

2x5mm RECTANGULAR SOLID LAMPS

L113HDT BRIGHT RED	L113GDT GREEN
L113IDT HIGH EFFICIENCY RED	L113EDT ORANGE
L113SRDT SUPER BRIGHT RED	L113YDT YELLOW

Features

- LOW POWER CONSUMPTION.
- RELIABLE AND RUGGED.
- EXCELLENT UNIFORMITY OF LIGHT OUTPUT.
- SUPER BRIGHT RED VERSION IS AVAILABLE.
- SUPER BRIGHT RED AND SUPER GREEN BI-COLOR VERSION IS AVAILABLE.
- SUITABLE FOR LEVEL INDICATOR.
- LONG LIFE - SOLID STATE RELIABILITY.

Description

The Bright Red source color devices are made with Gallium Phosphide Red Light Emitting Diode.

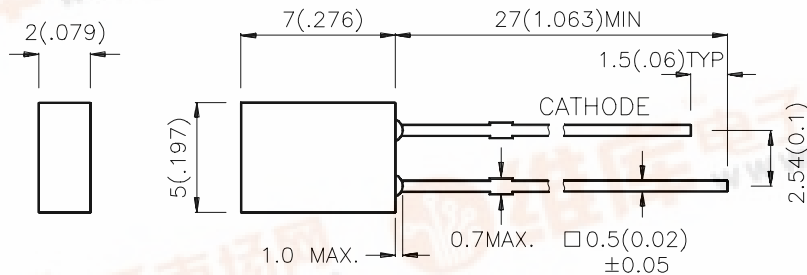
The High Efficiency Red and Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Green source color devices are made with Gallium Phosphide Green 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



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25(0.01)$ unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subject to change without notice.



Kingbright

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 10 mA *20mA		Viewing Angle
			Min.	Typ.	θ1/2
L113HDT	BRIGHT RED (GaP)	RED DIFFUSED	0.5	1	110°
L113IDT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	3	5	110°
L113EDT	ORANGE (GaAsP/GaP)	ORANGE DIFFUSED	3	5	110°
L113GDT	GREEN (GaP)	GREEN DIFFUSED	2	5	110°
L113YDT	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	1	4	110°
L113SRDT	SUPER BRIGHT RED (GaAlAs)	RED DIFFUSED	*40	*80	110°

Notes:

1. θ1/2 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 20mA.

Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ _{peak}	Peak Wavelength	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	700 627 627 565 590 660		nm	IF=20mA
λ _D	Dominate Wavelength	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	660 625 625 568 588 640		nm	IF=20mA
Δλ _{1/2}	Spectral Line Halfwidth	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	45 45 45 30 35 20		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	40 15 15 15 20 45		pF	VF=0V;f=1MHz
V _F	Forward Voltage	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	2.25 2.0 2.0 2.2 2.1 1.85	2.5 2.5 2.5 2.5 2.5 2.5	V	IF=20mA
I _R	Reverse Current	All		10	uA	VR = 5V

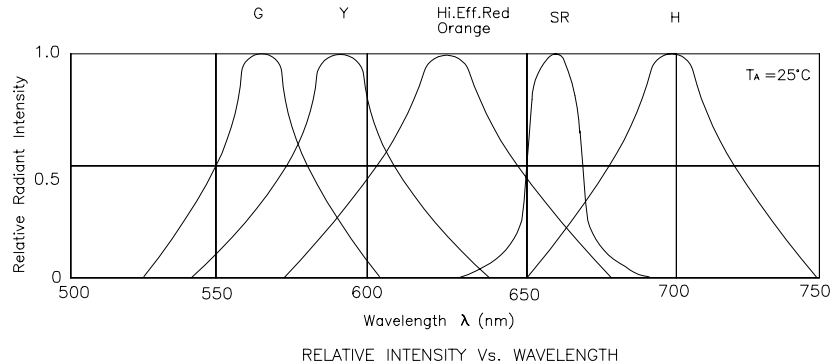
Kingbright

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

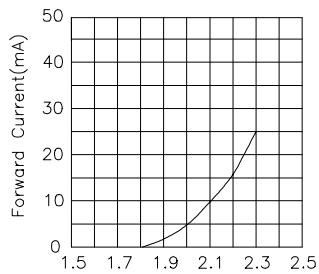
Parameter	Bright Red	High Efficiency Red	Orange	Green	Yellow	Super Bright Red	Units
Power dissipation	120	105	105	105	105	100	mW
DC Forward Current	25	30	30	25	30	30	mA
Peak Forward Current [1]	120	160	160	140	140	155	mA
Reverse Voltage	5	5	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C						
Lead Solder Temperature [2]	260°C For 5 Seconds						

Notes:

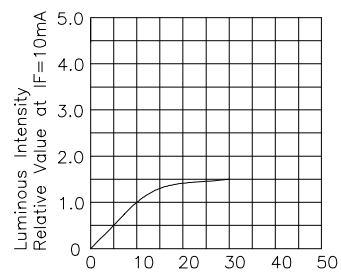
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 4mm below package base.



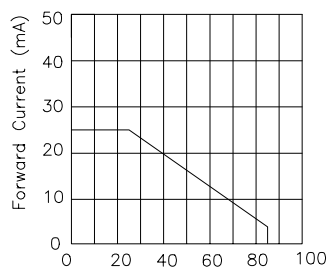
Bright Red L113HDT



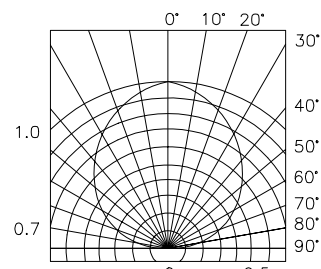
Forward Voltage(V)
FORWARD CURRENT Vs.
FORWARD VOLTAGE



I_F —Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



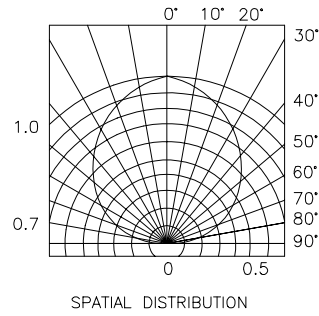
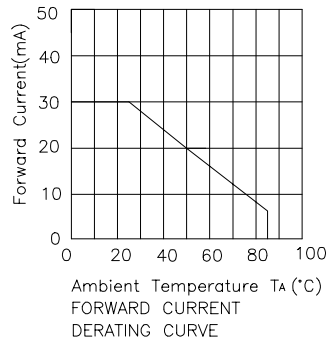
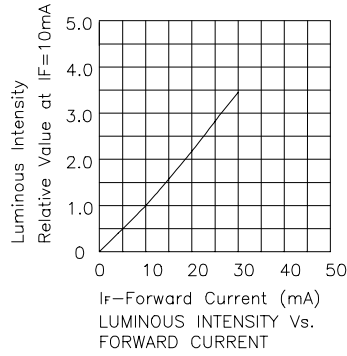
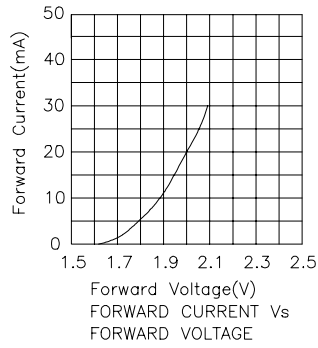
Ambient Temperature T_A (°C)
FORWARD CURRENT
DERATING CURVE



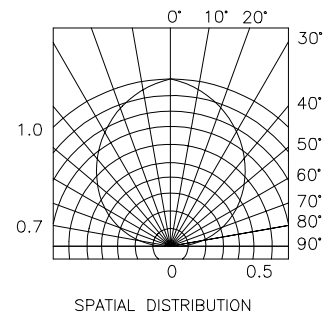
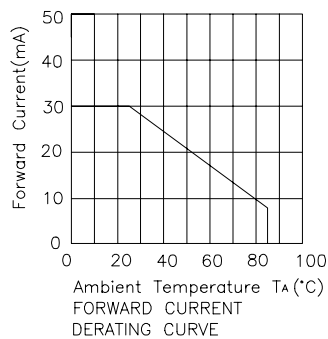
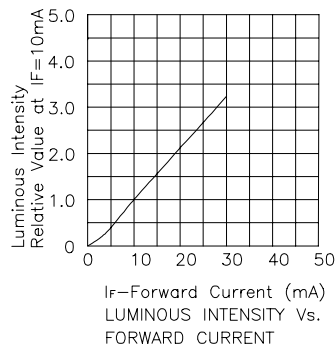
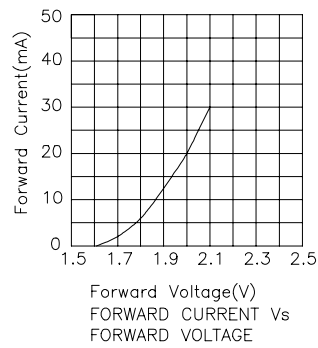
SPATIAL DISTRIBUTION

Kingbright

High Efficiency Red L113IDT

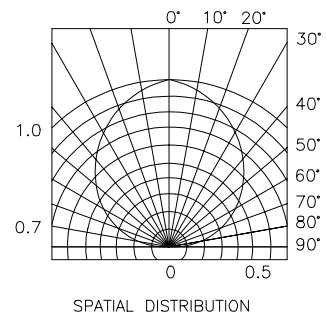
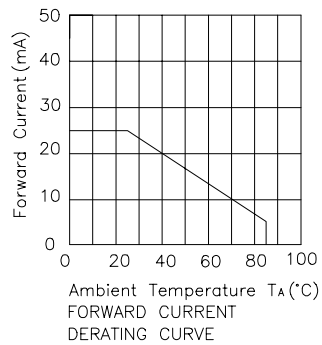
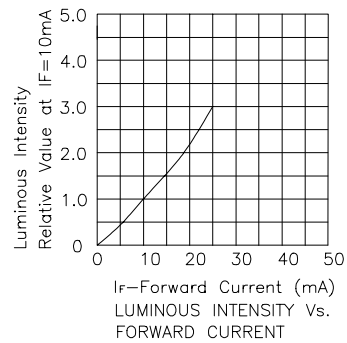
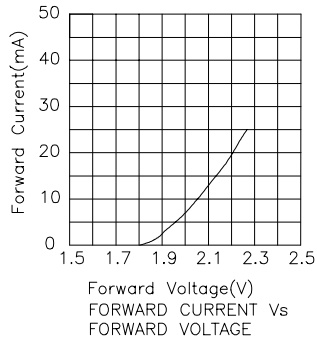


Orange L113EDT

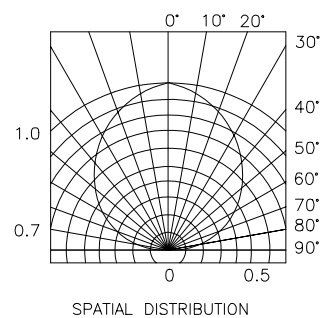
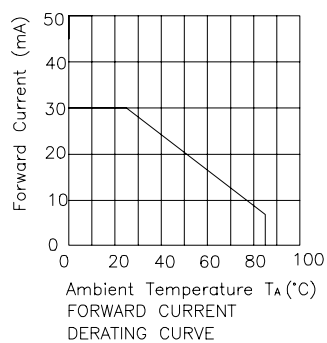
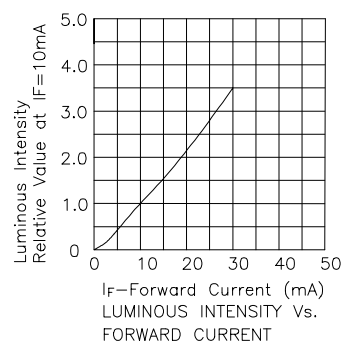
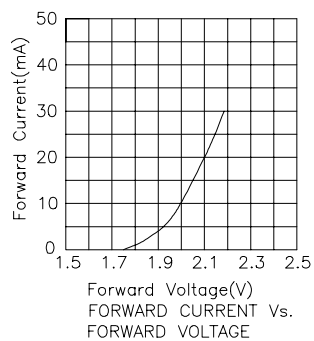


Kingbright

Green L113GDT



Yellow L113YDT



Kingbright

Super Bright Red L113SRDT

