

Feature

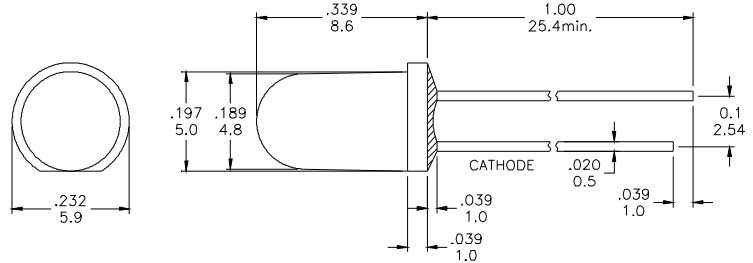
- § Low Power Consumption
- § High Intensity
- § I.C. compatible

Applications

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

Description

- § These High Intensity LEDs are Based on InGaN/Sapphire Material Technology
- § Water Transparent Lens
- § Emitted color : Yellow White

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 | | V |
| IR | Reverse Current | VR= 5 V | | | 50 | μA |
| $\Delta \theta$ | Half Intensity Angle | IF= 20 mA | | 60 | | Deg. |
| IV | Luminous Intensity | IF= 20 mA | | 5000 | | mcd. |
| X | Coordination | IF= 20 mA | | 0.40 | | |
| Y | Coordination | IF= 20 mA | | 0.39 | | |



Electrical Characteristics at Ta = 25°C

| Symbol | I _v | | V _F | | Color | | | | | |
|-----------|--------------------|-----------|-----------------|---------|--------------------------|----|-------|-------|-------|-------|
| Parameter | Luminous Intensity | | Forward Voltage | | Chromaticity Coordinates | | | | | |
| Condition | IF=20mA | | IF=20mA | | IF=20mA | | | | | |
| Unit | mcd | | V | | | | | | | |
| Binning | Grade | Range | Grade | Range | Rank | -- | -- | -- | -- | -- |
| | BIN 20 | 3500~4900 | P0 | 2.8~3.0 | W1 | X | 0.360 | 0.400 | 0.385 | 0.350 |
| | BIN 21 | 4900~6900 | P1 | 3.0~3.2 | | Y | 0.380 | 0.420 | 0.360 | 0.340 |
| | BIN 22 | 6900~9700 | P2 | 3.2~3.4 | W2 | X | 0.400 | 0.430 | 0.410 | 0.385 |
| | | | P3 | 3.4~3.6 | | Y | 0.420 | 0.431 | 0.375 | 0.360 |
| | | | P4 | 3.6~3.8 | W3 | X | 0.430 | 0.280 | 0.300 | 0.410 |
| | | | P5 | 3.8~4.0 | | Y | 0.431 | 0.248 | 0.270 | 0.375 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Intensity: Tolerance of minimum and maximum = ± 15%

V_f: Tolerance of minimum and maximum = ± 0.05v

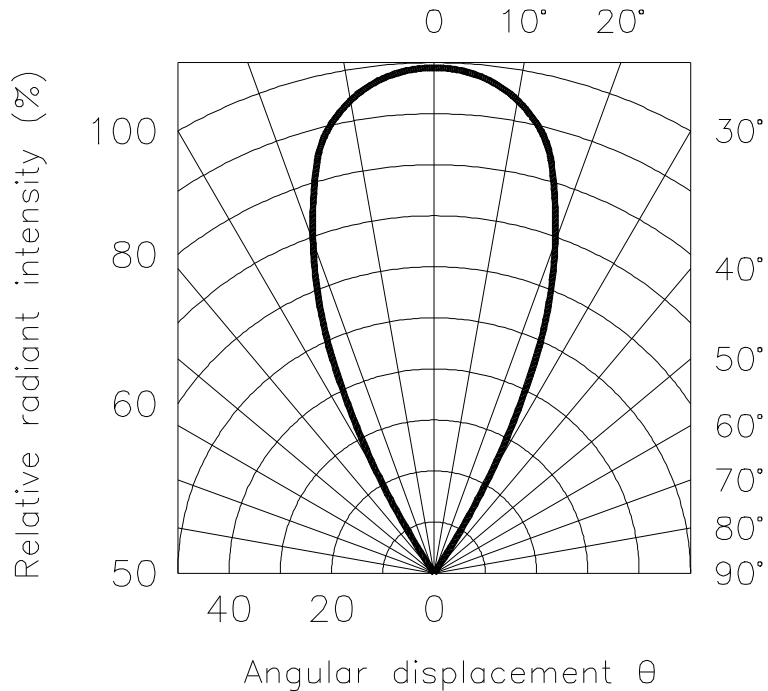
NOTE:

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 =60°

Radiation Diagram

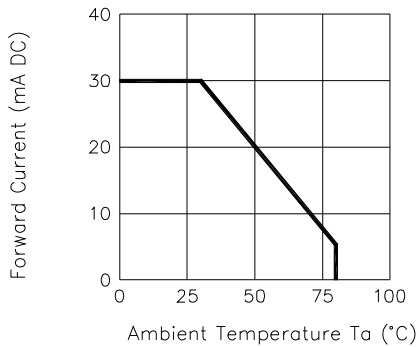




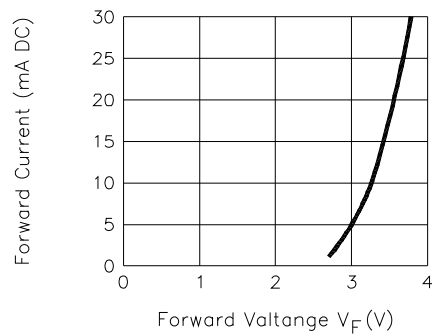
Yellow WHITE

Typical Electro-optical Characteristic Curves
(25°C Free Air Temperature Unless Otherwise Specified)

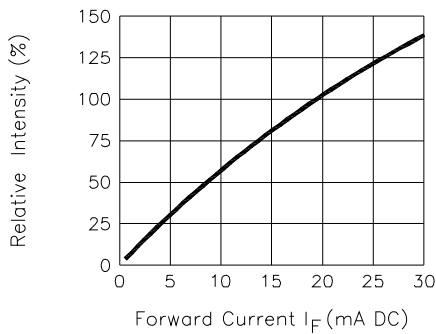
Forward Current
Vs. Ambient Temperature



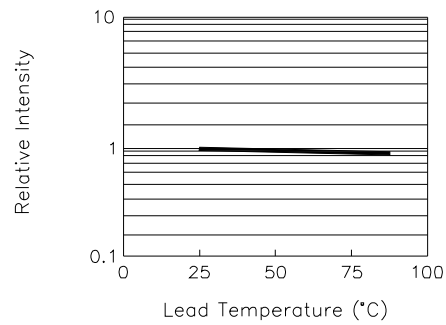
Forward Current
Vs. Forward Voltage



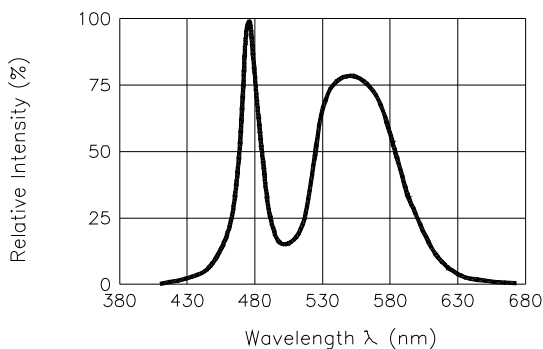
Relative Intensity
Vs. Forward Current



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)

