L174XHT BRIGHT RED
L174XGT GREEN
L174XIT HIGH EFFICIENCY RED
L174XYT YELLOW
L174XSRT SUPER BRIGHT RED

Features

- LOW POWER CONSUMPTION.
- WIDE VIEWING ANGLE.
- AVAILABLE ON TAPE FOR AUTOMATIC MOUNTING MACHINE.
- LONG LIFE-SOLID STATE RELIABILITY.

Description

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

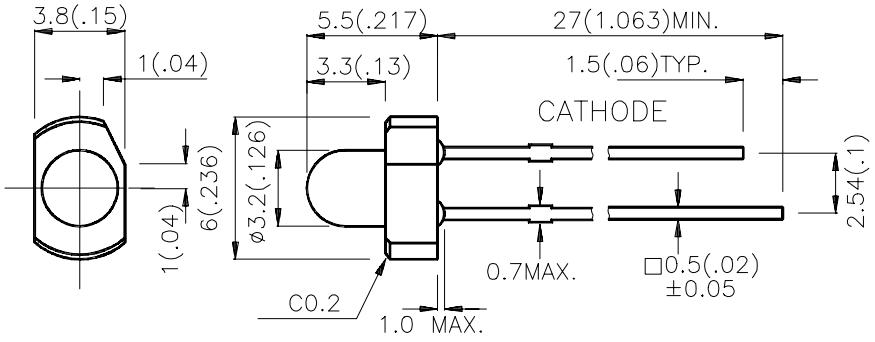
The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

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 ±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 *20 mA		Viewing Angle
			Min.	Typ.	2θ1/2
L174XHT	BRIGHT RED (GaP)	RED TRANSPARENT	2	5	100°
L174XIT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED TRANSPARENT	8	30	100°
L174XGT	GREEN (GaP)	GREEN TRANSPARENT	8	30	100°
L174XYT	YELLOW (GaAsP/GaP)	YELLOW TRANSPARENT	8	30	100°
L174XSRT	SUPER BRIGHT RED (GaAlAs)	RED TRANSPARENT	*100	*400	100°

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.

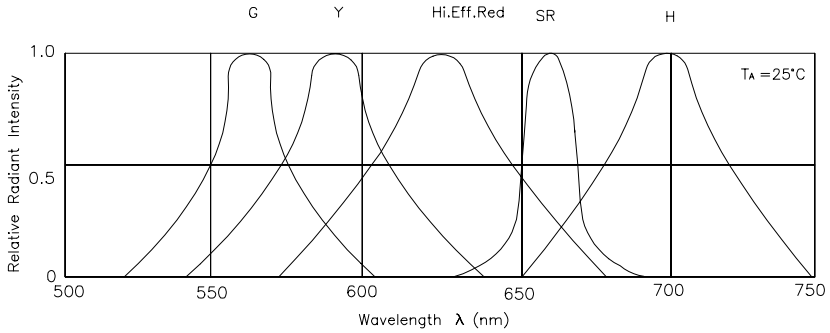
Electrical / Optical Characteristics at T_A=25ºC

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	Bright Red High Efficiency Red Green Yellow Super Bright Red	700 627 565 590 660		nm	IF=20mA
λ D	Dominate Wavelength	Bright Red High Efficiency Red Green Yellow Super Bright Red	660 625 568 588 640		nm	IF=20mA
Δλ1/2	Spectral Line Halfwidth	Bright Red High Efficiency Red Green Yellow Super Bright Red	45 45 30 35 20		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Green Yellow Super Bright Red	40 15 15 20 45		pF	VF=0V;f=1MHz
V_F	Forward Voltage	Bright Red High Efficiency Red Green Yellow Super Bright Red	2.25 2.0 2.2 2.1 1.85	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

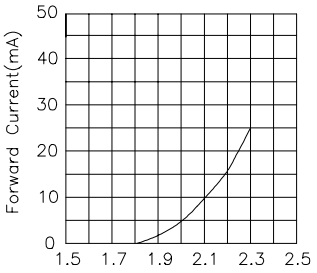
Parameter	Bright Red	High Efficiency Red	Green	Yellow	Super Bright Red	Units
Power dissipation	120	105	105	105	100	mW
DC Forward Current	25	30	25	30	30	mA
Peak Forward Current [1]	120	160	140	140	155	mA
Reverse Voltage	5	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C					
Lead Solder Temperature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

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

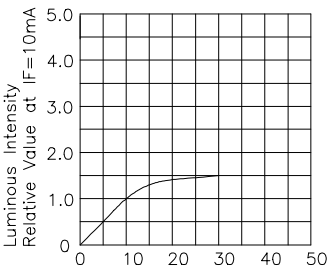


RELATIVE INTENSITY Vs. WAVELENGTH

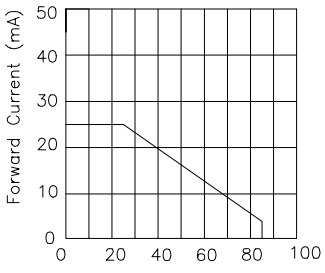
Bright Red L174XHT



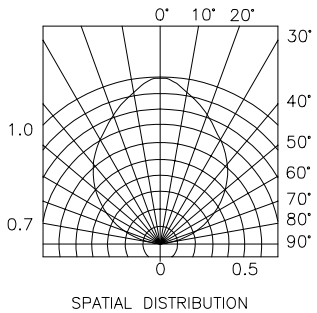
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT

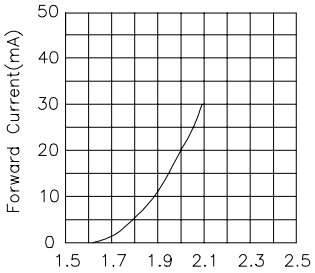


FORWARD CURRENT DERATING CURVE

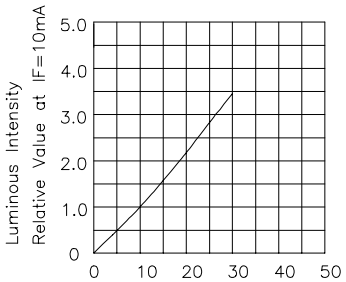


SPATIAL DISTRIBUTION

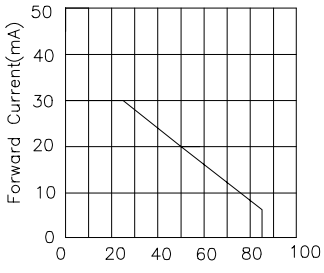
High Efficiency Red L174XIT



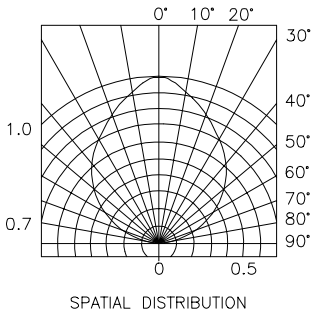
FORWARD CURRENT Vs
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

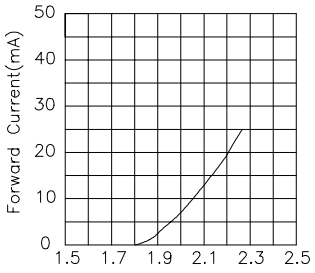


FORWARD CURRENT
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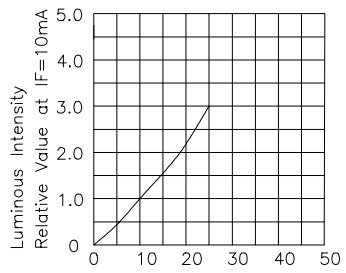


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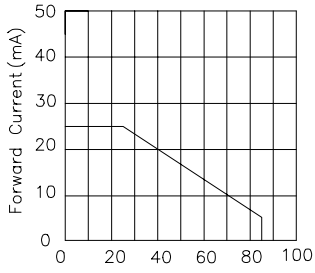
Green L174XGT



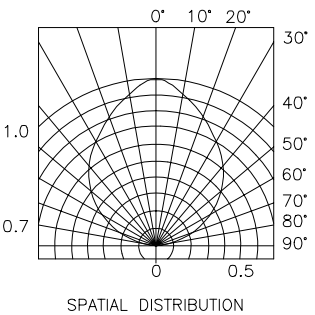
FORWARD CURRENT Vs
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

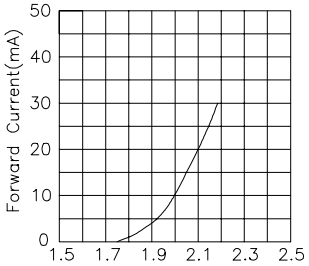


FORWARD CURRENT
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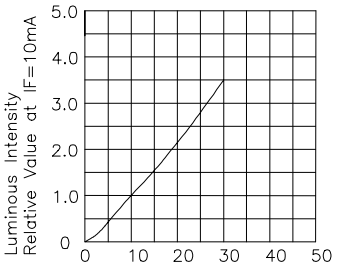


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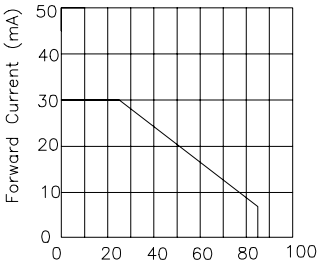
Yellow L174XYT



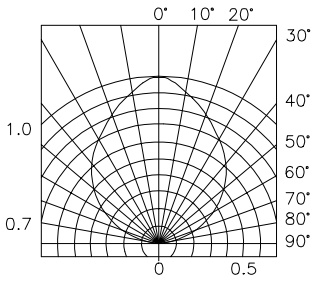
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

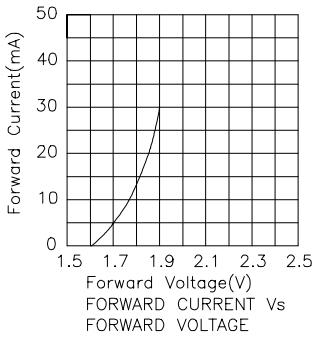


FORWARD CURRENT
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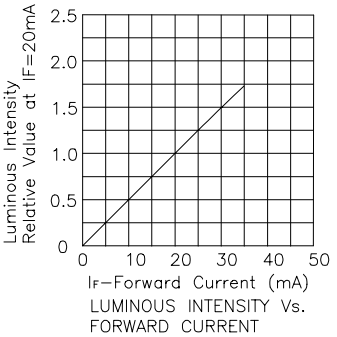


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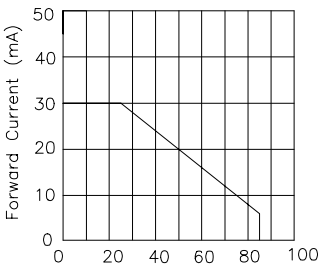
Super Bright Red L174XSRT



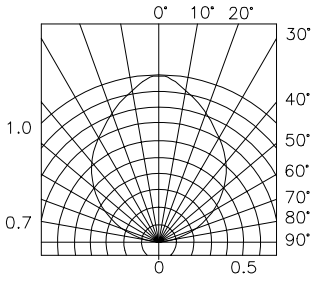
FORWARD CURRENT Vs
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



SPATIAL DISTRIBUTION