

Kingbright®

LIGHT BARS

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

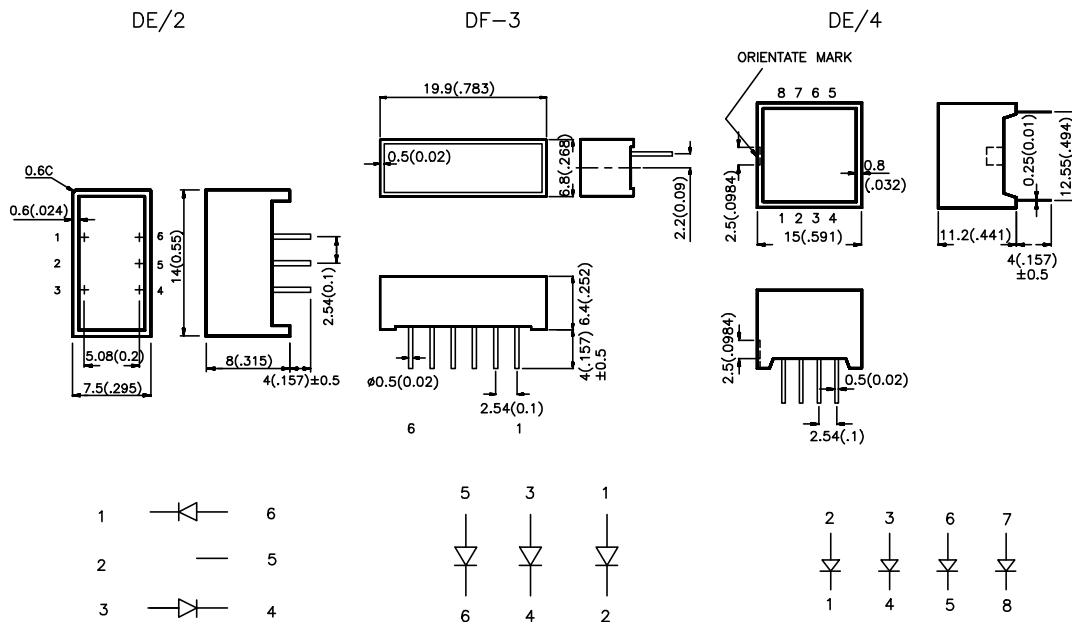
Features

- 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

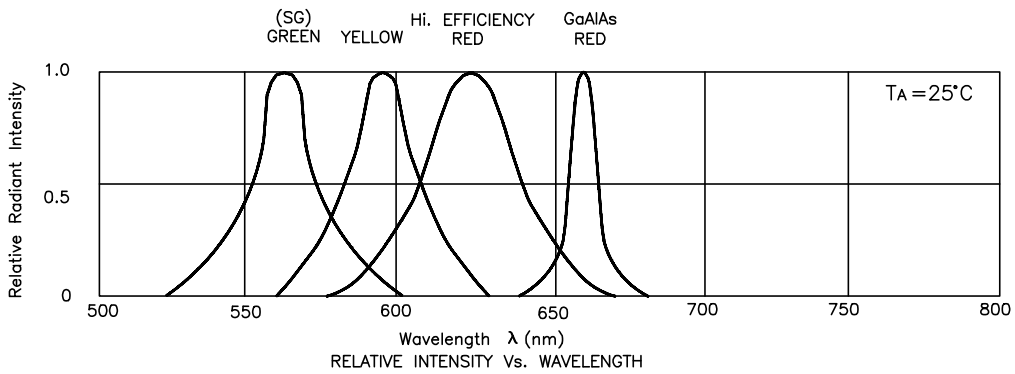
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	High Efficiency Red Green Yellow Super Bright Red Super Bright Green	625 565 590 660 565		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	High Efficiency Red Green Yellow Super Bright Red Super Bright Green	45 30 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 $T_A=25^\circ\text{C}$

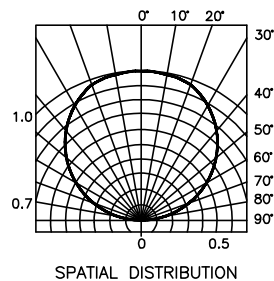
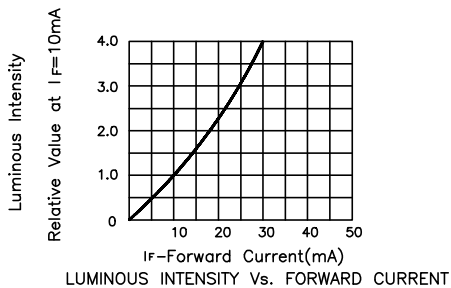
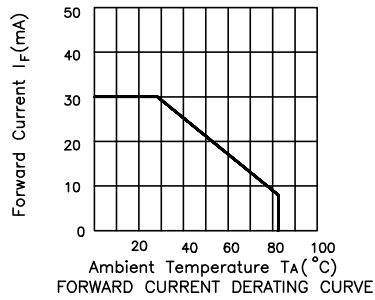
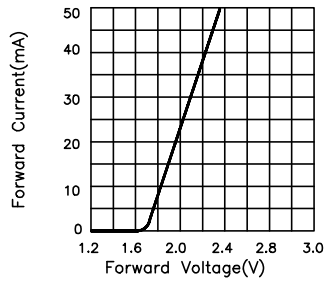
Parameter	High Efficiency Red	Green	Yellow	Super Bright Red	Super Bright Green	Units
Power dissipation	105	105	105	100	105	mW
DC Forward Current	30	25	30	30	25	mA
Peak Forward Current [1]	150	150	150	150	150	mA
Reverse Voltage	5	5	5	5	5	V
Operating/Storage Temperature	-40 °C To +85 °C					
Lead Soldering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

Notes:

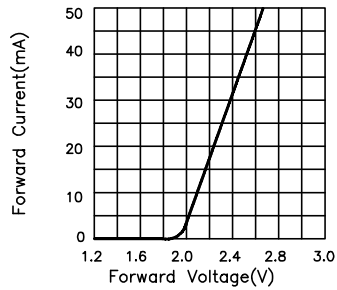
- 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 4mm below package base.



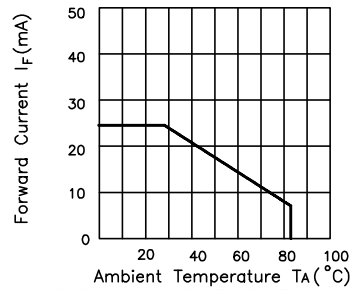
High Efficiency Red DE/2ID,DE/4ID,DF-3ID



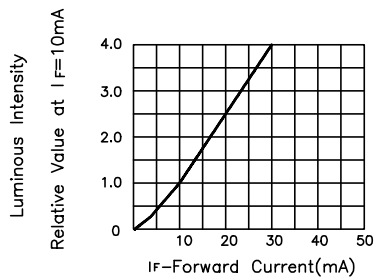
Green DE/2GD,DE/4GD,DF-3GD



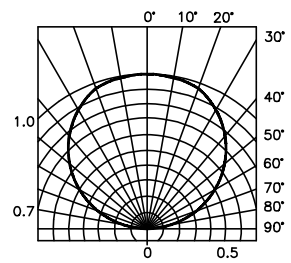
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

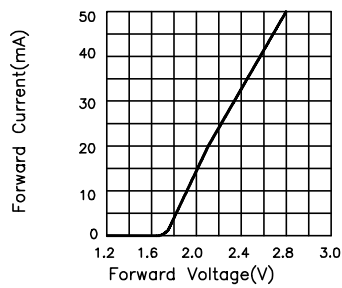


LUMINOUS INTENSITY Vs. FORWARD CURRENT

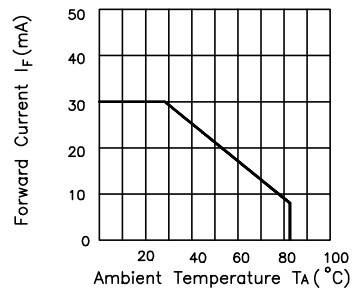


SPATIAL DISTRIBUTION

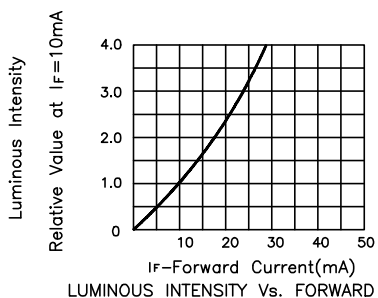
Yellow DE/2YD,DE/4YD,DF-3YD



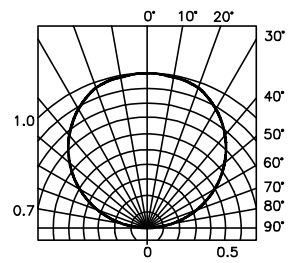
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

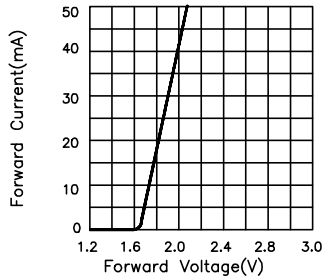


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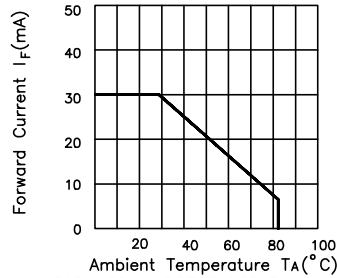


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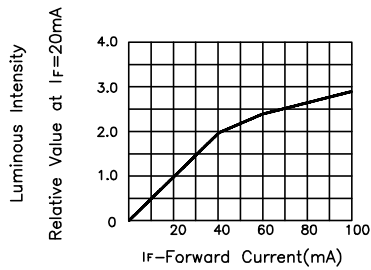
Super Bright Red DE/2SRD,DE/4SRD,DF-3SRD



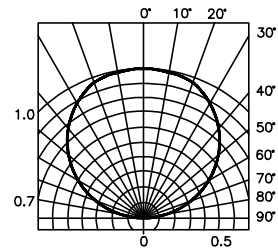
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

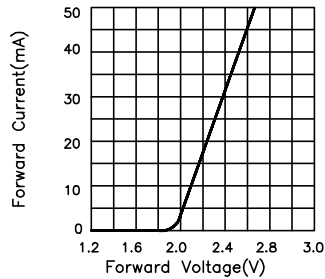


LUMINOUS INTENSITY Vs. FORWARD CURRENT

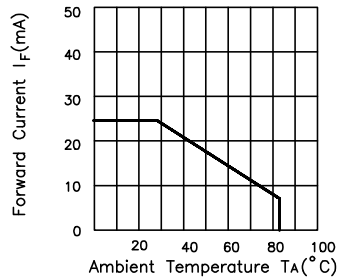


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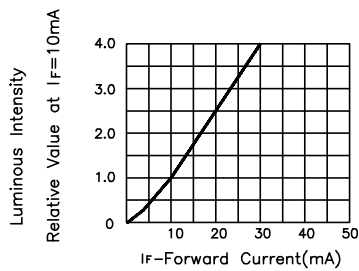
Super Bright Green DE/2SGD,DE/4SGD,DF-3SGD



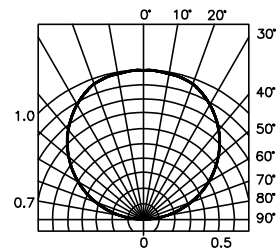
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION