Kingbright®

10mm SOLID STATE LAMPS

Features

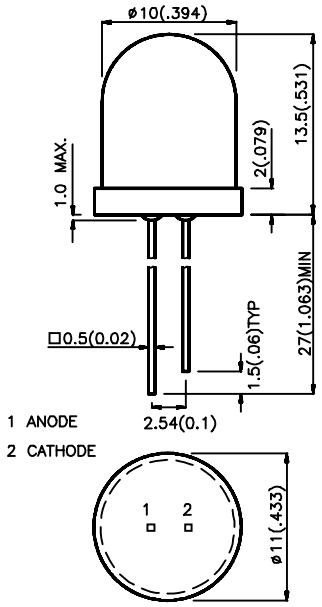
- ●10mm DIAMETER BIG LAMP.
- ●LOW POWER CONSUMPTION.
- ●RELIABLE AND RUGGED.
- ●LONG LIFE - SOLID STATE RELIABILITY.

L-813ID HIGH EFFICIENCY RED
L-813GD GREEN
L-813ED ORANGE
L-813YD YELLOW

Package Dimensions

Description

The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.
The High Efficiency Red and Orange 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.



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subjected to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20 mA		Viewing Angle
			Min.	Typ.	2θ1/2
L-813ID	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	40	100	60°
L-813ED	ORANGE (GaAsP/GaP)	ORANGE DIFFUSED	40	100	60°
L-813GD	GREEN (GaP)	GREEN DIFFUSED	20	60	60°
L-813YD	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	20	50	60°

Note:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

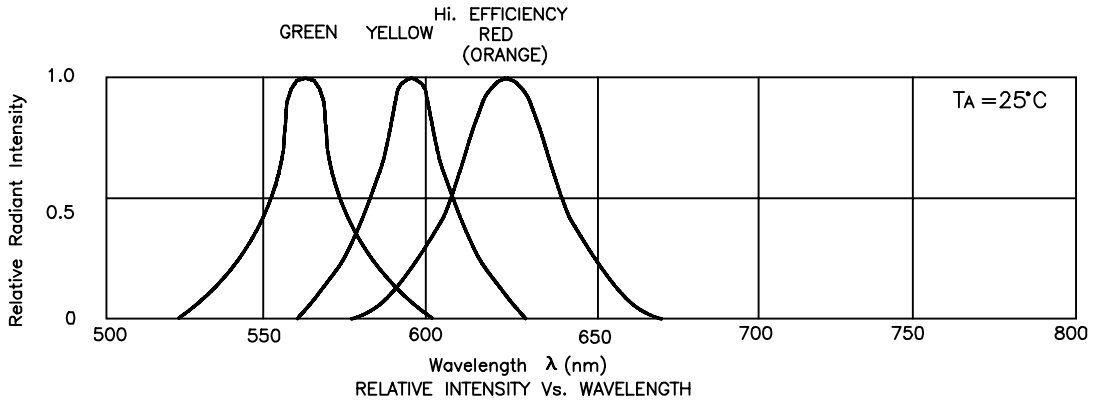
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red Orange Green Yellow	625 625 565 590		nm	IF=20mA
Δλ1/2	Spectral Line Halfwidth	High Efficiency Red Orange Green Yellow	45 45 30 35		nm	IF=20mA
C	Capacitance	High Efficiency Red Orange Green Yellow	12 12 45 10		pF	VF=0V;f=1MHz
V_F	Forward Voltage	High Efficiency Red Orange Green Yellow	2.0 2.0 2.2 2.1	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°C

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

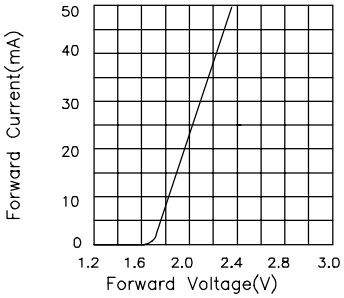
Notes:
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 4mm below package base.



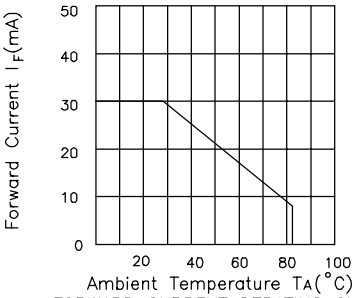
RELATIVE INTENSITY Vs. WAVELENGTH

Kingbright®

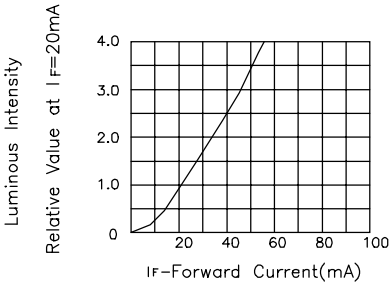
High Efficiency Red L-813ID
Orange L-813ED

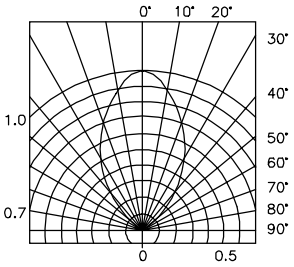


FORWARD CURRENT Vs. FORWARD VOLTAGE



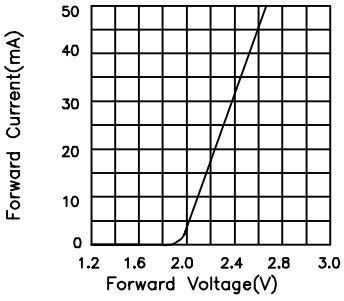
FORWARD CURRENT DERATING CURVE



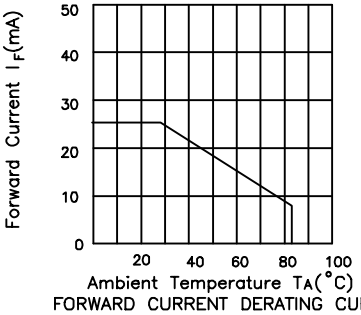


SPATIAL DISTRIBUTION

Green L-813GD



FORWARD CURRENT Vs. FORWARD VOLTAGE



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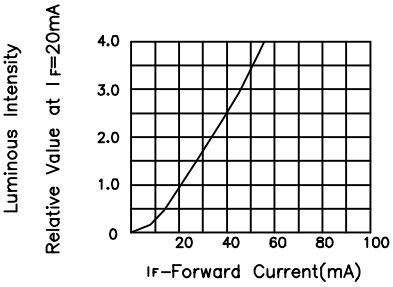
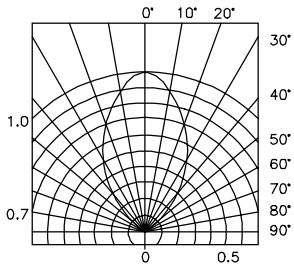
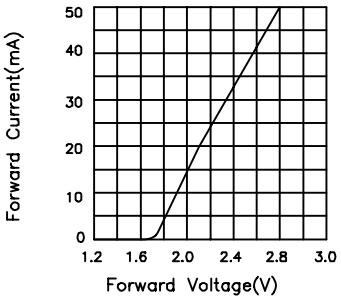


LUMINOUS INTENSITY Vs. FORWARD CURRENT

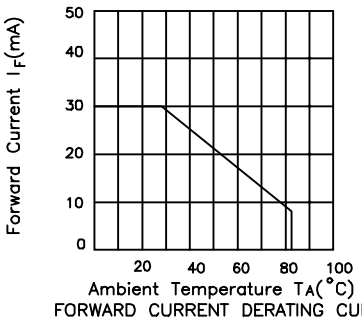


SPATIAL DISTRIBUTION

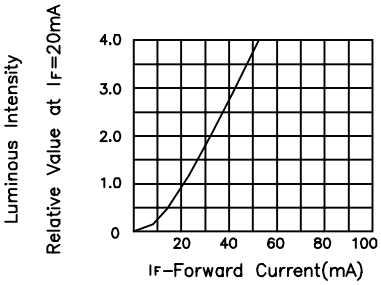
Yellow L-813YD



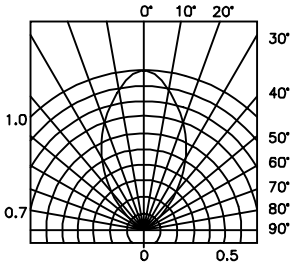
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



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