

L-1413HDT BRIGHT RED L-1413GDT GREEN
 L-1413lxx HIGH EFFICIENCY RED L-1413YDT YELLOW
 L-1413SRDT SUPERBRIGHT RED
 L-1413SGDL SUPERBRIGHT GREEN

Features

- CYLINDRICAL TYPE, FLAT TOP.
- CONVEX CATHODE MARK ON BODY.
- LOW POWER CONSUMPTION.
- I.C. COMPATIBLE.
- RELIABLE AND RUGGED.
- LONG LIFE - SOLID STATE RELIABILITY.

Description

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

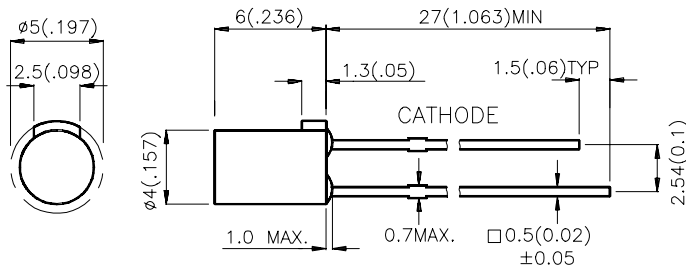
The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Green and Super Bright Green source color devices are made with Gallium Phosphide 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
L-1413HDT	BRIGHT RED (GaP)	RED DIFFUSED	0.3	1	100°
L-1413IDT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	3	5	100°
L-1413ITL		RED TRANSPARENT	12	20	100°
L-1413GDT	GREEN (GaP)	GREEN DIFFUSED	1.2	3	100°
L-1413SGDL	SUPER BRIGHT GREEN (GaP)	GREEN DIFFUSED	*3	*10	100°
L-1413YDT	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	1.2	3	100°
L-1413SRDT	SUPER BRIGHT RED (GaAlAs)	RED DIFFUSED	*50	*80	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

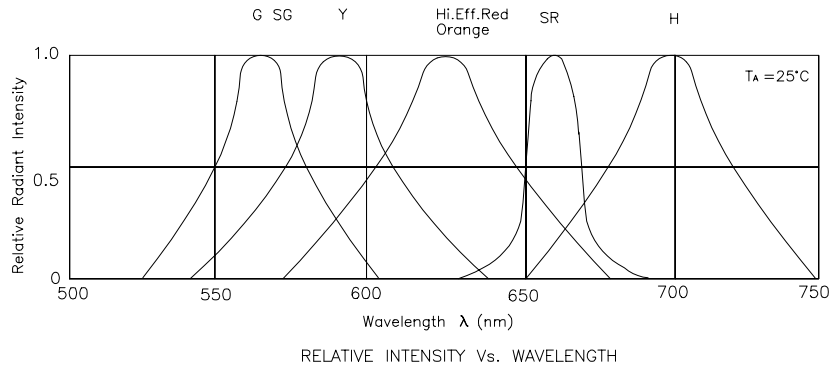
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ _{peak}	Peak Wavelength	Bright Red High Efficiency Red Green Yellow Super Bright Red Super Bright Green	700 627 565 590 660 565		nm	IF=20mA
λ _D	Dominate Wavelength	Bright Red High Efficiency Red Green Yellow Super Bright Red Super Bright Green	660 625 568 588 640 568		nm	IF=20mA
Δλ _{1/2}	Spectral Line Halfwidth	Bright Red High Efficiency Red Green Yellow Super Bright Red Super Bright Green	45 45 30 35 20 30		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Green Yellow Super Bright Red Super Bright Green	40 15 15 20 45 15		pF	VF=0V;f=1MHz
V _F	Forward Voltage	Bright Red High Efficiency Red Green Yellow Super Bright Red Super Bright Green	2.25 2.0 2.2 2.1 1.85 2.2	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 $T_A=25^\circ\text{C}$

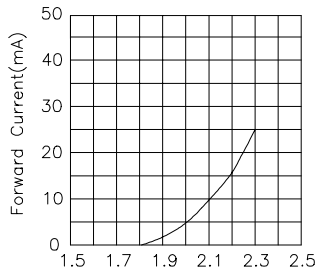
Parameter	Bright Red	High Efficiency Red	Green	Yellow	Super Bright Red	Super Bright Green	Units
Power dissipation	120	105	105	105	100	105	mW
DC Forward Current	25	30	25	30	30	25	mA
Peak Forward Current [1]	120	160	140	140	155	140	mA
Reverse Voltage	5	5	5	5	5	5	V
Operating/Storage Temperature	-40°C To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

Notes:

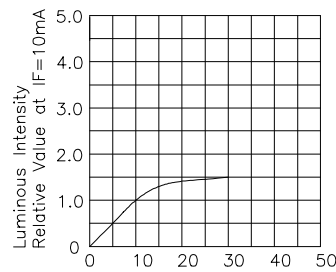
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 4mm below package base.



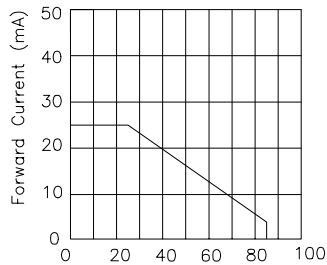
Bright Red L-1413HDT



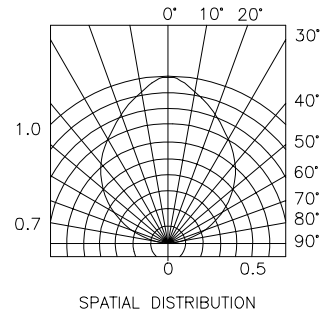
Forward Voltage(V)
FORWARD CURRENT Vs.
FORWARD VOLTAGE



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

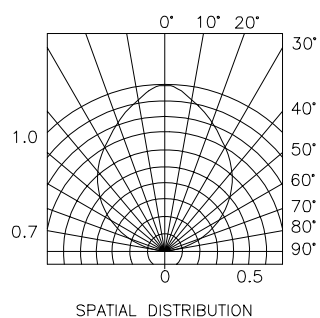
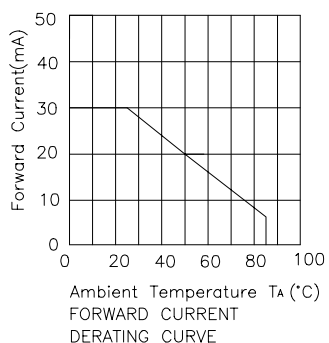
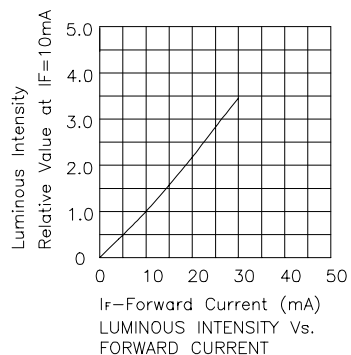
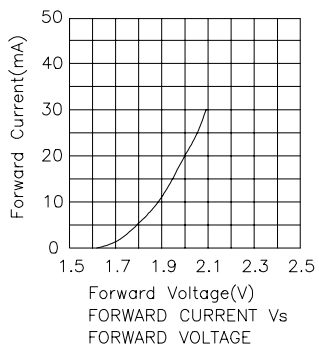


Ambient Temperature T_A (°C)
FORWARD CURRENT
DERATING CURVE

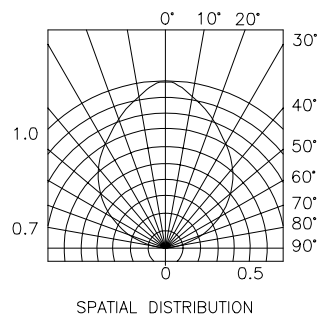
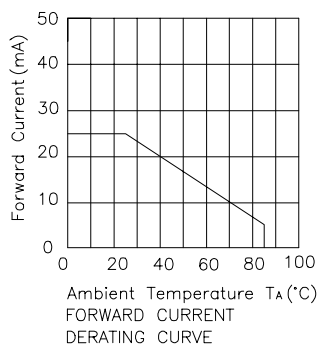
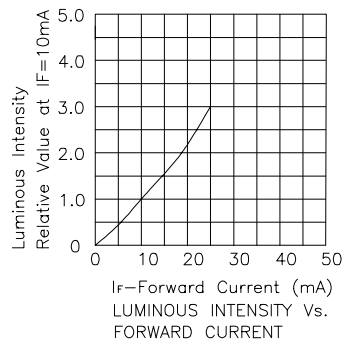
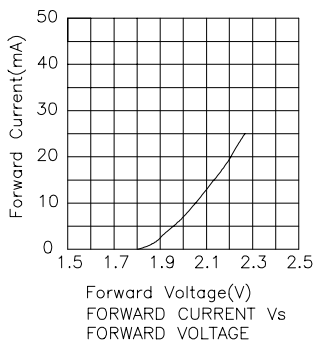


SPATIAL DISTRIBUTION

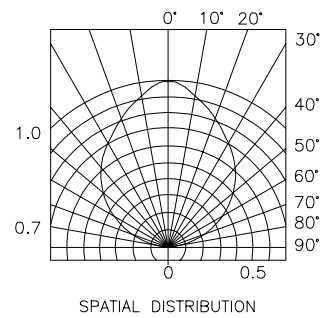
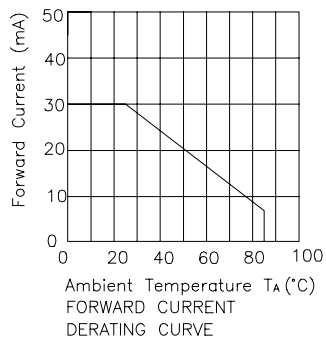
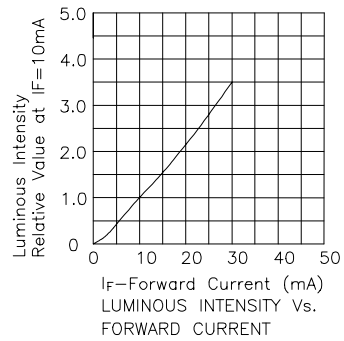
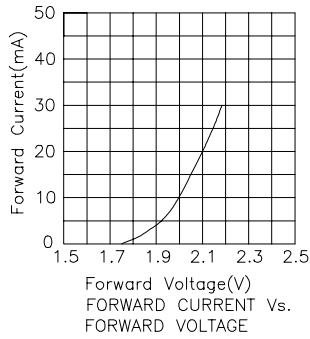
High Efficiency Red L-1413IDT,L-1413ITL



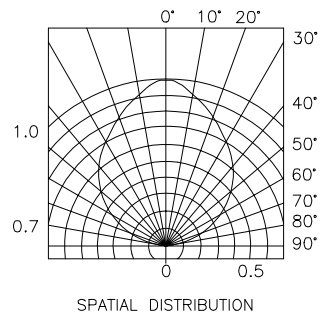
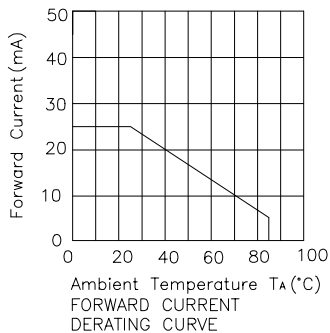
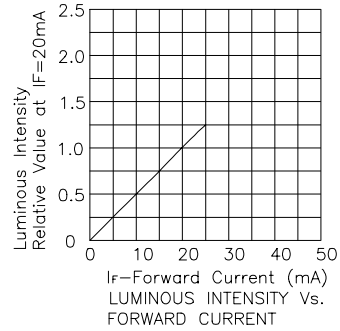
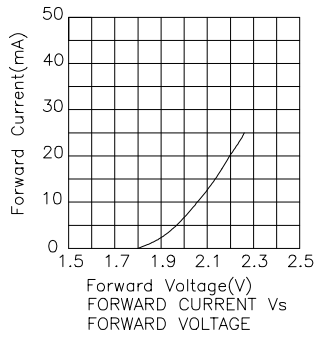
Green L-1413GDT



Yellow L-1413YDT



Super Bright Green L-1413SGDL



Super Bright Red L-1413SRDT

