

Kingbright®

LIGHT BARS

| | |
|------|------------|
| DE/2 | 7.5x14mm |
| DE/4 | 15x15mm |
| DF-3 | 6.8x19.9mm |

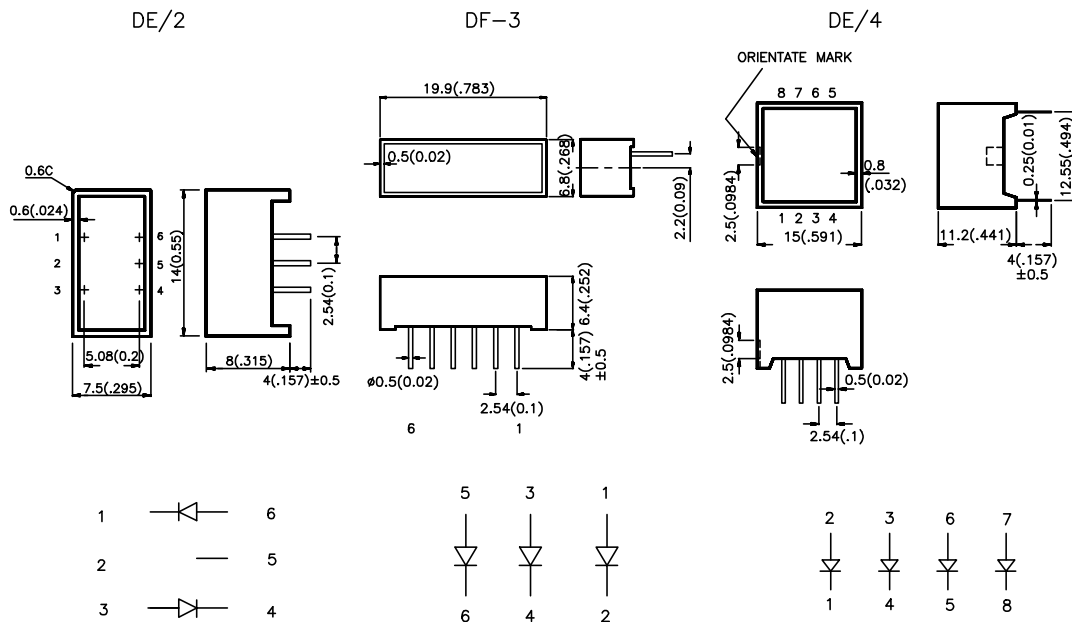
Features

- UNIFORM LIGHT EMITTING AREA.
- EASILY MOUNTED ON P.C. BOARDS OR INDUSTRY STANDARD SOCKETS.
- FLUSH MOUNTABLE.
- EXCELLENT ON/OFF CONTRAST.
- CAN BE USED WITH PANELS AND LEGEND MOUNTS.
- MECHANICALLY RUGGED.
- I.C. COMPATIBLE.
- SUPER BRIGHT RED AVAILABLE.

Description

The Green and Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode. The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode. The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode. The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diode.

Package Dimensions & Internal Circuit Diagram



Notes:

1. All dimensions are in millimeters (inches). Tolerance is $\pm 0.25(0.01)$ unless otherwise noted.
2. Specifications are subjected to change without notice.

Selection Guide

| Part No. | Dice | Lens Type | Iv (mcd) @ 10 mA | | Viewing Angle 2θ1/2 |
|-------------------------------|---------------------------------|-----------------|---------------------|----------------------|--|
| | | | Min. | Max. | |
| DE/2ID DE/4ID DF-3ID | HIGH EFFICIENCY RED (GaAsP/GaP) | RED DIFFUSED | 3 4.5 3.5 | 18 22 15 | 120° |
| DE/2GD DE/4GD DF-3GD | GREEN (GaP) | GREEN DIFFUSED | 3 3.5 3.5 | 18 15 15 | 120° |
| DE/2YD DE/4YD DF-3YD | YELLOW(GaAsP/GaP) | YELLOW DIFFUSED | 3.5 3.5 3.5 | 18 22 15 | 120° |
| DE/2SRD DE/4SRD DF-3SRD | SUPER BRIGHT RED (GaAlAs) | RED DIFFUSED | *40 *70 *40 | *100 *110 *100 | 120° |
| DE/2SGD DE/4SGD DF-3SGD | SUPER BRIGHT GREEN (GaP) | GREEN DIFFUSED | *21 *30 *21 | *31 *55 *31 | 120° |

Notes:

1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. *Luminous intensity with asterisk is measured at 20 mA.

Electrical / Optical Characteristics at T_A=25°C

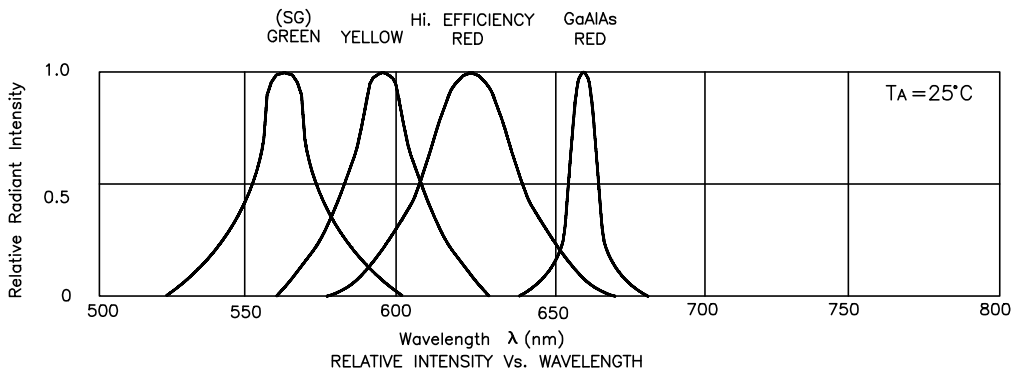
| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|-----------------------|----------------------------|--|----------------------------------|---------------------------------|-------|-----------------|
| λ_{peak} | Peak Wavelength | High Efficiency Red Green Yellow Super Bright Red Super Bright Green | 625 565 590 660 565 | | nm | IF=20mA |
| $\Delta\lambda_{1/2}$ | Spectral Line Halfwidth | High Efficiency Red Green Yellow Super Bright Red Super Bright Green | 45 30 35 20 30 | | nm | IF=20mA |
| C | Capacitance | High Efficiency Red Green Yellow Super Bright Red Super Bright Green | 12 45 10 95 45 | | pF | VF=0V;f=1MHz |
| V _F | Forward Voltage | High Efficiency Red Green Yellow Super Bright Red Super Bright Green | 2.0 2.2 2.1 1.85 2.2 | 2.5 2.5 2.5 2.5 2.5 | V | IF=20mA |
| I _R | Reverse Current | All | 10 | | uA | VR = 5V |

Absolute Maximum Ratings at $T_A=25^\circ\text{C}$

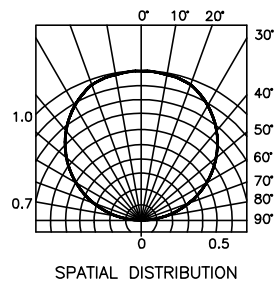
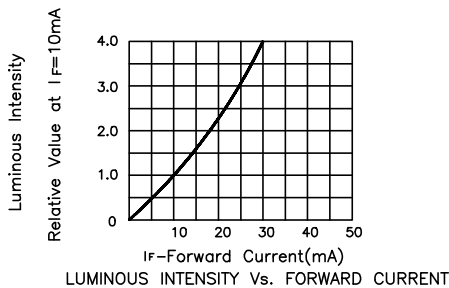
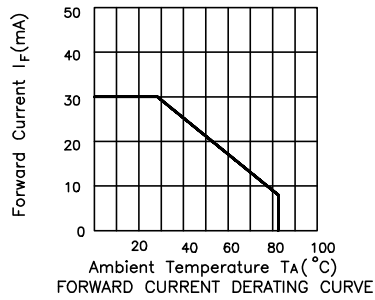
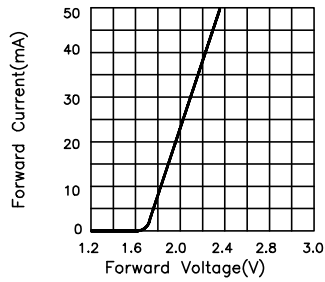
| Parameter | High Efficiency Red | Green | Yellow | Super Bright Red | Super Bright Green | Units |
|--------------------------------|----------------------|-------|--------|------------------|--------------------|-------|
| Power dissipation | 105 | 105 | 105 | 100 | 105 | mW |
| DC Forward Current | 30 | 25 | 30 | 30 | 25 | mA |
| Peak Forward Current [1] | 150 | 150 | 150 | 150 | 150 | mA |
| Reverse Voltage | 5 | 5 | 5 | 5 | 5 | V |
| Operating/Storage Temperature | -40 °C To +85 °C | | | | | |
| Lead Soldering Temperature [2] | 260 °C For 5 Seconds | | | | | |

Notes:

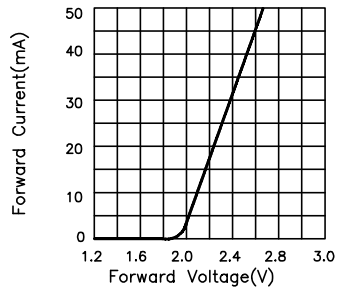
- 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 4mm below package base.



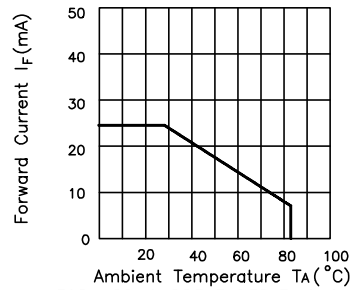
High Efficiency Red DE/2ID,DE/4ID,DF-3ID



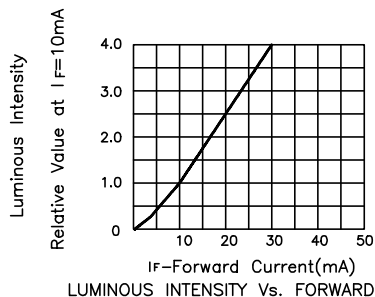
Green DE/2GD,DE/4GD,DF-3GD



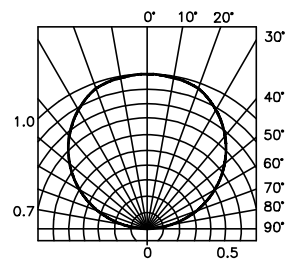
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

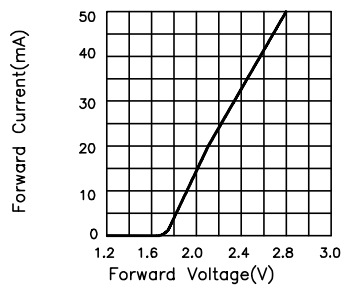


LUMINOUS INTENSITY Vs. FORWARD CURRENT

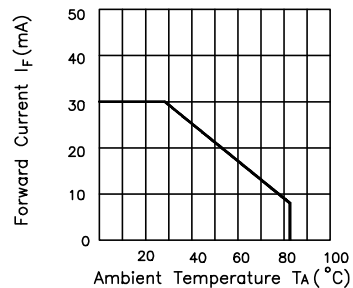


SPATIAL DISTRIBUTION

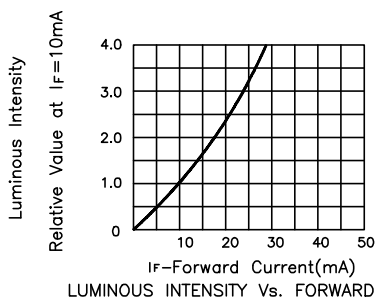
Yellow DE/2YD,DE/4YD,DF-3YD



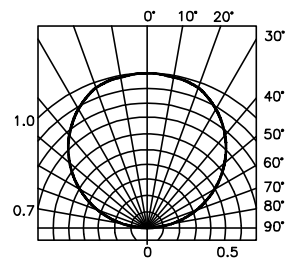
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

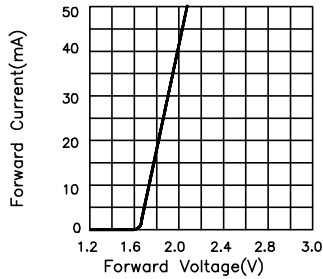


LUMINOUS INTENSITY Vs. FORWARD CURRENT

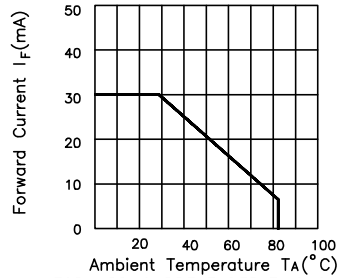


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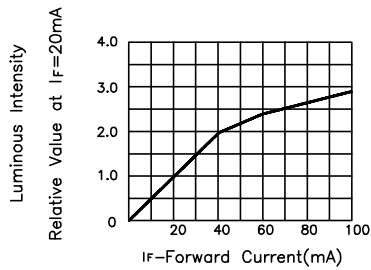
Super Bright Red DE/2SRD,DE/4SRD,DF-3SRD



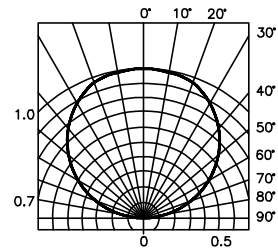
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

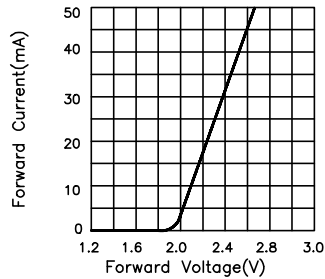


LUMINOUS INTENSITY Vs. FORWARD CURRENT

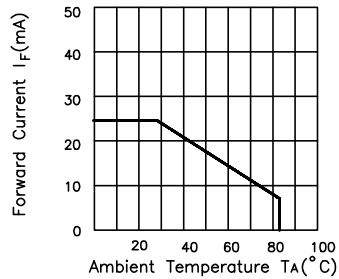


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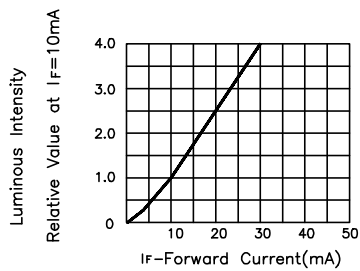
Super Bright Green DE/2SGD,DE/4SGD,DF-3SGD



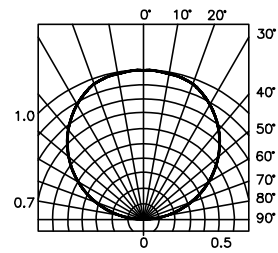
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION