

Features

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

L1413H BRIGHT RED

L1413G GREEN

L1413I HIGH EFFICIENCY RED

L1413Y YELLOW

L1413SR SUPER BRIGHT RED

L1413SG SUPER BRIGHT GREEN

Package Dimensions

Description

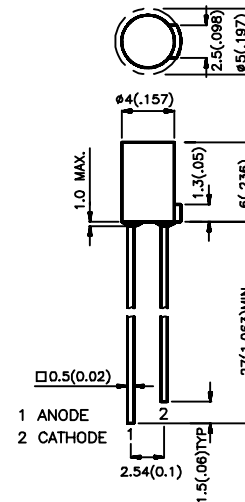
The Bright Red source color devices are made with Gallium Phosphide Red Light Emitting Diode.

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.



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 without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 10 mA		Viewing Angle
			Min.	Typ.	
L1413HDT	BRIGHT RED (GaP)	RED DIFFUSED	0.3	1	100°
L1413IDT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	3	5	100°
L1413ITL		RED TRANSPARENT	12	20	100°
L1413GDT	GREEN (GaP)	GREEN DIFFUSED	1.2	3	100°
L1413SGDL	SUPER BRIGHT GREEN (GaP)	GREEN DIFFUSED	*3	*10	100°
L1413YDT	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	1.2	3	100°
L1413SRDT	SEUPER BRIGHR RED (GaAlAs)	RED DIFFUSED	*60	*80	100°

Notes:

1. $\theta_{1/2}$ 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

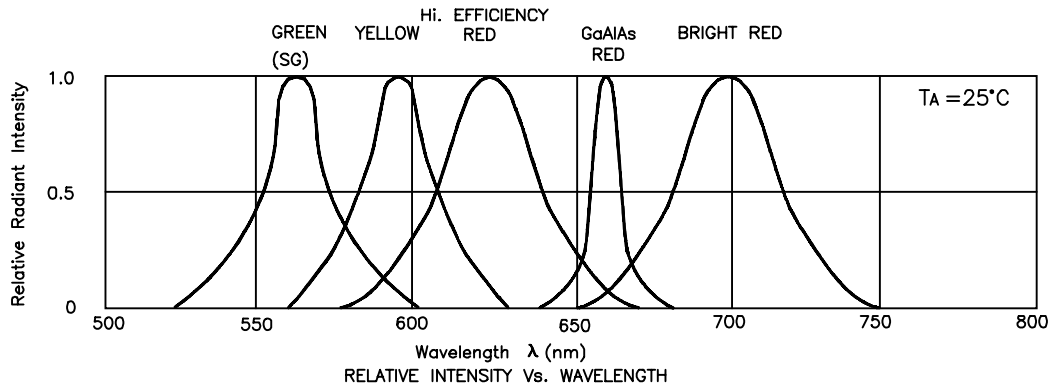
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Bright Red High Efficiency Red Green Yellow Super Bright Green Super Bright Red	700 625 565 590 565 660		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	Bright Red High Efficiency Red Green Yellow Super Bright Green Super Bright Red	45 45 30 35 30 20		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Green Yellow Super Bright Green Super Bright Red	40 12 45 10 45 95		pF	VF=0V;f=1MHz
V _F	Forward Voltage	Bright Red High Efficiency Red Green Yellow Super Bright Green Super Bright Red	2.0 2.0 2.2 2.1 2.2 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

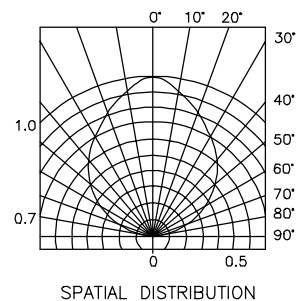
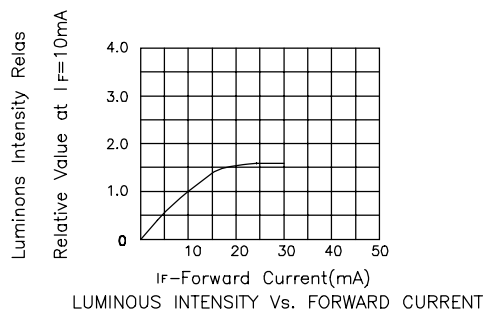
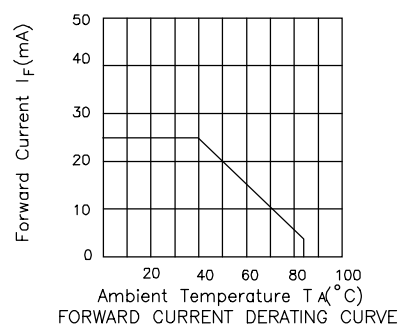
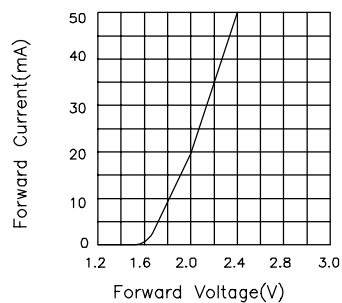
Parameter	Bright Red	High Efficiency Red	Green	Yellow	Super Bright Green	Super Bright Red	Units
Power dissipation	120	105	105	105	105	100	mW
DC Forward Current	25	30	25	30	25	30	mA
Peak Forward Current [1]	150	150	150	150	150	150	mA
Reverse Voltage	5	5	5	5	5	5	V
Operating/Storage Temperature	-40°C To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

Notes:

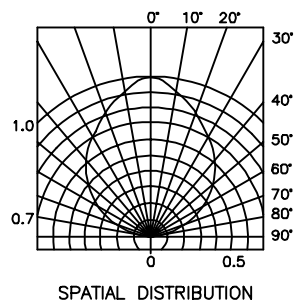
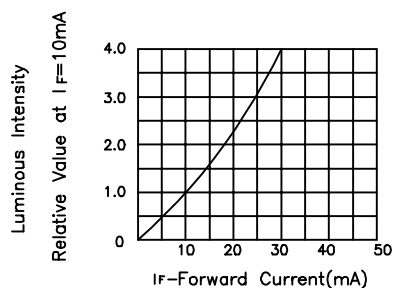
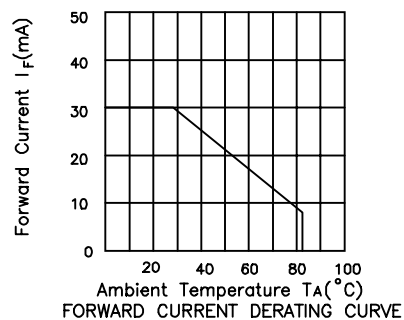
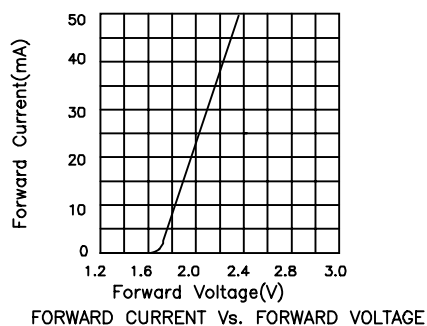
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 4mm below package base.



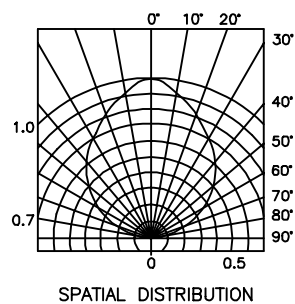
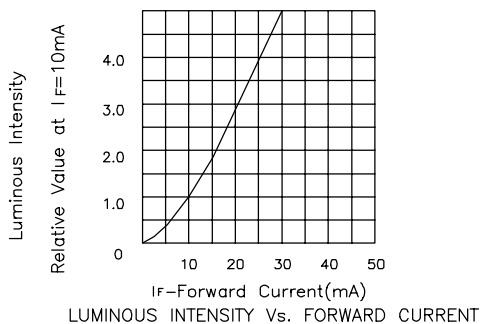
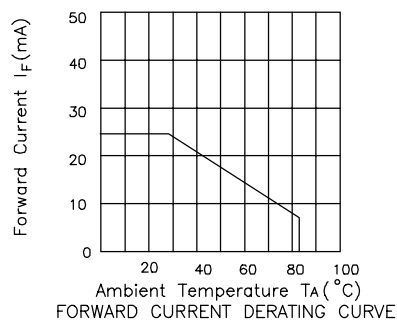
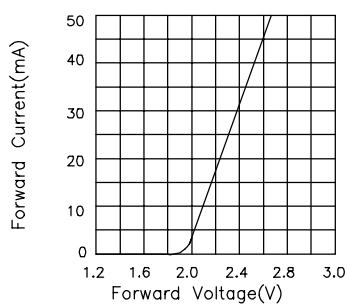
Bright Red L1413HDT



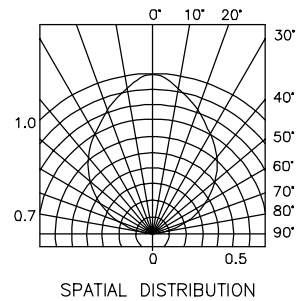
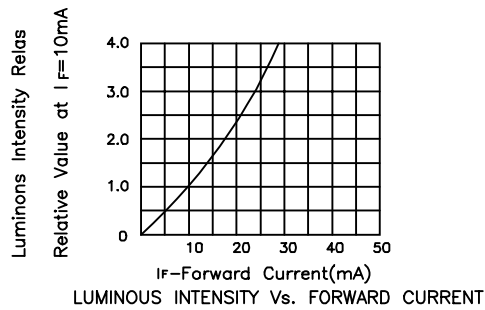
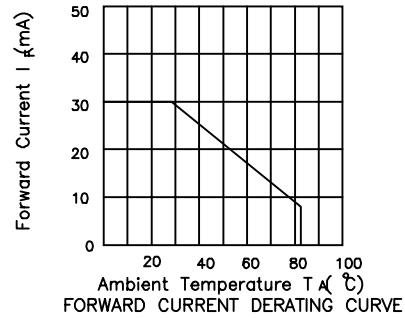
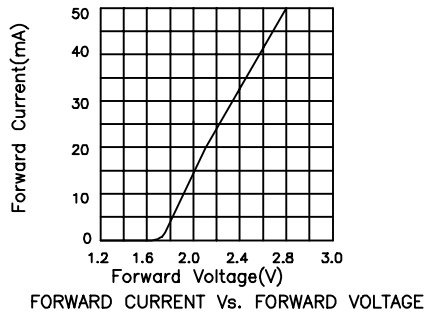
High Efficiency Red L1413IDT, L1413ITL



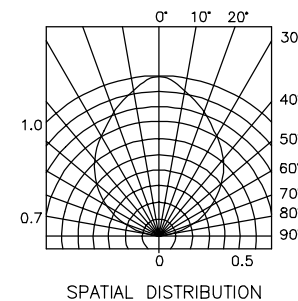
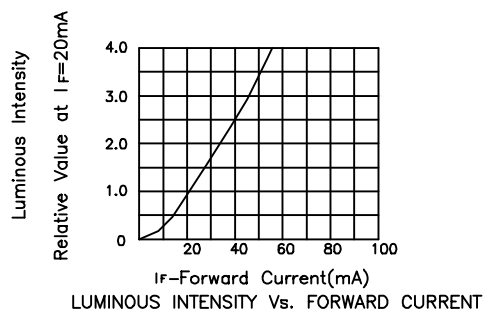
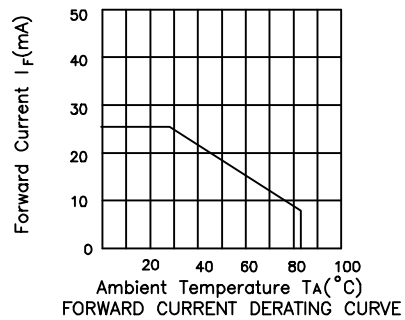
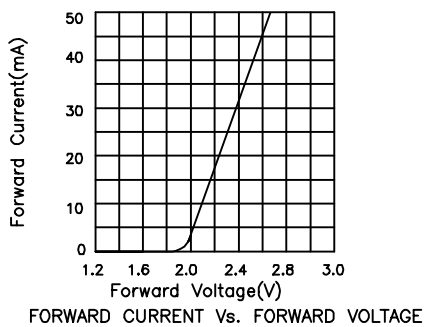
Green L1413GDT



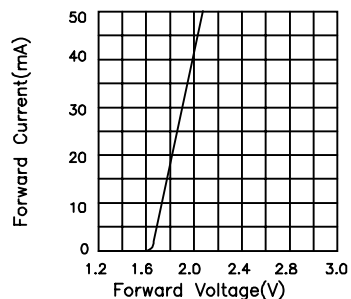
Yellow L1413YDT



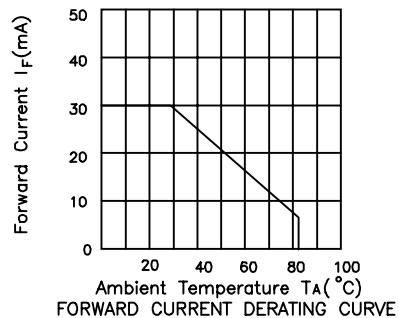
Super Bright Green L1413SGDL



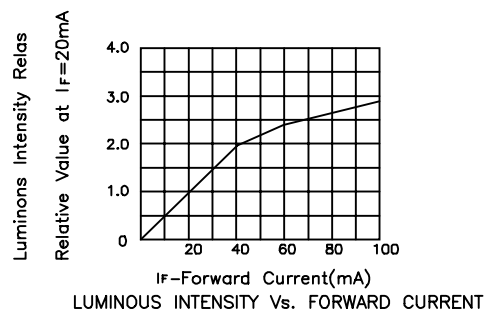
Super Bright Red L1413SRDT



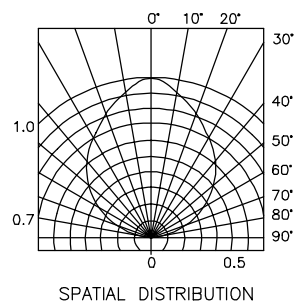
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION