

Feature

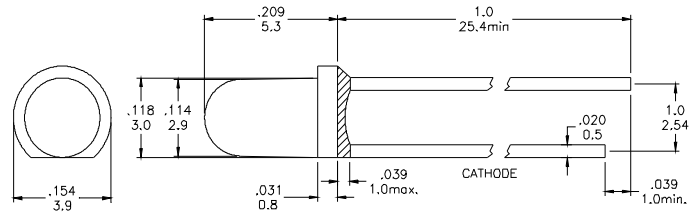
- § Low Power Consumption
- § High Intensity
- § I.C. compatible

Applications

- § Commercial Outdoor Sign Board
- § Front Panel Indicator
- § Dot-Matrix Module
- § LED Bulb

Description

- § These High Intensity LEDs are Based on InGaN/Sapphire Material Technology
- § Water Transparent Lens

Package Dimension


*Tolerance : $\pm \frac{0.01}{0.25}$ Unit : $\pm \frac{\text{inch}}{\text{mm}}$

Absolute Maximum Ratings at Ta = 25°C

| Symbol | Parameter | Max. | Unit |
|---|--|---------------|---------|
| PD | Power Dissipation | 120 | mW |
| VR | Reverse Voltage | 5 | V |
| IAF | Average Forward Current | 30 | mA |
| IPF | Peak Forward Current (Duty=0.1 , 1kHz) | 100 | mA |
| — | Derating Linear Form 25°C | 0.4 | mA / °C |
| Topr | Operating Temperature Range | - 40 to + 80 | °C |
| Tstg | Storage Temperature Range | - 40 to + 100 | °C |
| Lead Soldering Temperature [1.6mm (0.063inch) From Body] 260°C For 5 Seconds. | | | |

Electrical / Optical Characteristics and Curves at Ta = 25°C

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Unit |
|-----------------|----------------------|----------------|------|------|------|------|
| VF | Forward Voltage | IF = 20 mA | | 3.5 | 4.0 | V |
| IR | Reverse Current | VR = 5 V | | | 50 | μA |
| $\Delta \theta$ | Half Intensity Angle | IF = 20 mA | | 40 | | Deg. |
| IV | Luminous Intensity | IF = 20 mA | | 2000 | | mcd. |
| λd | Peak Wavelength | IF = 20 mA | | 470 | | nm |



Electrical Characteristics at Ta=25°C

| Symbol | I _v | | V _F | | λ D | |
|-----------|--------------------|-----------|-----------------|---------|---------------------|---------|
| Parameter | Luminous Intensity | | Forward Voltage | | Dominant Wavelength | |
| Condition | IF=20mA | | IF=20mA | | IF=20mA | |
| Unit | mcd | | V | | nm | |
| Binning | Grade | Range | Grade | Range | Grade | Range |
| | BIN 17 | 1300~1800 | P1 | 3.0~3.2 | B5 | 460~465 |
| | BIN 18 | 1800~2500 | P2 | 3.2~3.4 | B6 | 465~470 |
| | BIN 19 | 2500~3500 | P3 | 3.4~3.6 | | |
| | | | P4 | 3.6~3.8 | | |
| | | | P5 | 3.8~4.0 | | |
| | | | | | | |

Intensity: Tolerance of minimum and maximum = ± 15%

V_f: Tolerance of minimum and maximum = ± 0.05v

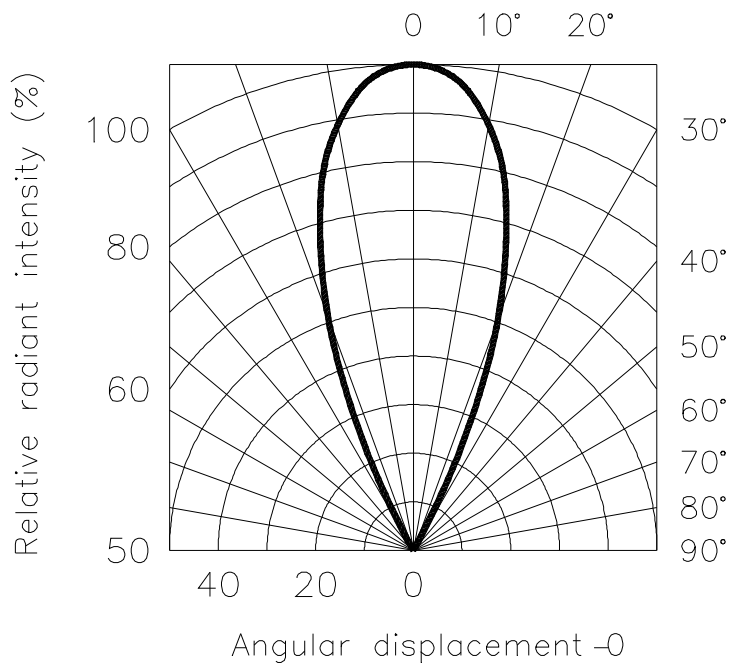
NOTE:

1. Static electricity and surge damages the LED. It is recommend to use a anti-static wrist band or anti-electrostatic glove when handing the LEDs. All devices, equipment and machinery must be properly grounded.

Radiation Diagram

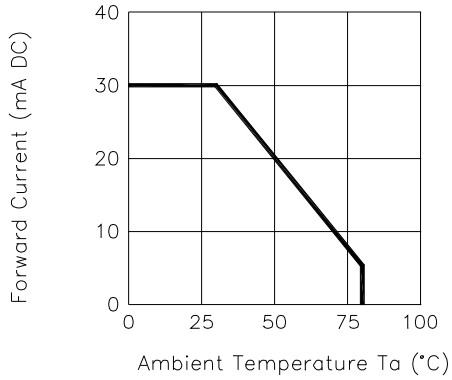
IF=20 mA 50% Power Angle Angle =45°

Radiation Diagram

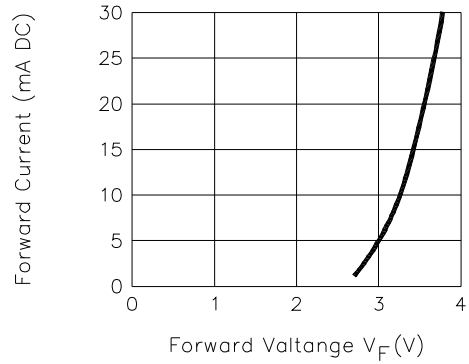




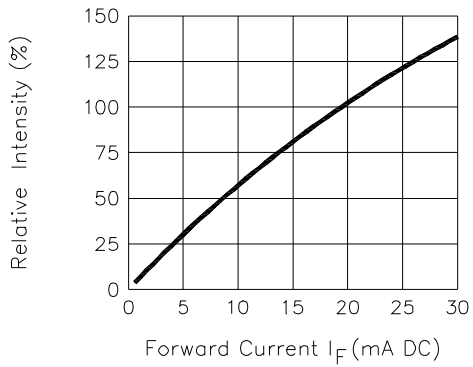
Forward Current
Vs. Ambient Temperature



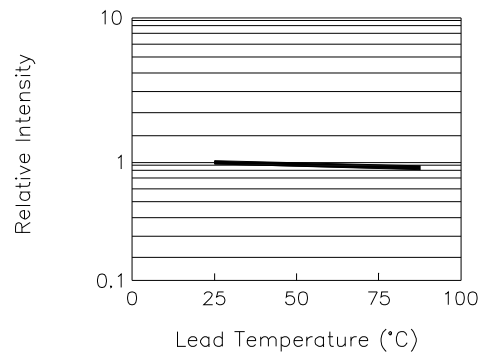
Forward Current
Vs. Forward Voltage



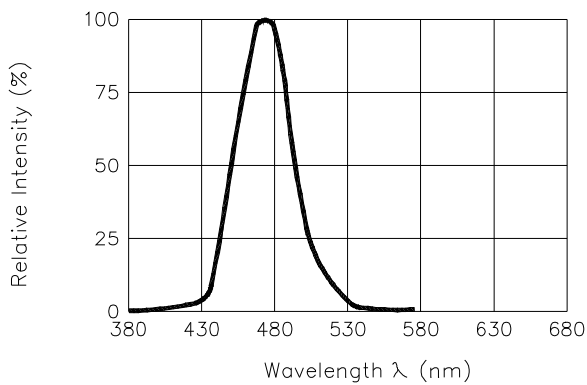
Relative Intensity
Vs. Forward Current



Relative Intensity
Vs. Lead Temperature
(Pulsed 20 mA; 300us pulse,
10ms period)



Relative Intensity Vs. Wavelength



Peak Forward Voltage
Vs. Forward Current
(100us test pulse,
1% duty cycle)

