

L103HD BRIGHT RED	L103GD GREEN
L103ID HIGH EFFICIENCY RED	L103ED ORANGE
L103SRD SUPER BRIGHT RED	L103YD YELLOW

Features

- LOW POWER CONSUMPTION.
- RELIABLE AND RUGGED.
- EXCELLENT UNIFORMITY OF LIGHT OUTPUT.
- 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.

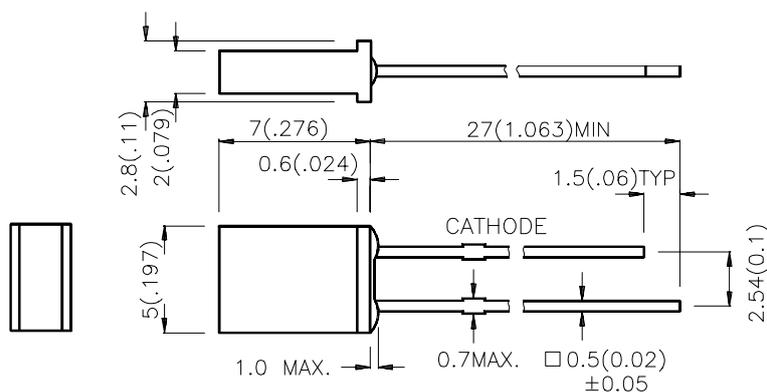
The High Efficiency Red and Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

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.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 10 mA *20mA		Viewing Angle
			Min.	Typ.	2θ1/2
L103HD	BRIGHT RED (GaP)	RED DIFFUSED	0.5	1	110°
L103ID	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	3	5	110°
L103ED	ORANGE (GaAsP/GaP)	ORANGE DIFFUSED	3	5	110°
L103GD	GREEN (GaP)	GREEN DIFFUSED	2	5	110°
L103YD	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	1	4	110°
L103SRD	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

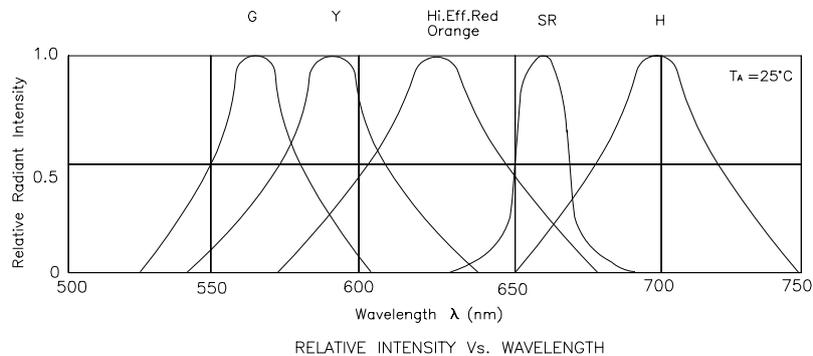
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ _{peak}	Peak Wavelength	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	700 627 627 565 590 660		nm	IF=20mA
λ _D	Dominate Wavelength	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	660 625 625 568 588 640		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

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						

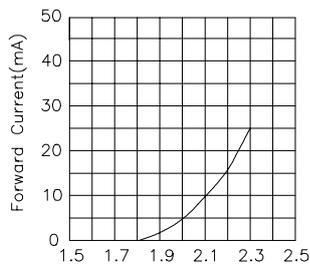
Notes:

- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 2.4mm below package base.

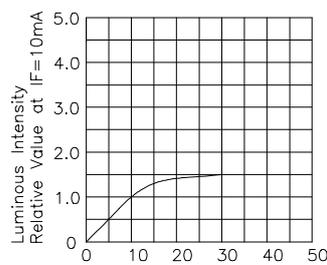


RELATIVE INTENSITY vs. WAVELENGTH

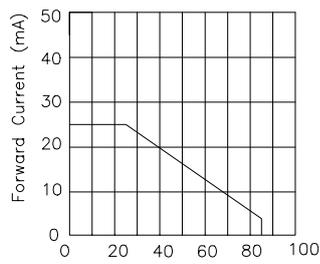
Bright Red L103HD



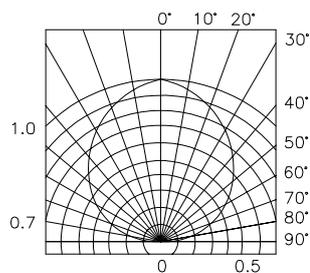
FORWARD CURRENT (mA) vs. FORWARD VOLTAGE



LUMINOUS INTENSITY vs. FORWARD CURRENT

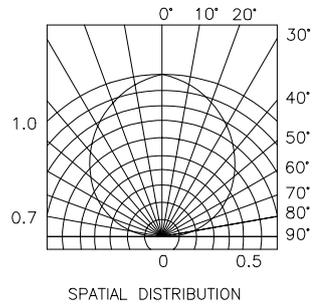
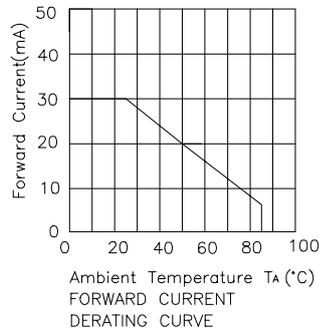
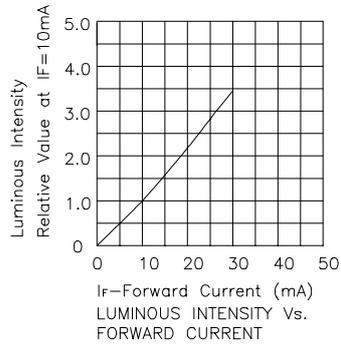
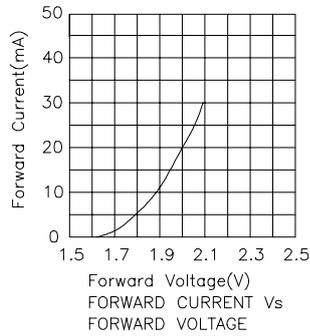


DERATING CURVE

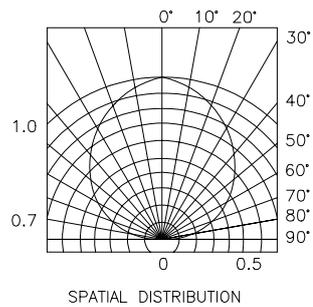
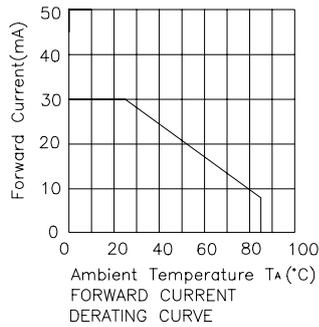
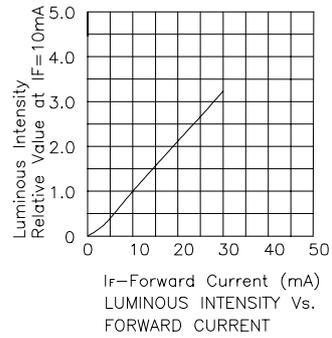
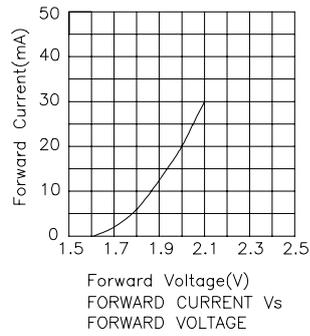


SPATIAL DISTRIBUTION

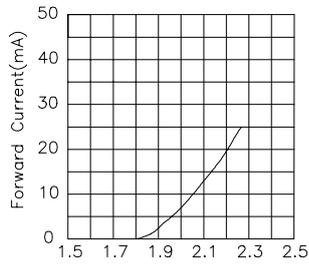
High Efficiency Red L103ID



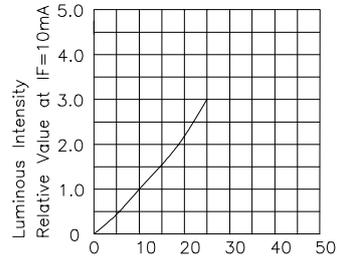
Orange L103ED



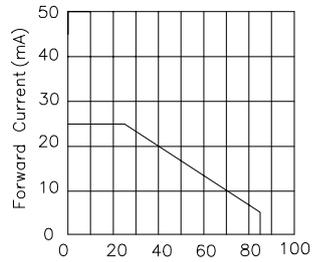
Green L103GD



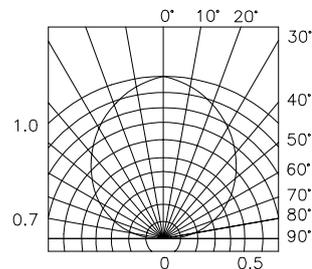
Forward Voltage(V)
FORWARD CURRENT Vs
FORWARD VOLTAGE



IF-Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT

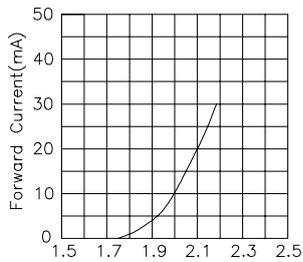


Ambient Temperature TA(°C)
FORWARD CURRENT
DERATING CURVE

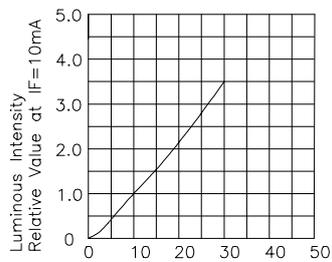


SPATIAL DISTRIBUTION

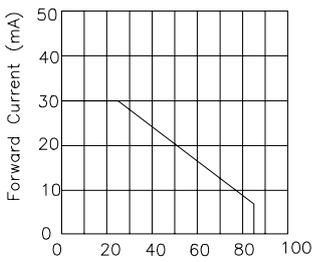
Yellow L103YD



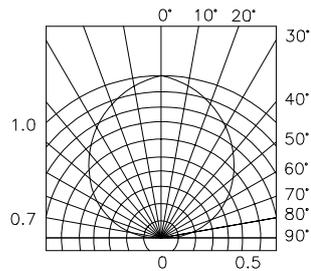
Forward Voltage(V)
FORWARD CURRENT Vs.
FORWARD VOLTAGE



IF-Forward Current (mA)
LUMINOUS INTENSITY Vs.
FORWARD CURRENT



Ambient Temperature TA(°C)
FORWARD CURRENT
DERATING CURVE



SPATIAL DISTRIBUTION

Super Bright Red L103SRD

