

Features

- LOW POWER CONSUMPTION.
- HIGH INTENSITY.
- VERSATILE MOUNTING ON P.C. BOARD OR PANEL.
- LOW CURRENT REQUIREMENTS.
- POPULAR T-1 3/4 DIAMETER, 1" LEAD LENGTH, 9.65mm LONG BODY.
- RELIABLE AND RUGGED.
- VERSION IS AVAILABLE

L1593I HIGH EFFICIENCY RED

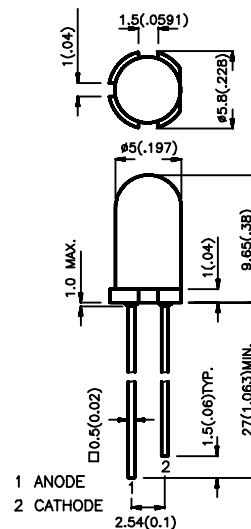
L1593SG GREEN

L1593E HIGH EFFICIENCY RED

L1593Y YELLOW

L1593SR SUPER BRIGHT RED

Package Dimensions



Description

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

The Super Bright 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.

The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diode.

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.	Typ.	2θ1/2
L1593IT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED TRANSPARENT	50	80	30°
L1593EC		WATER CLEAR	50	80	30°
L1593YT	YELLOW (GaAaP/GaP)	YELLOW TRANS.	20	50	30°
L1593YC		WATER CLEAR	20	50	30°
L1593SGT	SUPER BRIGHT GREEN (GaP)	GREEN TRANS.	*40	*80	30°
L1593SRC/D	SUPER BRIGHT RED (GaAlAs)	WATER CLEAR	*500	*800	30°
L1593SRT/D		RED TRANSPARENT	*500	*800	30°

Notes:

1. $\theta_{1/2}$ is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.
2. * Luminous intensity with asterisk is measured at 20mA.

Electrical / Optical Characteristics at T_A=25°C

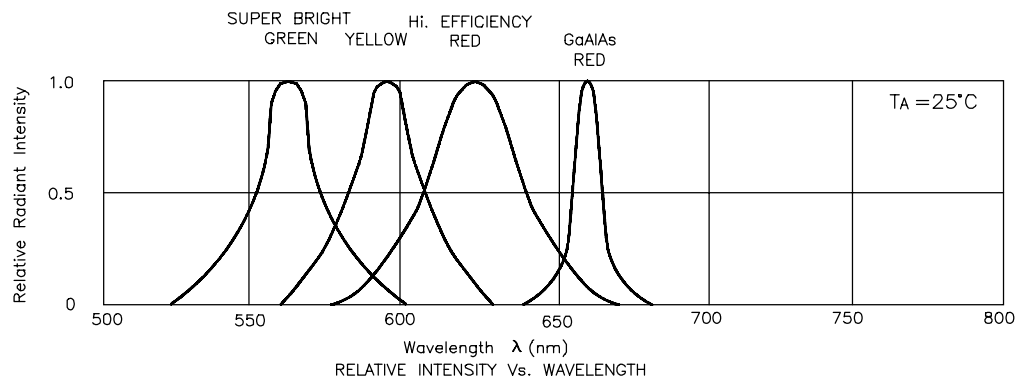
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	High Efficiency Red Super Bright Green Yellow Super Bright Red	625 565 590 660		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	High Efficiency Red Super Bright Green Yellow Super Bright Red	45 30 35 20		nm	IF=20mA
C	Capacitance	High Efficiency Red Super Bright Green Yellow Super Bright Red	12 45 10 95		pF	VF=0V;f=1MHz
V _F	Forward Voltage	High Efficiency Red Super Bright Green Yellow Super Bright Red	2.0 2.2 2.1 1.85	2.5 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

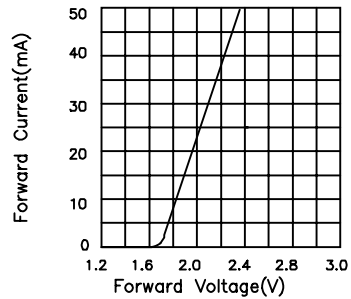
Parameter	High Efficiency Red	Super Bright Green	Yellow	Super Bright Red	Units
Power dissipation	105	105	105	100	mW
DC Forward Current	30	25	30	30	mA
Peak Forward Current [1]	150	150	150	150	mA
Reverse Voltage	5	5	5	5	V
Operating/Storage Temperature	-40°C To + 85°C				
Lead Soldering Temperature [2]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

Notes:

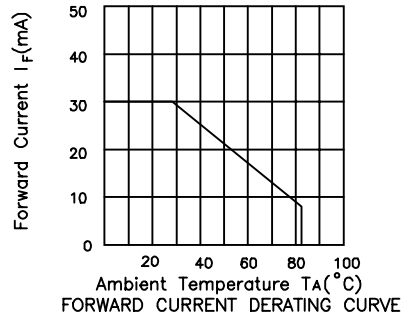
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- 2.4mm below package base.



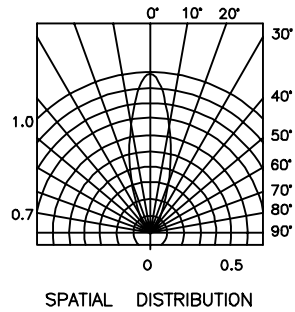
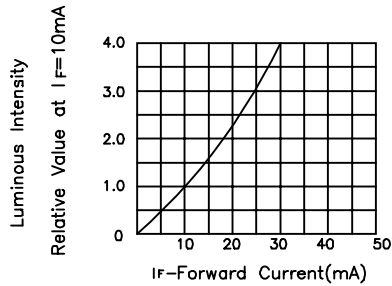
High Efficiency Red L1593IT,L1593EC



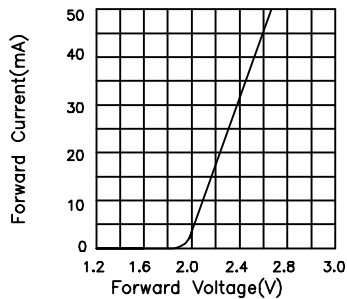
FORWARD CURRENT Vs. FORWARD VOLTAGE



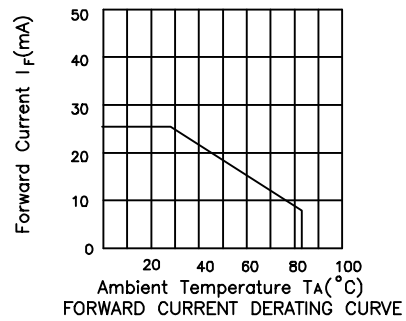
FORWARD CURRENT DERATING CURVE



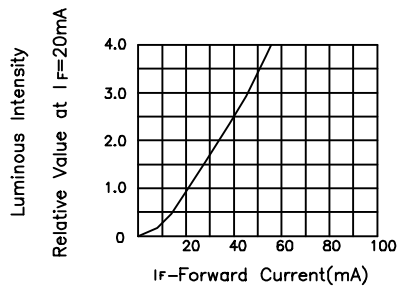
Super Bright Green L1593SGT



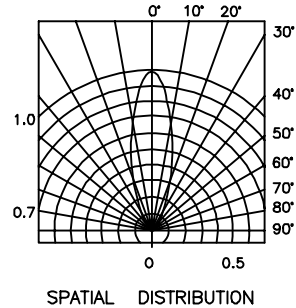
FORWARD CURRENT Vs. FORWARD VOLTAGE



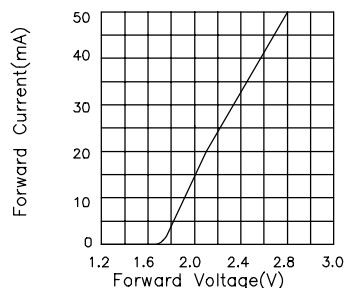
FORWARD CURRENT DERATING CURVE



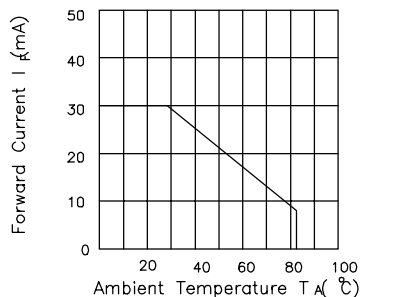
LUMINOUS INTENSITY Vs. FORWARD CURRENT



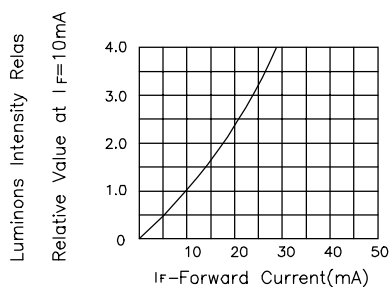
Yellow L1593YC,L1593YT



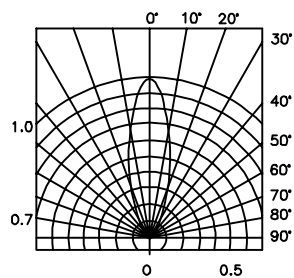
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

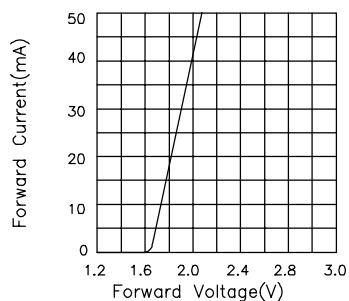


LUMINOUS INTENSITY Vs. FORWARD CURRENT

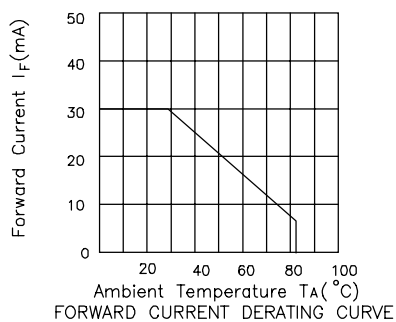


SPATIAL DISTRIBUTION

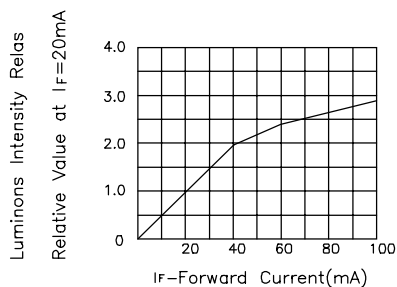
Super Bright Red L1593SRC/D,L1593SRT/D



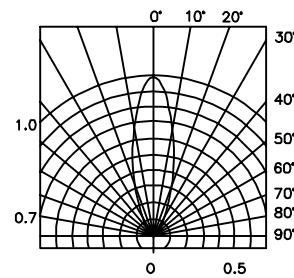
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION