Kingbright®

T-1 3/4 (5mm) LOW CURRENT LED LAMPS

L-53LI HIGH EFFICIENCY RED
L-53LY YELLOW
L-53LG GREEN
L-53LSR SUPER BRIGHT RED

Features

- MINIMUM LUMINOUS INTENSITY SPECIFIED AT 2mA.
- HIGH LIGHT OUTPUT AT LOW CURRENTS.
- LOW POWER CONSUMPTION.
- LOW CURRENT REQUIREMENTS.
- WIDE VIEWING ANGLE.
- I.C. COMPATIBLE.
- RELIABLE AND RUGGED.

Description

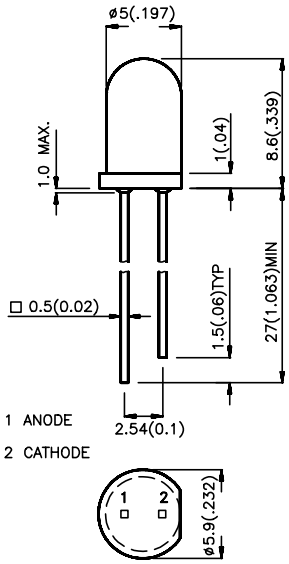
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

The High Efficiency Red 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 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 ±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) @ 2 mA		Viewing Angle
			Min.	Max.	2θ1/2
L-53LID	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	0.8	5	60°
L-53LGD	GREEN (GaP)	GREEN DIFFUSED	0.8	3.2	60°
L-53LYD	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	0.8	3.2	60°
L-53LSRD	SUPER BRIGHT RED (GaAlAs)	RED DIFFUSED	8	20	60°

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

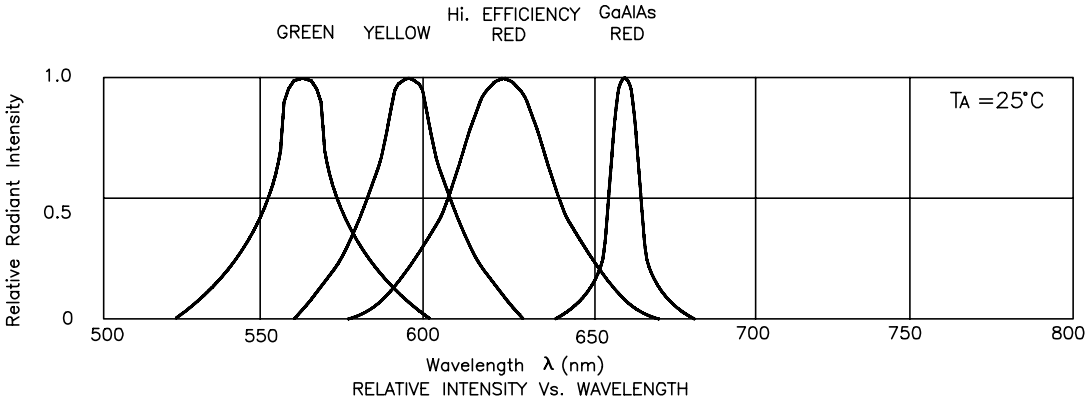
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	High Efficiency Red Green Yellow Super Bright Red	625 565 590 660		nm	IF=2mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	High Efficiency Red Green Yellow Super Bright Red	45 30 35 20		nm	IF=2mA
C	Capacitance	High Efficiency Red Green Yellow Super Bright Red	12 45 10 95		pF	VF=0V;f=1MHz
V_F	Forward Voltage	High Efficiency Red Green Yellow Super Bright Red	1.7 1.9 1.8 1.65	2.0 2.2 2.1 1.95	V	IF=2mA
I_R	Reverse Current	All	10		uA	VR = 5V

Absolute Maximum Ratings at T_A=25°C

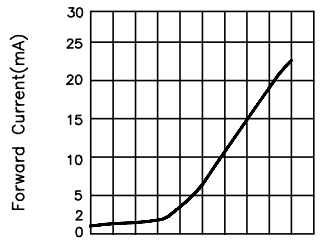
Parameter	High Efficiency Red	Green	Yellow	Super Bright Red	Units
Power dissipation	105	105	105	100	mW
DC Forward Current	30	25	30	30	mA
Peak Forward Current [1]	150	150	150	150	mA
Reverse Voltage	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C				
Lead Soldering Temperature [2]	260°C For 5 Seconds				

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

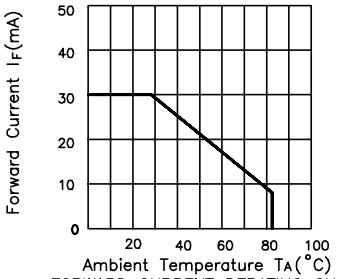


RELATIVE INTENSITY Vs. WAVELENGTH

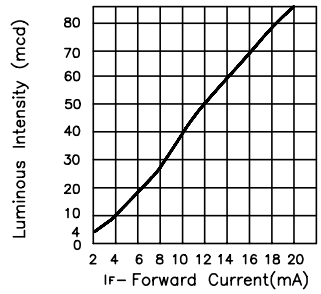
High Efficiency Red L-53LID



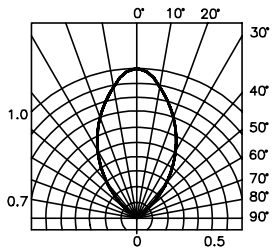
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

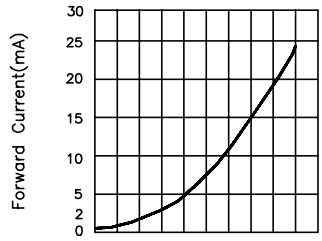


LUMINOUS INTENSITY Vs. FORWARD CURRENT

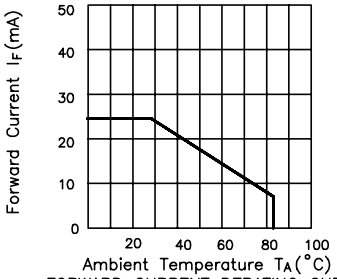


SPATIAL DISTRIBUTION

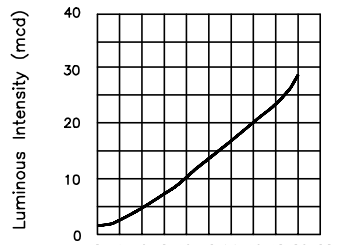
Green L-53LGD



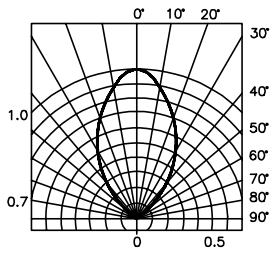
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

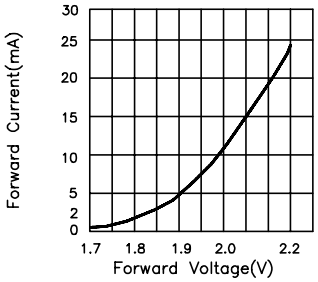


LUMINOUS INTENSITY Vs. FORWARD CURRENT

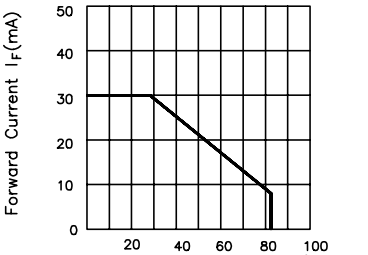


SPATIAL DISTRIBUTION

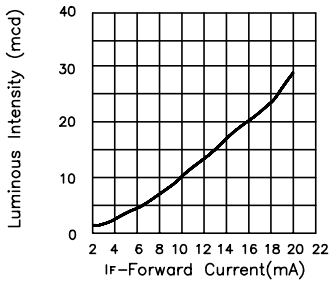
Yellow L-53LYD



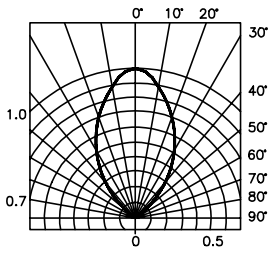
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

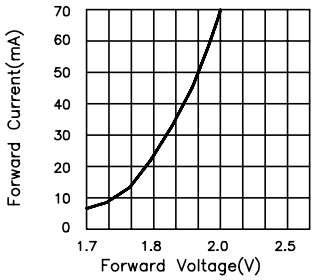


LUMINOUS INTENSITY Vs. FORWARD CURRENT

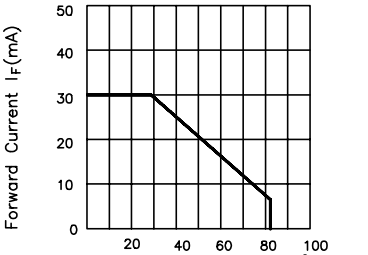


SPATIAL DISTRIBUTION

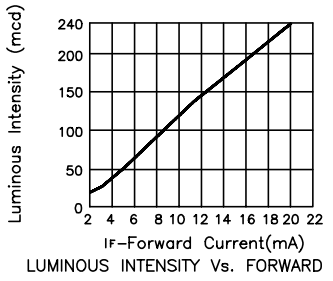
Super Bright Red L-53LSRD



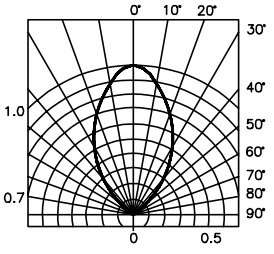
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION