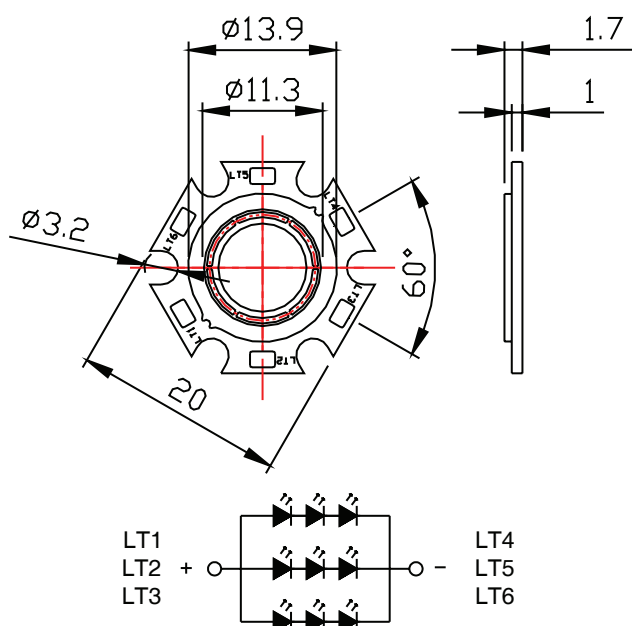


# 3W High Power LED



## Package Dimensions:



## Features:

- Pb-Free soldering application
- Multi-Chip package
- High reliability

## Applications:

- Bulb
- Indoor decoration lighting
- Signal and symbol luminaries
- Reading lights
- Portable flashlight

All dimensions are in mm  
Tolerance:  $\pm 0.25\text{mm}$

## Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

| Parameter                                            | Symbol       | Rating                                                             | Unit |
|------------------------------------------------------|--------------|--------------------------------------------------------------------|------|
| Power Dissipation*                                   | $P_D$        | 540                                                                | mW   |
| LED Junction Temperature*                            | $T_j$        | 120                                                                | °C   |
| Reverse Voltage*                                     | $V_r$        | 5                                                                  | V    |
| D.C. Forward Current*                                | $I_f$        | 150                                                                | mA   |
| Peak Current (1 / 10 Duty Cycle, 0.1ms Pulse Width)* | $I_f$ (Peak) | 500                                                                | mA   |
| Storage Temperature Range                            | $T_{stg.}$   | -40 to +85                                                         | °C   |
| Soldering Temperature (1.6mm from body)              | $T_{sld.}$   | Dip Soldering: 260°C for 10sec.<br>Hand Soldering: 350°C for 3sec. |      |
| Electric Static Discharge Threshold (HBM)*           | ESD          | 300                                                                | V    |

\* The values are based on 1 die performance.

# 3W High Power LED



## Electrical & Optical Characteristics

| Parameter                            | Symbol  | Condition  | Min.  | Typ.   | Max. | Unit   |
|--------------------------------------|---------|------------|-------|--------|------|--------|
| Luminous Flux                        |         | IF=1,050mA | 150   | 200    |      | lm     |
|                                      | Rank L1 |            | 150   |        | 200  |        |
|                                      | Rank L2 |            | 200   |        | 250  |        |
| Forward Voltage                      |         | IF=1,050m  |       | 9.5    |      | V      |
|                                      | Rank V1 |            | 9     |        | 9.5  |        |
|                                      | Rank V2 |            | 9.51  |        | 10   |        |
|                                      | Rank V3 |            | 10.01 |        | 10.5 |        |
| Correlated Colour Temperature        | CCT     | IF=1,050mA | 2,875 | 3,000  |      | K      |
| CIE Chromaticity Coordinates: X Axis | X       | IF=1,050mA |       | 0.4338 |      |        |
| CIE Chromaticity Coordinates: Y Axis | Y       | IF=1,050mA |       | 0.4030 |      |        |
| Reverse Current                      | IR      | Vr=5V      |       |        | 50   | μA     |
| Viewing Angle at 50%                 |         | 2 θ ½      |       | 120    |      | Deg    |
| Thermal Resistance Junction to Case  |         | R θ j-c    |       | 15     |      | °C / W |

Notes: 1. The data is tested by IS tester.

2. Customer's special requirements are also welcome.

## Typical Electrical & Optical Characteristics Curves:

(25°C Ambient temperature unless otherwise noted)

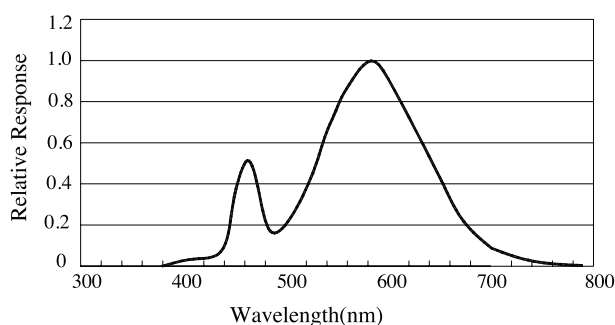
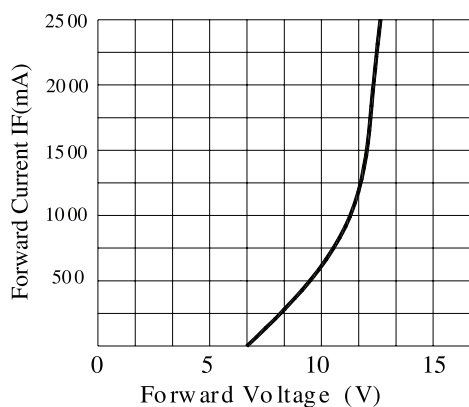
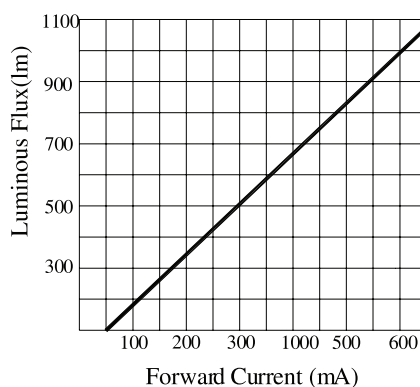


Fig.1 WARM WHITE LED Spectrum VS. WAVELENGTH

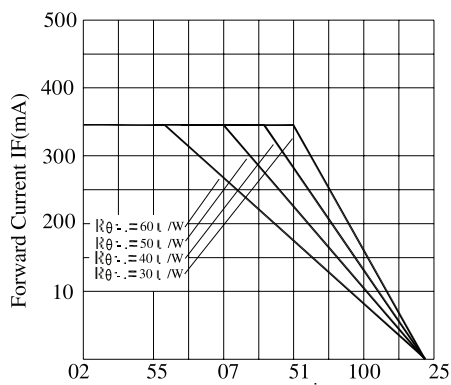
# 3W High Power LED



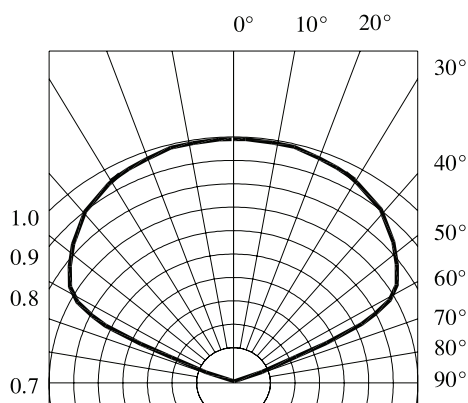
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Flux



Ambient Temperature VS. Forward Current



Radiation Diagram

## Chromaticity Coordinates Specifications for Bin Grading:

| Bin | Rank |        |        |        |        |
|-----|------|--------|--------|--------|--------|
|     | X    | Y      | Z      | u      | v      |
| 7A  | X    | 0.4147 | 0.4221 | 0.4342 | 0.4259 |
|     | Y    | 0.3814 | 0.3984 | 0.4028 | 0.3853 |
| 7B  | X    | 0.4221 | 0.4299 | 0.4430 | 0.4342 |
|     | Y    | 0.3984 | 0.4165 | 0.4212 | 0.4028 |
| 7C  | X    | 0.4342 | 0.4430 | 0.4562 | 0.4465 |
|     | Y    | 0.4028 | 0.4212 | 0.4260 | 0.4071 |
| 7D  | X    | 0.4259 | 0.4342 | 0.4465 | 0.4373 |
|     | Y    | 0.3853 | 0.4028 | 0.4071 | 0.3893 |

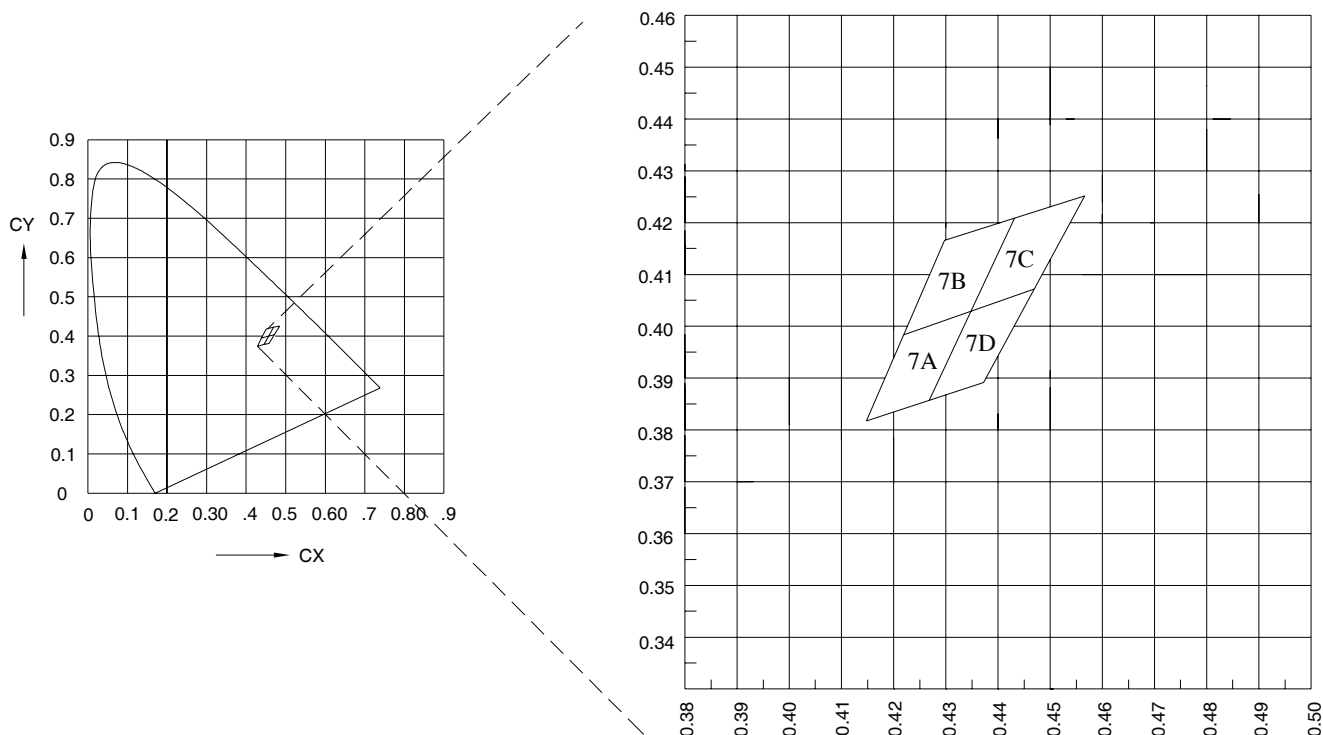
Note: X, Y

Tolerance each Bin limit is  $\pm 0.01$

# 3W High Power LED



## Chromaticity Coordinates & Bin Grading Diagram:



## Part Number Table

| LED Chip       |                    | Lens Colour     | Part Number |
|----------------|--------------------|-----------------|-------------|
| Material       | Colour Coordinates |                 |             |
| InGaN/Sapphire | Warm white         | Yellow diffused | 703-0115    |

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