Kingbright®

2x5mm RECTANGULAR SOLID STATE LAMPS

L-103H BRIGHT RED
L-103I HIGH EFFICIENCY RED
L-103E ORANGE
L-103G GREEN
L-103Y 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.

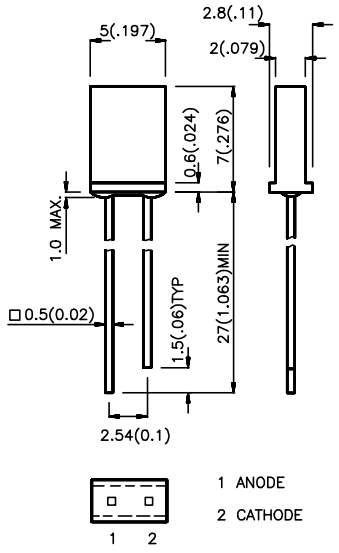
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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.

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 0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subjected to change withoutnotice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 10 mA		Viewing Angle
			Min.	Max.	**2q1/2**
L-103HDT	BRIGHT RED (GaP)	RED DIFFUSED	0.5	2	110°
L-103IDT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	3.2	12.5	110°
L-103EDT	ORANGE (GaAsP/GaP)	ORANGE DIFFUSED	3.2	12.5	110°
L-103GDT	GREEN (GaP)	GREEN DIFFUSED	2	8	110°
L-103YDT	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	2	8	110°
L-103SRDT	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.

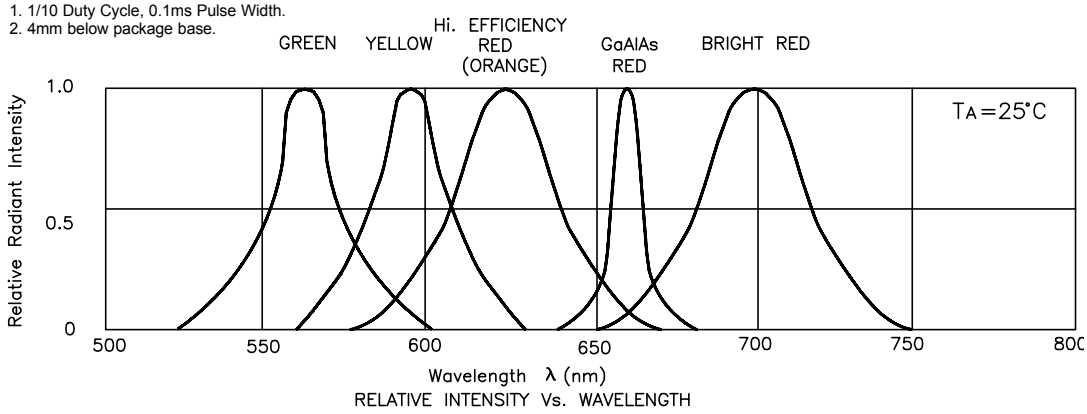
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	700 625 625 565 590 660		nm	IF=20mA
$\Delta\lambda_{1/2}$	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 12 12 45 10 95		pF	VF=0V;f=1MHz
V_F	Forward Voltage	Bright Red High Efficiency Red Orange Green Yellow Super Bright Red	2.0 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°C

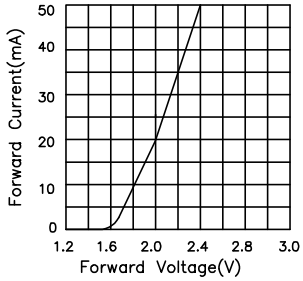
Parameter	Bright Red	High Efficiency Red	Orange	Green	Yellow	Super Bright Red	Units
Power dissipation	120	105	105	105	105	100	mW
DC Forward Current	25	30	30	25	30	30	mA
Peak Forward Current [1]	150	150	150	150	150	150	mA
Reverse Voltage	5	5	5	5	5	5	V
Operating/Storage Temperature	-40 °C To +85 °C						
Lead Soldering Temperature [2]	260 °C For 5 Seconds						

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



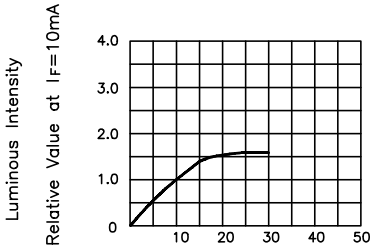
RELATIVE INTENSITY Vs. WAVELENGTH

Bright Red L-103HDT

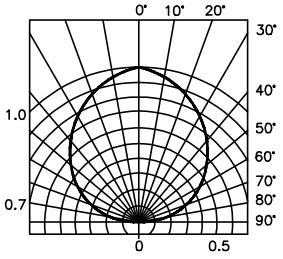


FORWARD CURRENT Vs. FORWARD VOLTAGE

FORWARD CURRENT DERATING CURVE

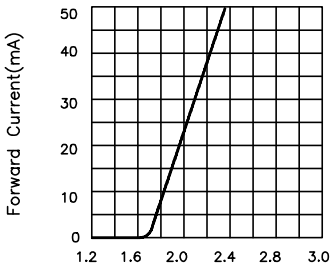


LUMINOUS INTENSITY Vs. FORWARD CURRENT

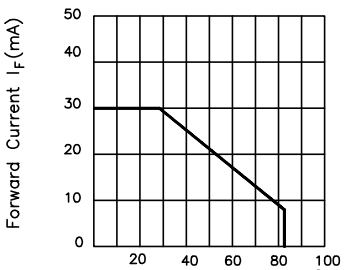


SPATIAL DISTRIBUTION

High Efficiency Red L-103IDT
Orange L-103EDT



FORWARD CURRENT Vs. FORWARD VOLTAGE



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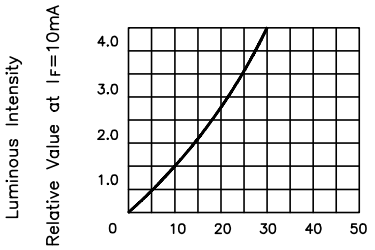
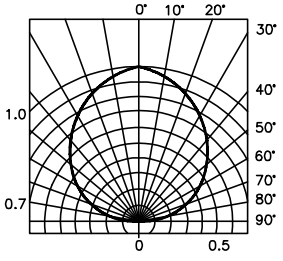
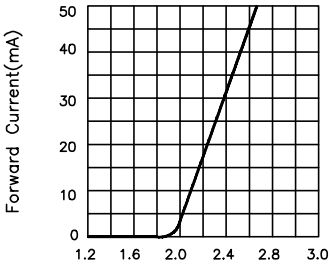


LUMINOUS INTENSITY Vs. FORWARD CURRENT



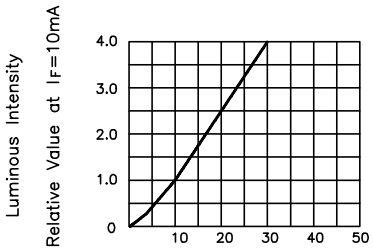
SPATIAL DISTRIBUTION

Green L-103GDT

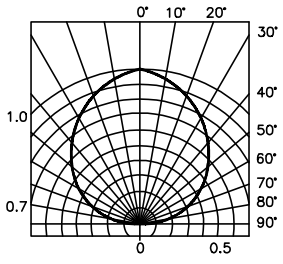


FORWARD CURRENT Vs. FORWARD VOLTAGE

FORWARD CURRENT DERATING CURVE

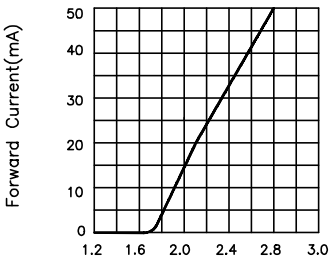


LUMINOUS INTENSITY Vs. FORWARD CURRENT



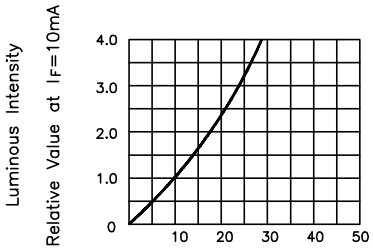
SPATIAL DISTRIBUTION

Yellow L-103YDT

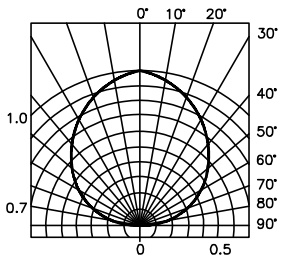


FORWARD CURRENT Vs. FORWARD VOLTAGE

FORWARD CURRENT DERATING CURVE

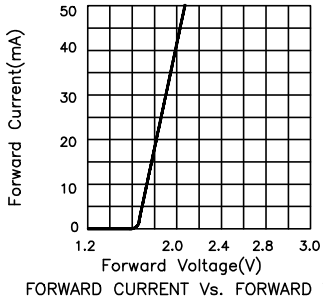


LUMINOUS INTENSITY Vs. FORWARD CURRENT

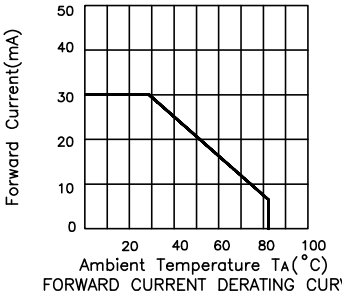


SPATIAL DISTRIBUTION

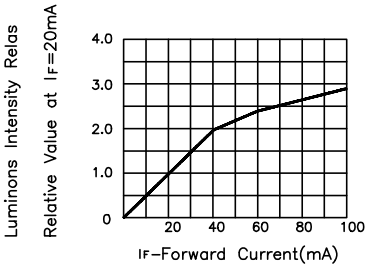
Super Bright Red L-103SRDT



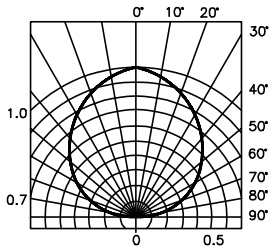
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION