L1513IT HIGH EFFICIENCY RED

L1513EC HIGH EFFICIENCY RED

L1513Yx YELLOW

L1513Gx GREEN

Features

- IMPROVED INTENSITY.
- LOW POWER CONSUMPTION.
- VERSATILE MOUNTING ON P.C. BOARD OR PANEL.
- T-1 3/4 DIAMETER PACKAGE, TAPERED TYPE.
- RELIABLE AND RUGGED.
- TRANSPARENT AND WATER CLEAR TYPE.

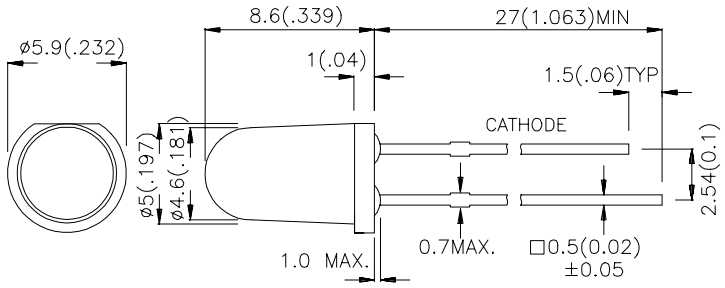
Description

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.

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		Viewing Angle
			Min.	Typ.	2θ1/2
L1513IT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED TRANSPARENT	50	80	20°
L1513EC		WATER CLEAR	50	80	20°
L1513GT	GREEN (GaP)	GREEN TRANSPARENT	20	50	20°
L1513GC		WATER CLEAR	20	60	20°
L1513YT	YELLOW (GaAsP/GaP)	YELLOW TRANSPARENT	20	40	20°
L1513YC		WATER CLEAR	20	40	20°

Note:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

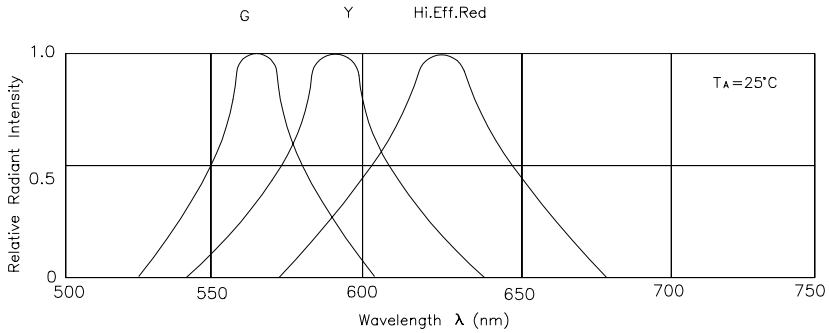
Electrical / Optical Characteristics at T_A=25°C

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

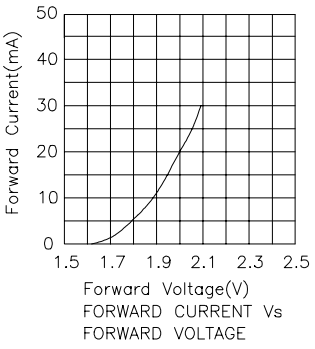
Parameter	High Efficiency Red	Green	Yellow	Units
Power dissipation	105	105	105	mW
DC Forward Current	30	25	30	mA
Peak Forward Current [1]	160	140	140	mA
Reverse Voltage	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C			
Lead Solder Temperature [2]	260°C For 5 Seconds			

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

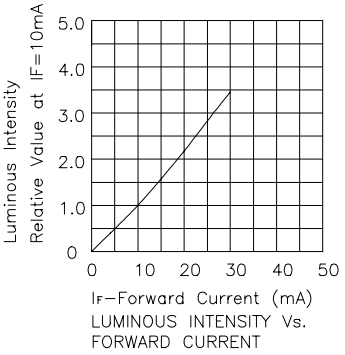


RELATIVE INTENSITY Vs. WAVELENGTH

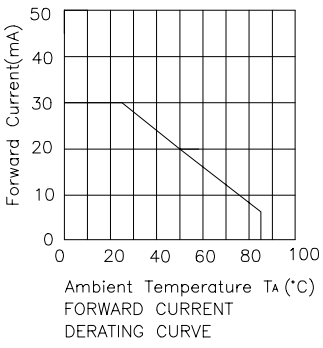
High Efficiency Red L1513IT



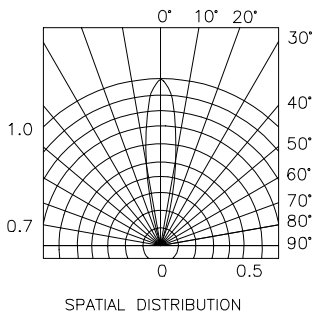
FORWARD CURRENT Vs
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT

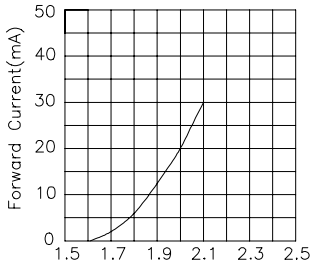


FORWARD CURRENT
DERATING CURVE

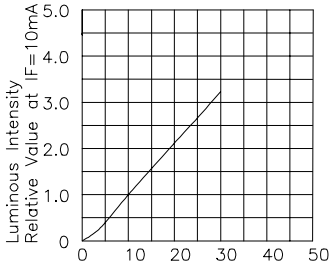


SPATIAL DISTRIBUTION

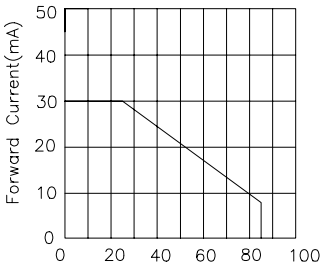
High Efficiency Red L1513EC



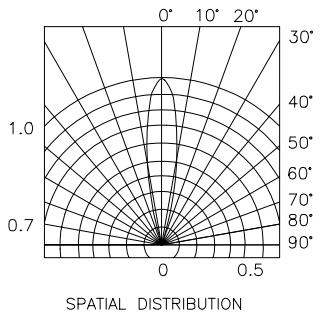
Forward Voltage(V)
FORWARD CURRENT Vs
FORWARD VOLTAGE



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

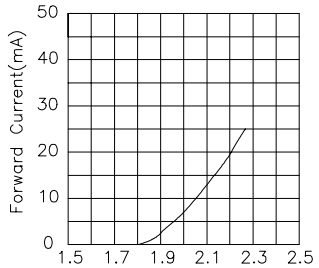


Ambient Temperature TA(°C)
FORWARD CURRENT
DERATING CURVE

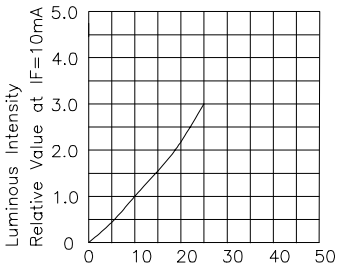


SPATIAL DISTRIBUTION

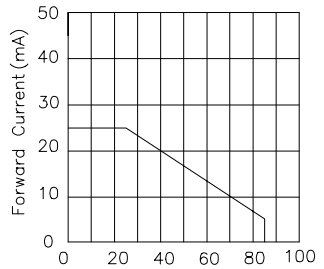
Green L1513GC,L1513GT



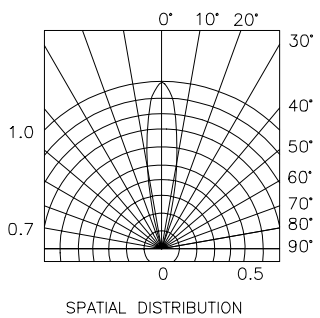
Forward Voltage(V)
FORWARD CURRENT Vs
FORWARD VOLTAGE



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

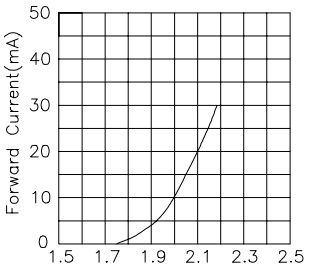


Ambient Temperature TA(°C)
FORWARD CURRENT
DERATING CURVE

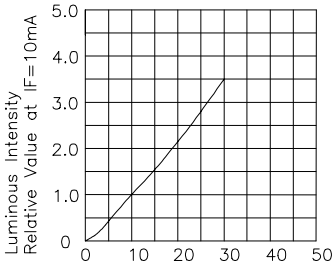


SPATIAL DISTRIBUTION

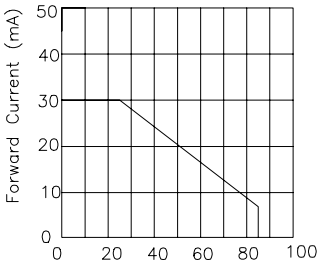
Yellow L1513YC,L1513YT



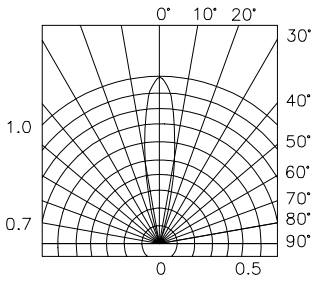
FORWARD CURRENT Vs.
FORWARD VOLTAGE



LUMINOUS INTENSITY Vs.
FORWARD CURRENT



FORWARD CURRENT
DERATING CURVE



SPATIAL DISTRIBUTION