

L-53HD BRIGHT RED	L-53Gx GREEN
L-53Ix HIGH EFFICIENCY RED	L-53Yx YELLOW
L-53EC HIGH EFFICIENCY RED	L-53ED ORANGE
L-53Nx PURE ORANGE	L-53PGx PURE GREEN

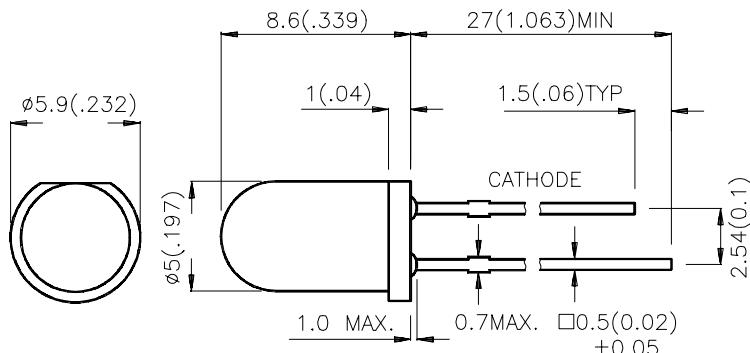
Features

- HIGH INTENSITY.
- LOW POWER CONSUMPTION.
- POPULAR T-1 3/4 DIAMETER PACKAGE.
- GENERAL PURPOSE LEADS.
- RELIABLE AND RUGGED.
- LONG LIFE - SOLID STATE RELIABILITY.
- AVAILABLE ON TAPE AND REEL.

Description

- The Bright Red source color devices are made with Gallium Phosphide Red Light Emitting Diode.
- The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.
- The High Efficiency Red and Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.
- The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.
- The Pure Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Pure Orange Light Emitting Diode.
- The Pure Green source color devices are made with Gallium Phosphide Pure Green 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	I _v (mcd) @ 10 mA		Viewing Angle
			Min.	Typ.	
L-53HD	BRIGHT RED (GaP)	RED DIFFUSED	2	5	60°
L-53ID	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	8	25	60°
L-53IT		RED TRANSPARENT	30	80	30°
L-53EC		WATER CLEAR	30	80	30°
L-53ED	ORANGE (GaAsP/GaP)	ORANGE DIFFUSED	8	30	60°
L-53GD	GREEN (GaP)	GREEN DIFFUSED	5	20	60°
L-53GT		GREEN TRANSPARENT	20	60	30°
L-53GC		WATER CLEAR	20	60	30°
L-53YD	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	5	20	60°
L-53YT		YELLOW TRANSPARENT	20	40	30°
L-53YC		WATER CLEAR	20	40	30°
L-53ND	PURE ORANGE (GaAsP/GaP)	ORANGE DIFFUSED	12	30	60°
L-53NT		ORANGE TRANSPARENT	50	80	30°
L-53NC		WATER CLEAR	50	80	30°
L-53PGD	PURE GREEN (GaP)	GREEN DIFFUSED	2	5	60°
L-53PGT		GREEN TRANSPARENT	5	10	30°
L-53PGC		WATER CLEAR	5	10	30°

Note:

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

Absolute Maximum Ratings at T_A=25°C

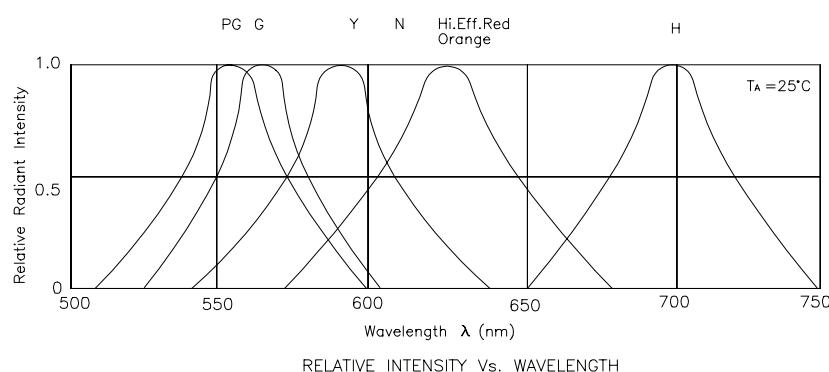
Parameter	Bright Red	High Efficiency Red	Orange	Green	Yellow	Pure Orange	Pure Green	Units
Power dissipation	120	105	105	105	105	105	105	mW
DC Forward Current	25	30	30	25	30	30	25	mA
Peak Forward Current [1]	120	160	160	140	140	145	135	mA
Reverse Voltage	5	5	5	5	5	5	5	V
Operating/Storage Temperature						-40°C To +85°C		
Lead Soldering Temperature [2]						260°C For 5 Seconds		

Notes:

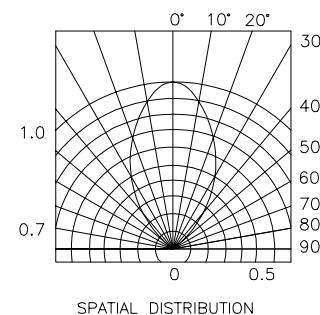
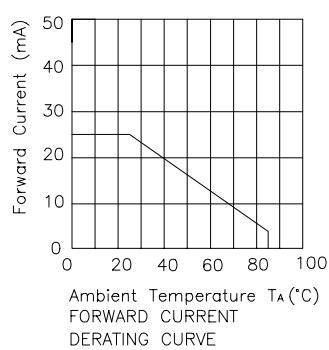
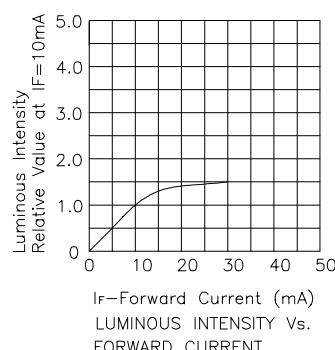
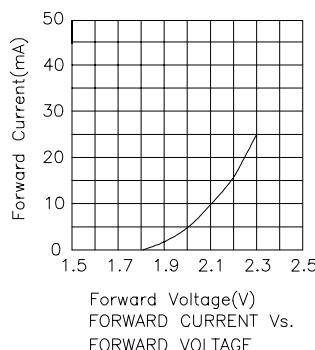
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 4mm below package base.

Electrical / Optical Characteristics at $T_A=25^\circ C$

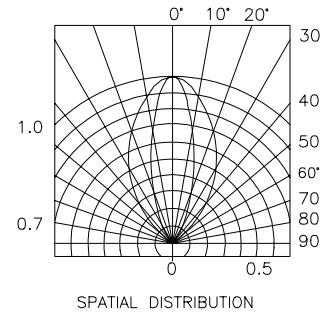
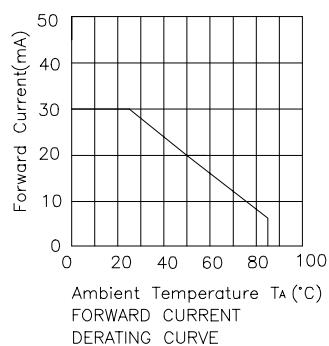
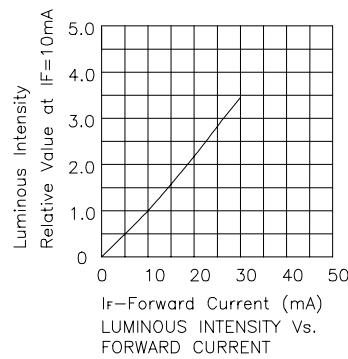
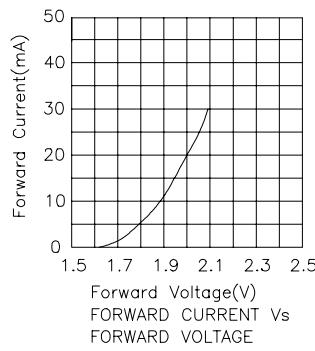
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	Bright Red High Efficiency Red Orange Green Yellow Pure Orange Pure Green	700 627 627 565 590 607 555		nm	IF=20mA
λ_D	Dominate Wavelength	Bright Red High Efficiency Red Orange Green Yellow Pure Orange Pure Green	660 625 625 568 588 610 555		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	Bright Red High Efficiency Red Orange Green Yellow Pure Orange Pure Green	45 45 45 30 35 35 30		nm	IF=20mA
C	Capacitance	Bright Red High Efficiency Red Orange Green Yellow Pure Orange Pure Green	40 15 15 15 20 15 45		pF	VF=0V;f=1MHz
V_F	Forward Voltage	Bright Red High Efficiency Red Orange Green Yellow Pure Orange Pure Green	2.25 2.0 2.0 2.0 2.1 2.05 2.25	2.5 2.5 2.5 2.5 2.5 2.5 2.5	V	IF=20mA
I_R	Reverse Current	All		10	uA	VR = 5V



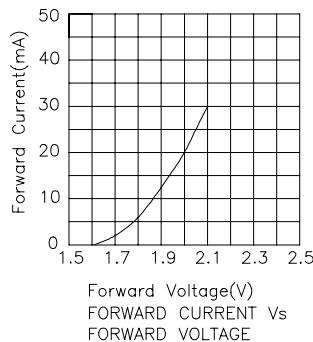
Bright Red L-53HD



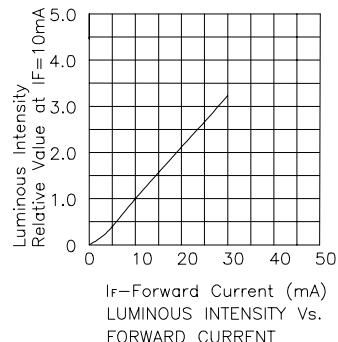
High Efficiency Red L-53ID,L-53IT



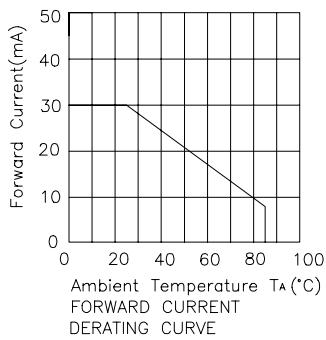
High Efficiency Red L-53EC Orange L-53ED



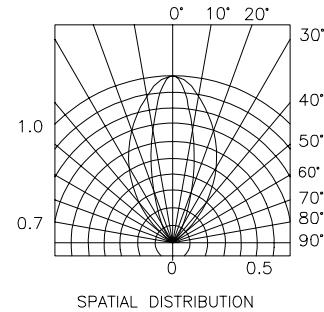
Forward Voltage(V)
FORWARD CURRENT Vs
FORWARD VOLTAGE



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

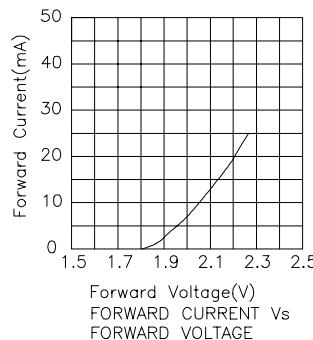


Ambient Temperature Ta (°C)
FORWARD CURRENT
DERATING CURVE

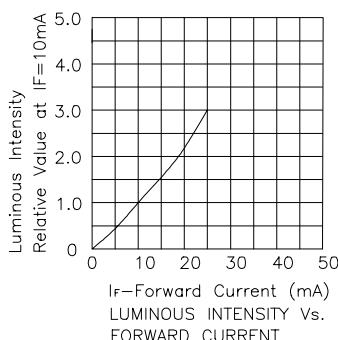


SPATIAL DISTRIBUTION

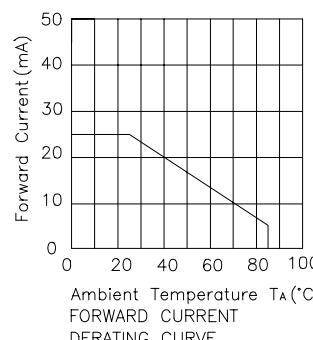
Green L-53GD,L-53GC,L-53GT



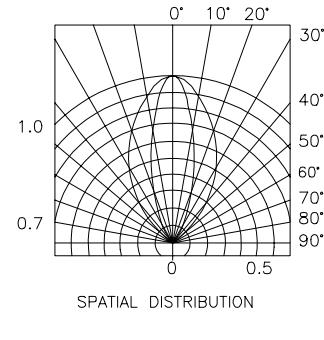
Forward Voltage(V)
FORWARD CURRENT Vs
FORWARD VOLTAGE



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

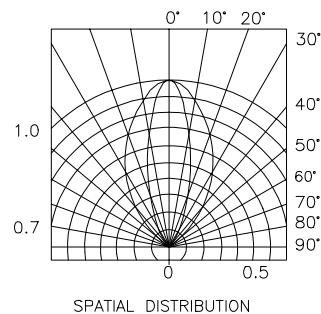
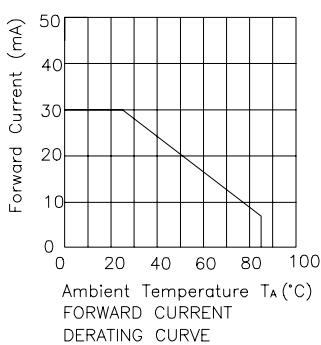
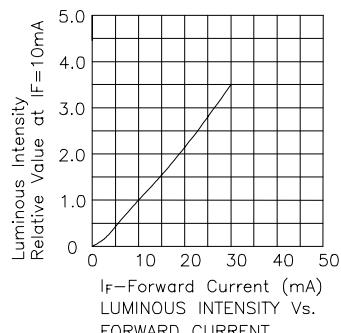
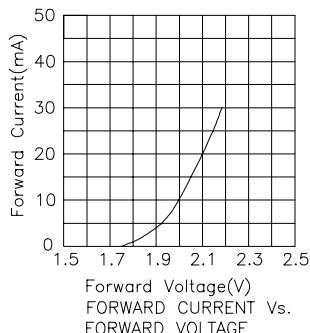


Ambient Temperature Ta (°C)
FORWARD CURRENT
DERATING CURVE

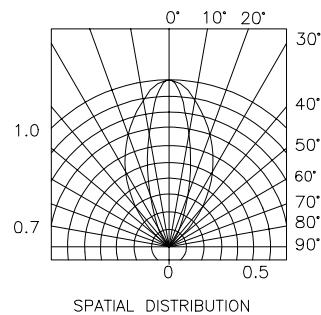
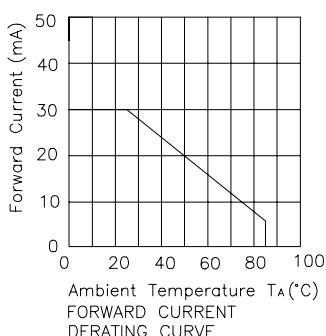
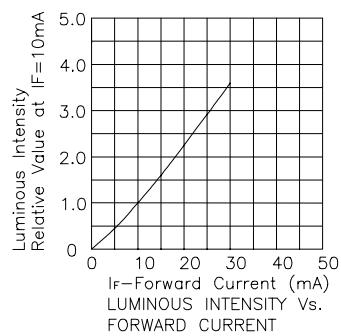
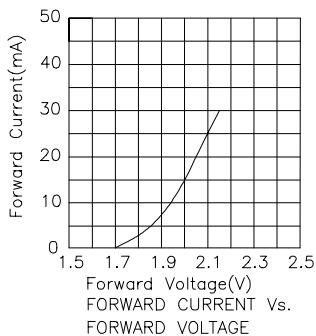


SPATIAL DISTRIBUTION

Yellow L-53YD,L-53YC,L-53YT



Pure Orange L-53ND,L-53NC,L-53NT



Pure Green L-53PGD,L-53PGC,L-53PGT

