

### Features

- LOW POWER CONSUMPTION.
- RELIABLE AND RUGGED.
- EXCELLENT UNIFORMITY OF LIGHT OUTPUT.
- SUITABLE FOR LEVEL INDICATOR.
- LONG LIFE - SOLID STATE RELIABILITY.

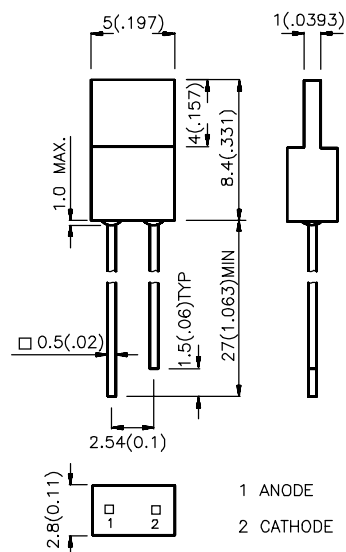
L1053HDT BRIGHT RED

L1053GDT GREEN

L1053IDT HIGH EFFICIENCY RED

L1053YDT YELLOW

### 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 subjected to change without notice.

### 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.

### Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 10 mA		Viewing Angle
			Min.	Typ.	
L1053HDT	BRIGHT RED (GaP)	RED DIFFUSED	0.5	1	110°
L1053IDT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	5	8	110°
L1053GDT	GREEN (GaP)	GREEN DIFFUSED	2	5	110°
L1053YDT	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	2	5	110°

#### Note:

1.  $\theta_{1/2}$  is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

## Electrical / Optical Characteristics at T<sub>A</sub>=25°C

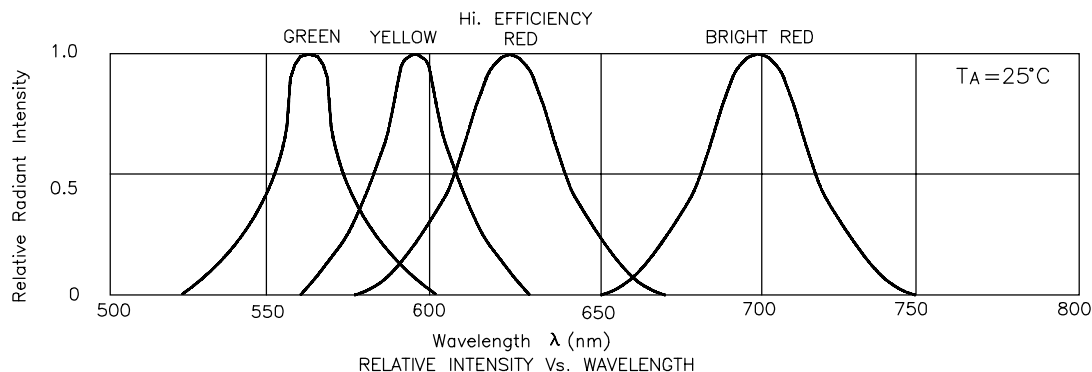
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{peak}$	Peak Wavelength	Bright Red High Efficiency Red Green Yellow	700 625 565 590		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	Bright Red High Efficiency Red Green Yellow	45 45 30 35		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Green Yellow	40 12 45 10		pF	VF=0V;f=1MHz
V <sub>F</sub>	Forward Voltage	Bright Red High Efficiency Red Green Yellow	2.0 2.0 2.2 2.1	2.5 2.5 2.5 2.5	V	IF=20mA
I <sub>R</sub>	Reverse Current	All		10	μA	VR = 5V

## Absolute Maximum Ratings at T<sub>A</sub>=25°C

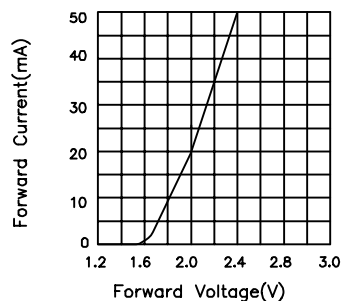
Parameter	Bright Red	High Efficiency Red	Green	Yellow	Units
Power dissipation	120	105	105	105	mW
DC Forward Current	25	30	25	30	mA
Peak Forward Current [1]	150	150	150	150	mA
Reverse Voltage	5	5	5	5	V
Operating/Storage Temperature	-40°C To + 85°C				
Lead Soldering Temperature [2]	260°C For 5 Seconds				

### Notes:

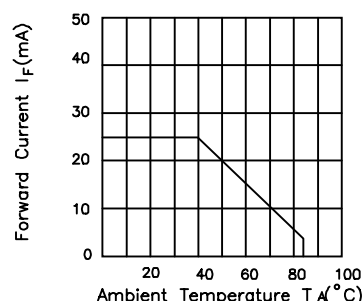
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 4mm below package base.



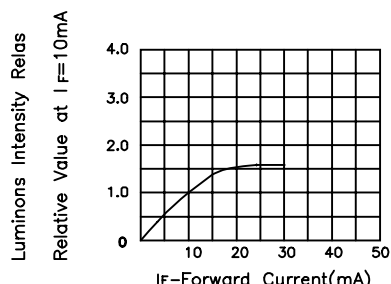
## Bright Red L1053HDT



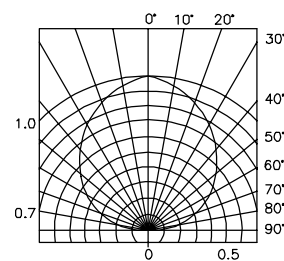
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

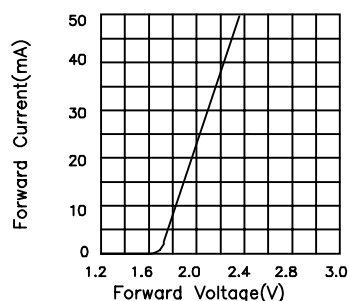


LUMINOUS INTENSITY Vs. FORWARD CURRENT

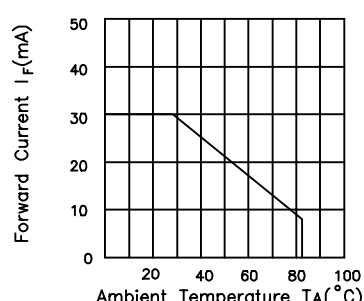


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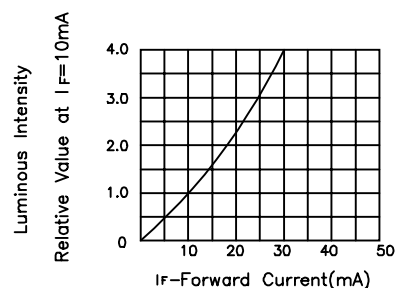
## High Efficiency Red L1053IDT



FORWARD CURRENT Vs. FORWARD VOLTAGE

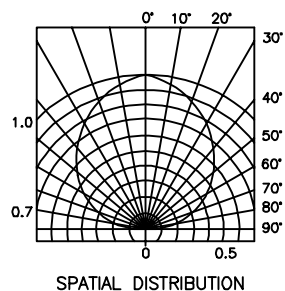
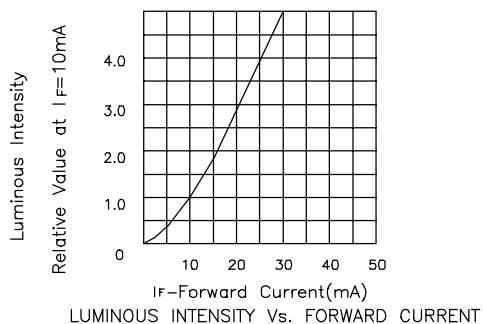
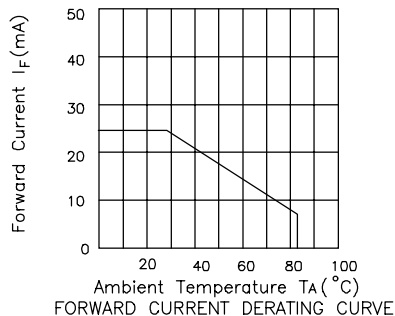
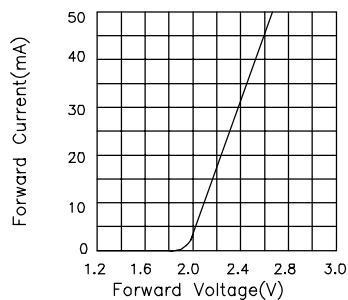


FORWARD CURRENT DERATING CURVE



SPATIAL DISTRIBUTION

## Green L1053GDT



## Yellow L1053YDT

