

Kingbright®

T-1 3/4 (5mm) SOLID STATE LAMPS

L-53E-13 HIGH EFFICIENCY RED

L-53G-13 GREEN

L-53PG-13 PURE GREEN

L-53Y-13 YELLOW

L-53N-13 PURE ORANGE

Features

- LOW POWER CONSUMPTION.
- HIGH INTENSITY.
- LOW CURRENT REQUIREMENTS.
- POPULAR T-1 3/4 DIAMETER WITH STOPPER.
- RELIABLE AND RUGGED .

Description

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

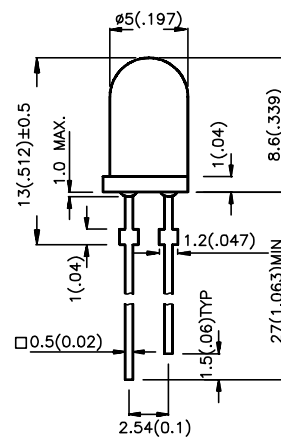
The High Efficiency Red and Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

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

The Pure Orange source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Pure Orange Light Emitting Diode.

Package Dimensions



1 ANODE

2 CATHODE



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.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 10 mA		Viewing Angle
			Min.	Max.	
L-53EC-13	HIGH EFFICIENCY RED (GaAsP/GaP)	WATER CLEAR	50	200	30°
L-53GC-13	GREEN (GaP)	WATER CLEAR	20	150	30°
L-53YC-13	YELLOW (GaAsP/GaP)	WATER CLEAR	20	80	30°
L-53NC-13	PURE ORANGE (GaAsP/GaP)	WATER CLEAR	50	200	30°
L-53PGC-13	PURE GREEN (GaP)	WATER CLEAR	5	32	30°

Note:

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

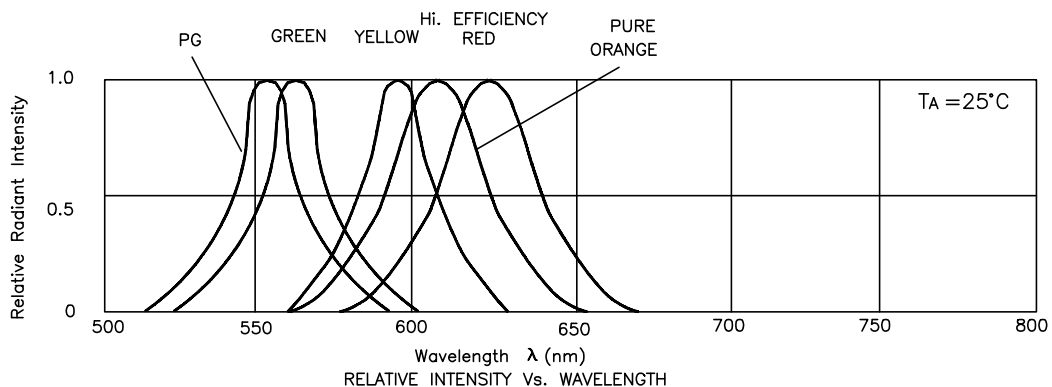
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	High Efficiency Red Green Yellow Pure Green Pure Orange	625 565 590 555 610		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	High Efficiency Red Green Yellow Pure Green Pure Orange	45 30 35 30 35		nm	IF=20mA
C	Capacitance	High Efficiency Red Green Yellow Pure Green Pure Orange	12 45 10 45 15		pF	VF=0V;f=1MHz
V _F	Forward Voltage	High Efficiency Red Green Yellow Pure Green Pure Orange	2.0 2.2 2.1 2.25 2.0	2.5 2.5 2.5 2.6 2.6	V	IF=20mA
I _R	Reverse Current	All	10		uA	VR = 5V

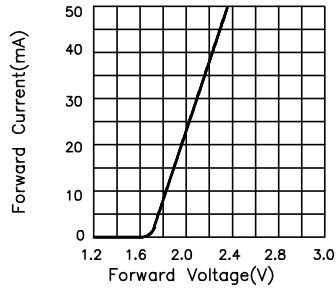
Absolute Maximum Ratings at T_A=25°C

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

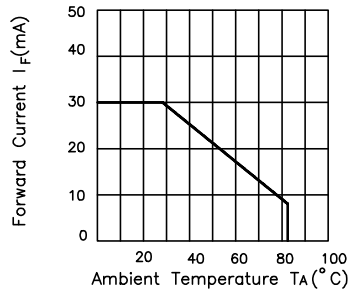
Notes:
 1. 1/10 Duty Cycle, 0.1ms Pulse Width.
 2. 4mm below package base.



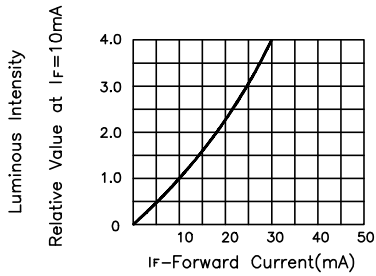
High Efficiency Red L-53EC-13



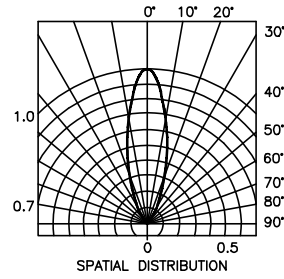
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

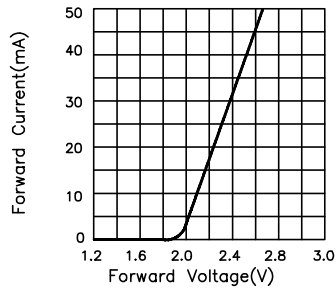


LUMINOUS INTENSITY Vs. FORWARD CURRENT

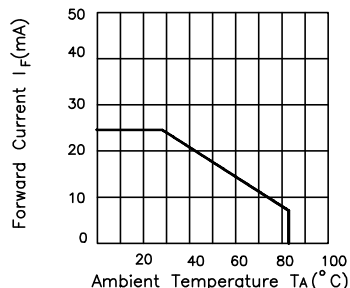


SPATIAL DISTRIBUTION

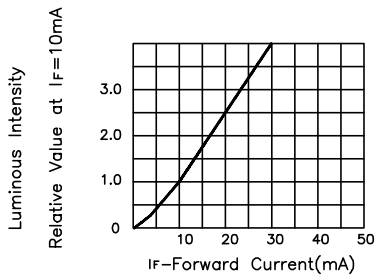
Green L-53GC-13



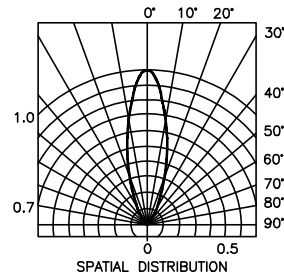
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

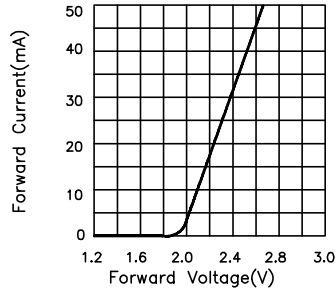


LUMINOUS INTENSITY Vs. FORWARD CURRENT

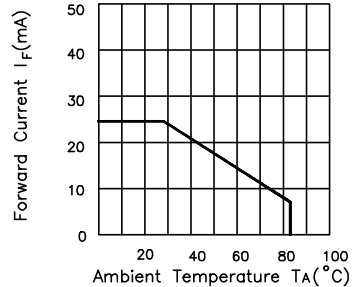


SPATIAL DISTRIBUTION

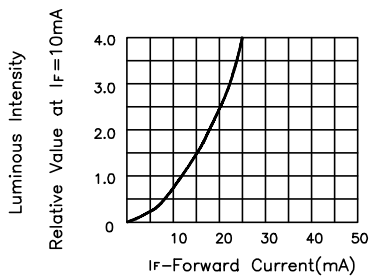
Yellow L-53YC-13



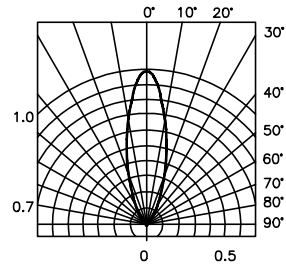
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

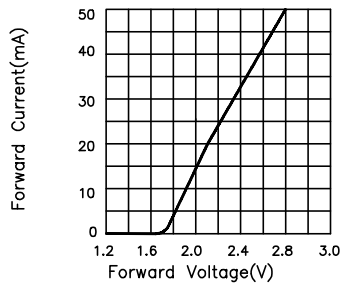


LUMINOUS INTENSITY Vs. FORWARD CURRENT

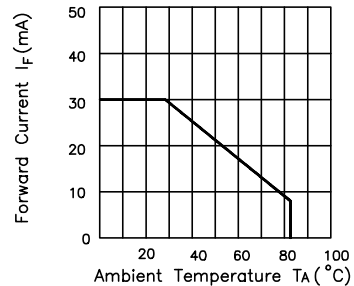


SPATIAL DISTRIBUTION

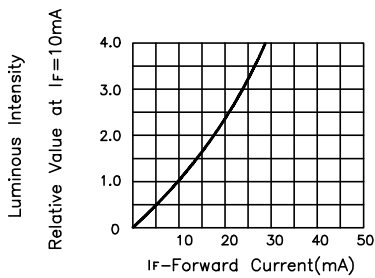
Green L-53PGC-13



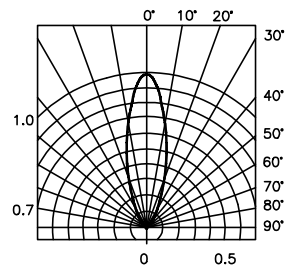
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

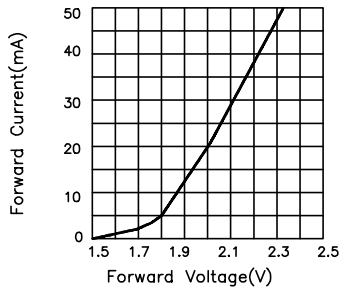


LUMINOUS INTENSITY Vs. FORWARD CURRENT

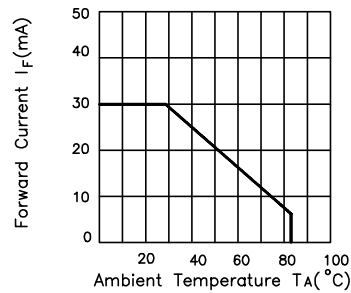


SPATIAL DISTRIBUTION

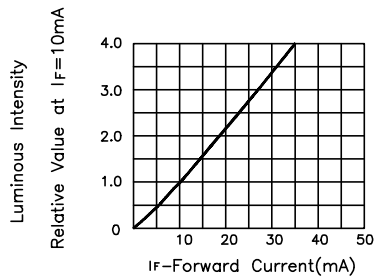
Pure Orange L-53NC-13



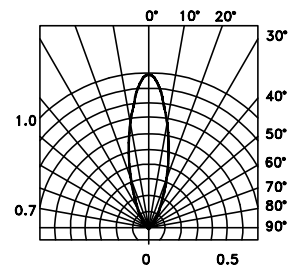
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION