

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.

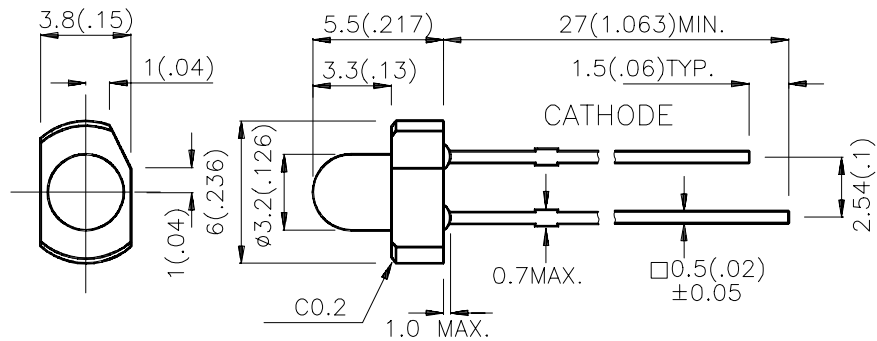
The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

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 $\pm 0.25 (0.01")$ 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 *20 mA | | Viewing Angle |
|----------|---------------------------------|--------------------|----------------------------|------|------------------|
| | | | Min. | Typ. | θ1/2 |
| 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=25°C

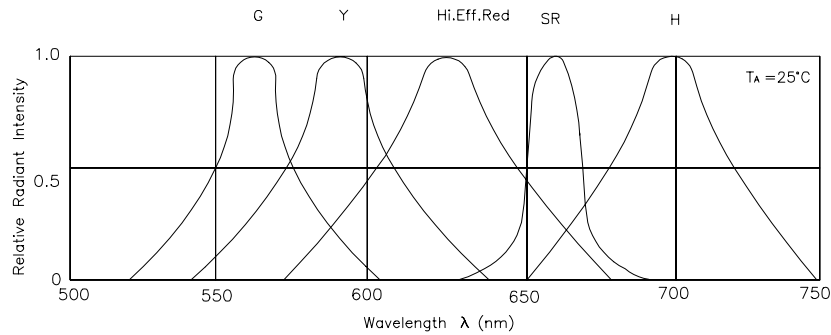
| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|-------------------|-------------------------|--|-----------------------------------|---------------------------------|-------|-----------------|
| λ _{peak} | Peak Wavelength | Bright Red High Efficiency Red Green Yellow Super 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 |
| Δλ _{1/2} | 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 | μA | VR = 5V |

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

| 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 | | | | | |

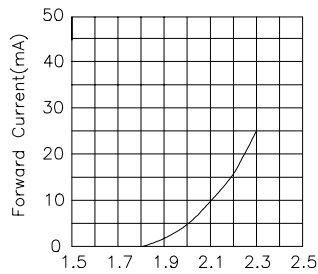
Notes:

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

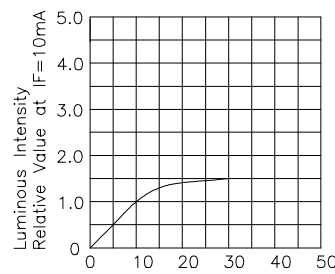


RELATIVE INTENSITY Vs. WAVELENGTH

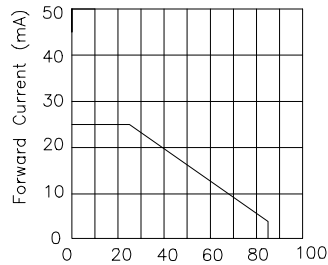
Bright Red L174XHT



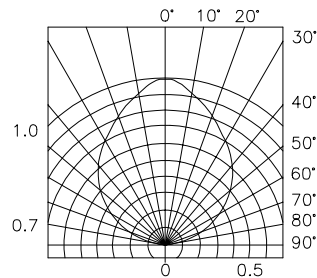
FORWARD CURRENT Vs. FORWARD VOLTAGE



LUMINOUS INTENSITY Vs. FORWARD CURRENT

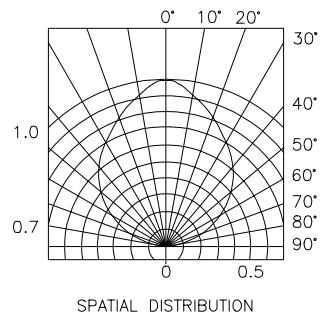
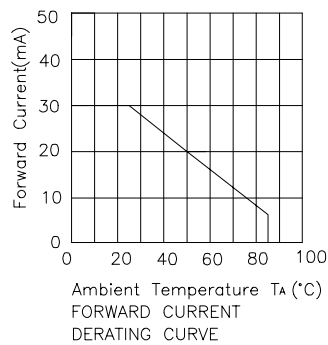
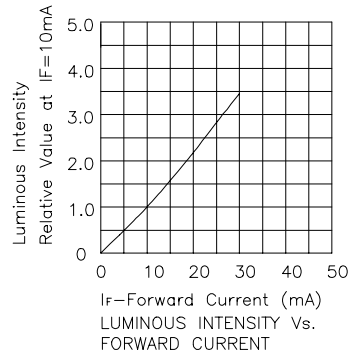
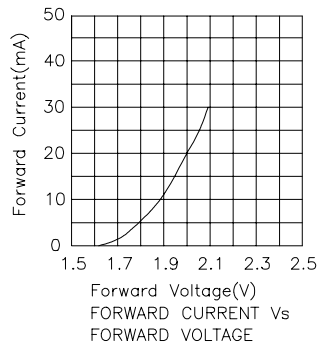


FORWARD CURRENT DERATING CURVE

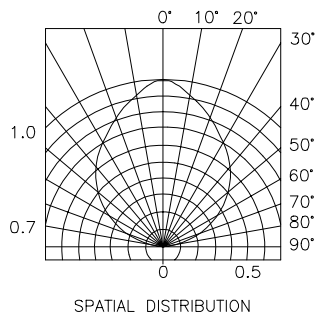
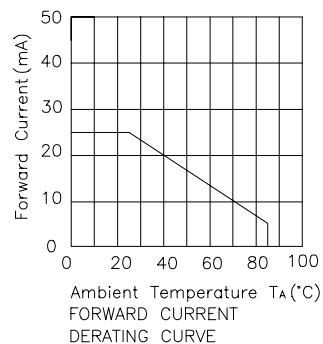
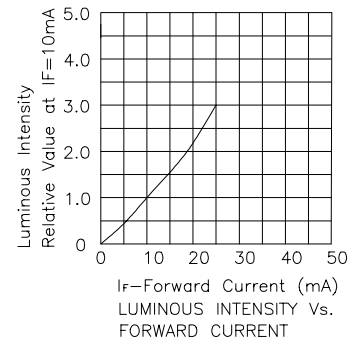
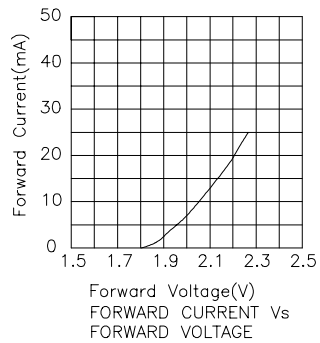


SPATIAL DISTRIBUTION

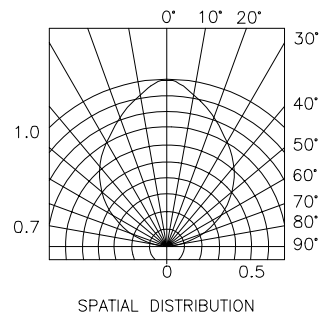
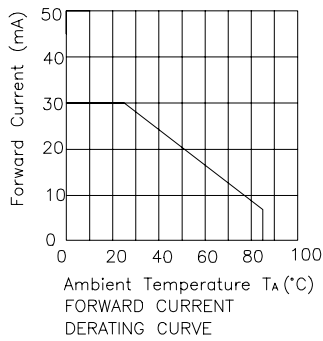
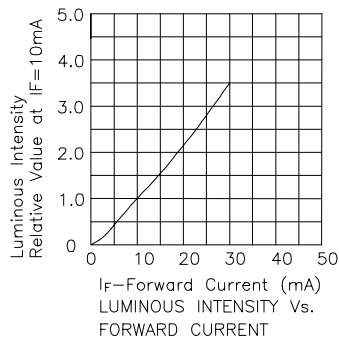
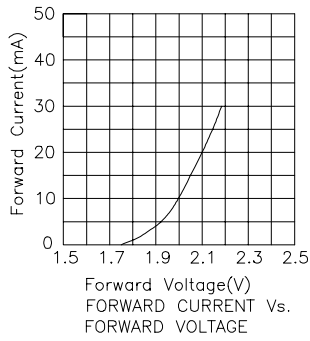
High Efficiency Red L174XIT



Green L174XGT



Yellow L174XYT



Super Bright Red L174XSRT

