

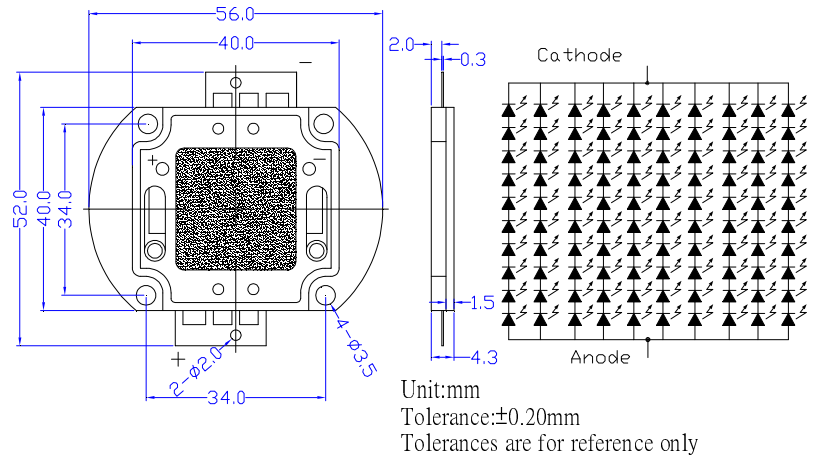
■ **Features**

- High-power LED
- Long lifetime operation
- Typical viewing angle : 140deg
- RoHS compliant
- Possible to attach to heat sink directly without using print circuit board.

■ **Applications**

- Indoor & outdoor lighting
- Stage lighting
- Reading lamps
- Display cases, furniture illumination, marker
- Architectural illumination
- Spotlights

■ **Outline Dimension**

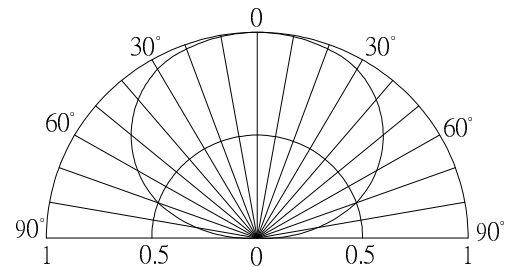


■ **Absolute Maximum Rating**

(Ta=25°C)

| Item | Symbol | Value | Unit |
|----------------------------|-----------------|-------------|------|
| DC Forward Current *1 | I _F | 7,000 | mA |
| Pulse Forward Current*2 | I _{FP} | 10,000 | mA |
| Reverse Voltage | V _R | 50 | V |
| Power Dissipation*1 | P _D | 266,000 | mW |
| Operating Temperature | Topr | -30 ~ +85 | °C |
| Storage Temperature | Tstg | -40~ +100 | °C |
| Lead Soldering Temperature | Tsol | 260°C /5sec | - |

■ **Directivity**



*1, Power dissipation and forward current are the value when the module temperature is set lower than the rating by using an adequate heat sink.

*2, Pulse width Max.10ms Duty ratio max 1/10

■ **Electrical -Optical Characteristics**

(Ta=25°C)

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---------------------------|-------------------|------------------------|-------|-------|------|------|
| DC Forward Voltage | V _F | I _F =6000mA | 29 | 34 | 38 | V |
| DC Reverse Current | I _R | V _R =50V | - | - | 100 | μA |
| Luminous Flux | Φ _v | I _F =6000mA | 12000 | 14400 | - | lm |
| Color Temperature | CCT | I _F =6000mA | - | 6500 | - | K |
| Chromaticity Coordinates* | x | I _F =6000mA | - | 0.31 | - | |
| | y | I _F =6000mA | - | 0.34 | - | |
| 50% Power Angle | 2θ _{1/2} | I _F =6000mA | - | 140 | - | deg |

Note: Don't drive at rated current more than 5s without heat sink for High Power series.

* Tolerance of chromaticity coordinates is ±10% , * Tolerance of Luminous Flux is ±20%

■Heat design

The following pictures show some measurements of mounted 5W Led on the heat sink for each board A and B (See Fig 1) with using thermograph to make an observation about heat distribution. Each boards is tested at various current conditions.

As a result, LED needs larger heat sink as much as possible to reduce its own case temperature.

Fig. 1 Configuration pattern examples for board assembly

| Board | LED power | Material | Surface area (mm ²) | Min. |
|-------|-----------|----------|---------------------------------|------|
| A | 5W | Al | 10,300 | |
| B | 10W | Al | 20,600 | |
| C | 25W | Al | 51,500 | |
| D | 50W | Al | 103,000 | |
| E | 100W | Al | 206,000 | |
| F | 200W | Al | 412,000 | |
| G | 300W | Al | 618,000 | |

Above tested LED device is attached with adhesive sheet to the heatsink.

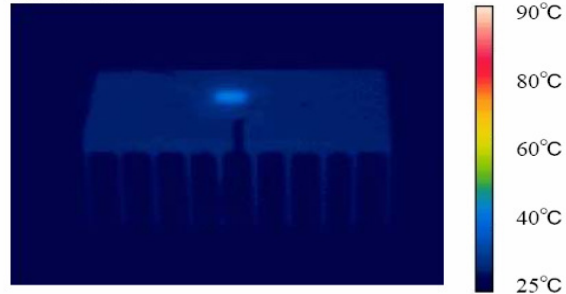
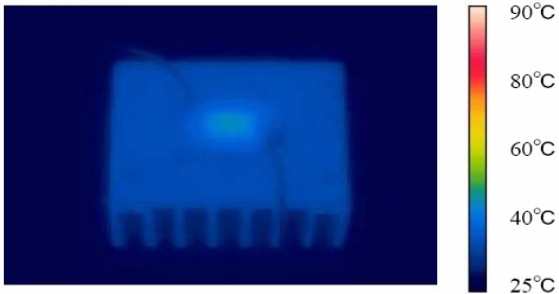
For reference's sake, Tj absolute maximum rating is defined at 115°C as a prerequisite on design process of 5W LED.

<Fig.2> Board A (surface area=10,300mm²)

<Fig.3> Board B (surface area=20,600mm²)

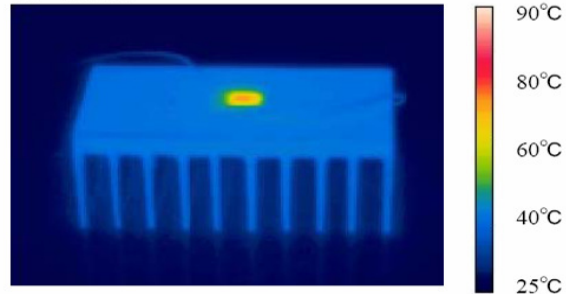
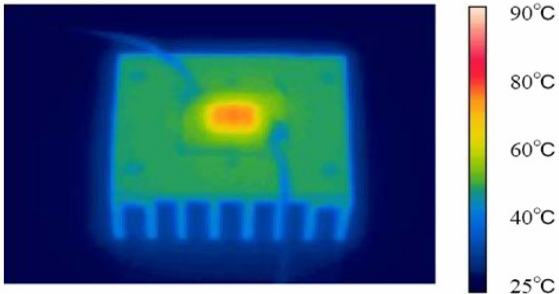
IF=200mA

IF=200mA



IF=400mA

IF=400mA



IF=600mA

IF=600mA

