained as below.

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



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

Important Notes:

- 1) All ranks will be included per delivery, rank ratio will be based on the Dices distribution.
- 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.
- 8) Please refer to APPLICATION NOTES for Application.

Graphs

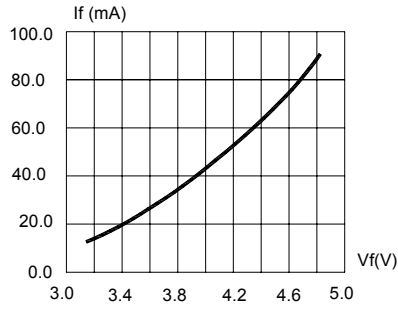


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

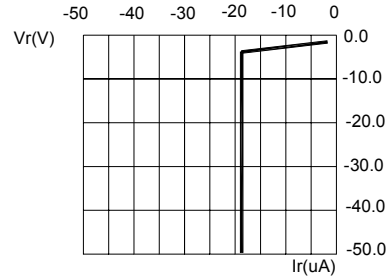


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

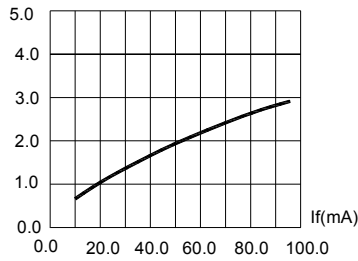


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

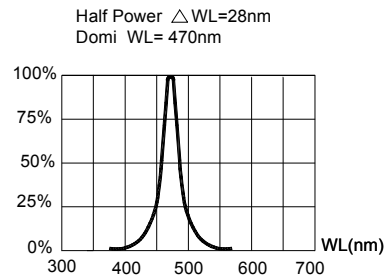


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

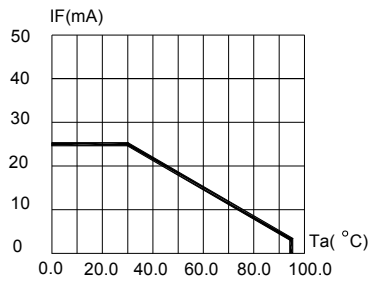


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE ($T_{jmax}=105\text{ }^{\circ}\text{C}$)

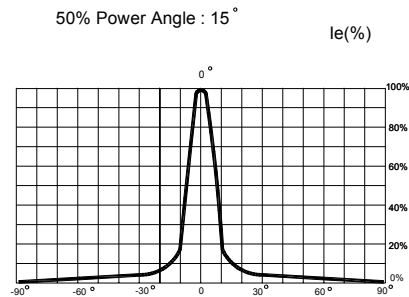


FIG.6 FAR FIELD PATTERN

| Items | Signatures | Date |
|-------------|-------------|------------|
| Prepared by | LiuZM | 2006-03-31 |
| Checked by | Aldosin | 2006-03-31 |
| Approved by | David | 2006-03-31 |
| FCN# | FCN20060081 | |

| Revision History | | |
|------------------|------------|--------------------|
| Rev. No | Date | Change Description |
| 02 | 2006-03-31 | Cancel VF bin. |
| | | |
| | | |

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

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