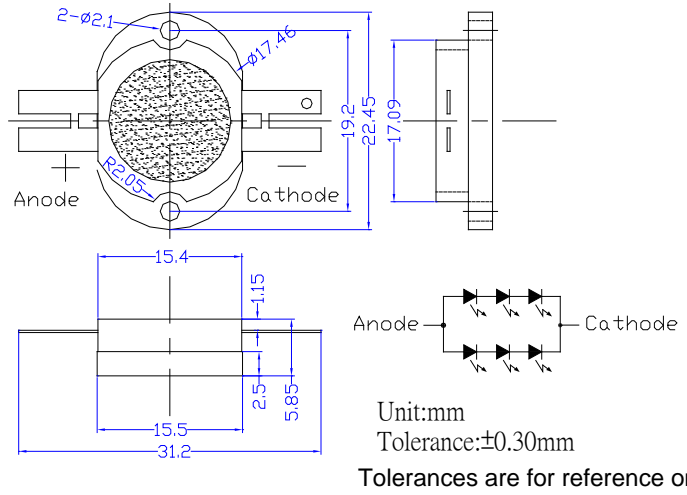


■ Features

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

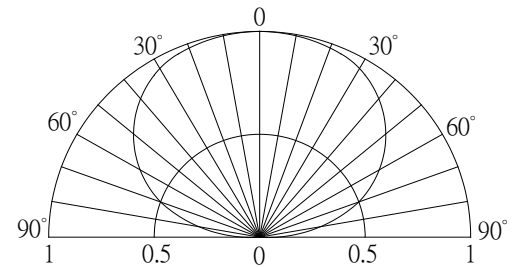
■ Applications

- 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 | 1,400 | mA |
| Pulse Forward Current*2 | I _{FP} | 2,000 | mA |
| Reverse Voltage | V _R | 15 | V |
| Power Dissipation*1 | P _D | 17,640 | mW |
| Operating Temperature | T _{opr} | -30 ~ +85 | °C |
| Storage Temperature | T _{stg} | -40 ~ +100 | °C |
| Lead Soldering Temperature | T _{sol} | 260°C5sec | - |

■ 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 =1000mA | 9.6 | 11.0 | 12.6 | V |
| DC Reverse Current | I _R | V _R =15V | - | - | 20 | μA |
| Luminous Flux | Φ _v | I _F =1000mA | 150 | 180 | - | lm |
| Domi. Wavelength | λ _D | I _F =1000mA | 455 | 460 | 465 | nm |
| 50% Power Angle | 2θ _{1/2} | I _F =1000mA | - | 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)

