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# SPECIFICATION

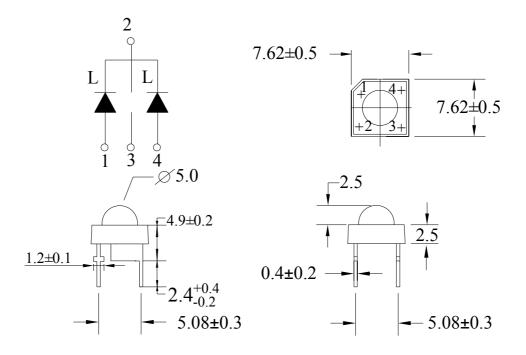
PART NO. : MT4P060-WR-A HIGH POWER LED







# **Package Dimensions**



## Notes:

- 1. All dimensions are in mm.
- 2. Tolerance is  $\pm 0.25$ mm unless otherwise noted.

## Description

| Part No.     | LED Ch         |                |             |
|--------------|----------------|----------------|-------------|
|              | Material       | Emitting Color | Lens Color  |
| MT4P060-WR-A | InGaN/Sapphire | Warm White     | Water Clear |

# Absolute Maximum Ratings at Ta=25

| Parameter                                       | Symbol   | Rating      | Unit                    |
|---|----------|-------------|-------------------------|
| Power Dissipation                               | Pd       | 108         | mW                      |
| Reverse Voltage                                 | VR       | 5           | V                       |
| D.C. Forward Current                            | If       | 30          | mA                      |
| Peak Current(1/10Duty Cycle,0.1ms Pulse Width.) | If(Peak) | 100         | mA                      |
| Operating Temperature Range                     | Topr.    | -40 to +100 |                         |
| Storage Temperature Range                       | Tstg.    | -40 to +100 |                         |
| Soldering Temperature (1.6mm from body)         | Tsld.    | 1 0         | or 5 sec.<br>for 3 sec. |
| Electric Static Discharge Threshold (HBM)       | ESD      | 6000        | V                       |

The value are based on 1 die performance.

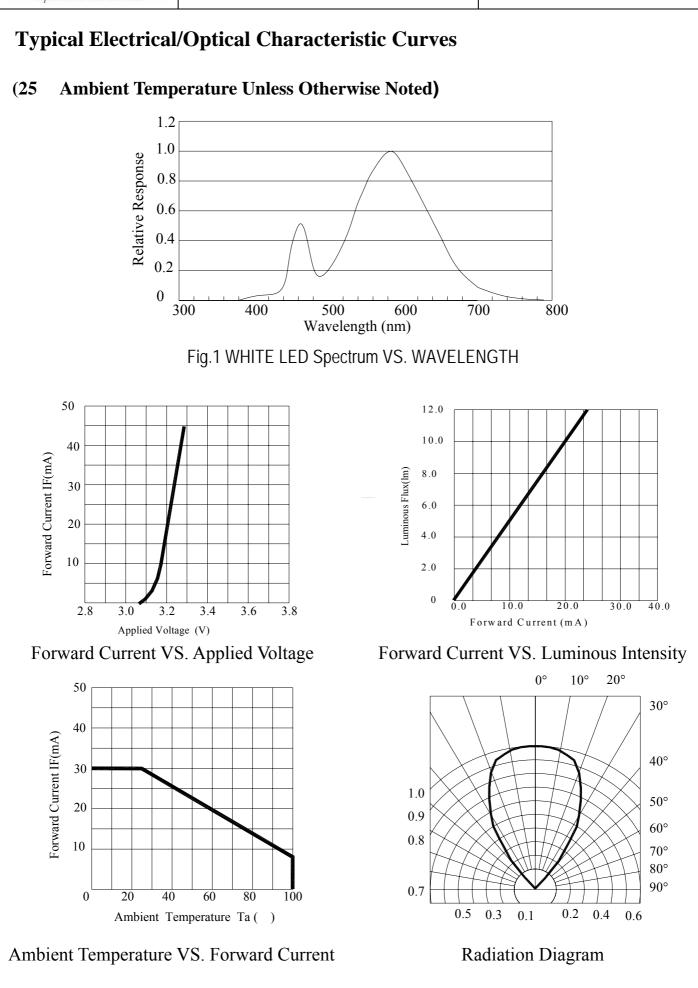
# **Electrical and Optical Characteristics:**

| Parameter                          |                                  | Symbol | Condition | Min.   | Тур.                  | Max.   | Unit |
|------------------------------------|----------------------------------|--------|-----------|--|-----------------------|--|------|
| Luminous Flux 2                    |                                  | v      | If=20mA 1 | 9.0  | 10.0                  |  | lm   |
| Forward Voltage 1                  |                                  | Vf     | If=20mA 1 |  | 3.2                   | 3.6  | V    |
| Correlated Colour<br>Temperature 2 | 32<br>33<br>34<br>35<br>36<br>37 | ССТ    | If=20mA 1 | 3200<br>3300<br>3400<br>3500<br>3600<br>3700 | -<br>-<br>-<br>-<br>- | 3300<br>3400<br>3500<br>3600<br>3700<br>3800 | °K   |
| Reverse Current 1                  |                                  | Ir     | Vr=5V 1   |  |                       | 50   | μA   |
| Color Rendering Index              | CCT:<br>3200-3500                | - CRI  | If=20mA 1 | 68   |                       |  |      |
| (Ra)                               | CCT:<br>3500-3800                |        |           | 72   |                       |  |      |
| Viewing Angle 2                    |                                  | 2 1/2  | If=20mA 1 |  | 60                    |  | deg  |

Notes: 1.1 he datas tested by IS tester.

2. Customer's special requirements are also welcome.

- 1 For each die 3.
- 4. 2 When all LED dies are operated simultaneously..



## HIGH POWER LED

## Precautions:

### TAKE NOTE OF THE FOLLOWING IN USE OF LED

1. Temperature in use

Since the light generated inside the LED needs to be emitted to outside efficiently, a resin with high light transparency is used; therefore, additives to improve the heat resistance or moisture resistance (silica gel, etc) which are used for semiconductor products such as transistors cannot be added to the resin.

Consequently, the heat resistant ability of the resin used for LED is usually low; therefore, please be careful on the following during use.

Avoid applying external force, stress, and excessive vibration to the resins and terminals at h igh temperature. The glass transition temperature of epoxy resin used for the LED is approximately 120-130 .

At a temperature exceeding this limit, the coefficient of liner expansion of the resin doubles or more compared to that at normal temperature and the resin is softened.

If external force or stress is applied at that time, it may cause a wire rupture.

#### 2. Soldering

Please be careful on the following at soldering.

After soldering, avoided applying external force, stress, and excessive vibration until the

products go to cooling process (normal temperature), <Same for products with terminal leads>

(1) Soldering measurements:

Distance between melted solder side to bottom of resin shall be 1.6mm or longer.

(2) Dip Soldering:

Pre-heat: 90 max. (Backside of PCB), Within 60 seconds.

Solder bath: 260±5 (Solder temperature), Within 5 seconds.

(3) Hand Soldering : 350 max. (Temperature of soldering iron tip), Within 3 seconds

#### 3. Insertion

Pitch of the LED leads and pitch of mounting holes need to be same

4. Others

Since the heat resistant ability of the LED resin is low, SMD components are used on the same PCB, please mount the LED after adhesive baking process for SMD components. In case adhesive baking is done after LED lamp insertion due to a production process reason, make s ure not to apply external force, stress, and excessive vibration to the LED and follow the con ditions below.

Ba king temperature: 120 max. Bak ing time: Within 60 seconds

If soldering is done sequentially after the adhesive baking, please perform the soldering after cooling down the LED to normal temperature.