

L-1593IT HIGH EFFICIENCY RED  
 L-1593EC HIGH EFFICIENCY RED  
 L-1593SRx SUPERBRIGHT RED  
 L-1593SGT SUPERBRIGHT GREEN  
 L-1593Yx YELLOW

### 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.

### Description

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

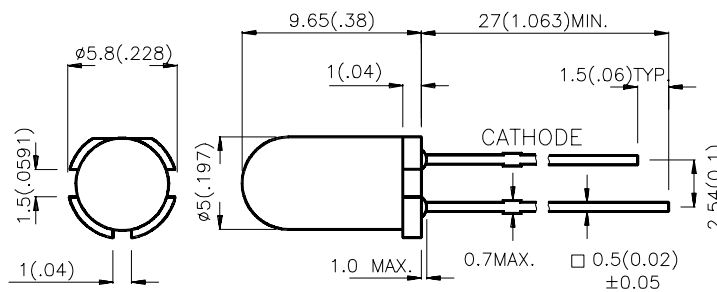
The Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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.

The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow 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	Iv (mcd) @ 10 mA *20mA		Viewing Angle
			Min.	Typ.	θ1/2
L1593IT	HIGH EFFICIENCY RED (GaAsP/GaP)	RED TRANS.	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.	*50	*150	30°
L1593SRC-D	SUPER BRIGHT RED (GaAlAs)	WATER CLEAR	*500	*800	30°
L1593SRT-D		RED TRANS.	*500	*800	30°

Notes:

1. θ1/2 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<sub>A</sub>=25°C

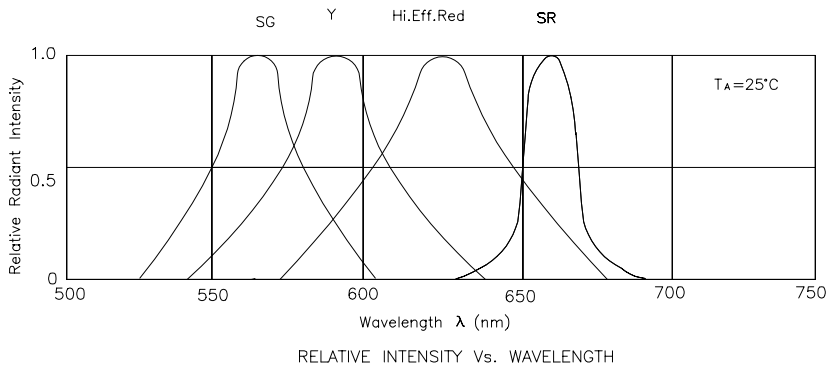
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ <sub>peak</sub>	Peak Wavelength	High Efficiency Red Super Bright Green Yellow Super Bright Red	627 565 590 660		nm	IF=20mA
λ <sub>D</sub>	Dominate Wavelength	High Efficiency Red Super Bright Green Yellow Super Bright Red	625 568 588 640		nm	IF=20mA
Δλ <sub>1/2</sub>	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	15 15 20 45		pF	V <sub>F</sub> =0V;f=1MHz
V <sub>F</sub>	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 <sub>R</sub>	Reverse Current	All		10	uA	VR = 5V

## Absolute Maximum Ratings at $T_A=25^\circ\text{C}$

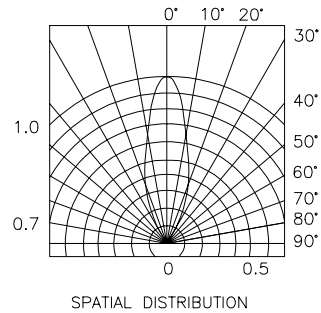
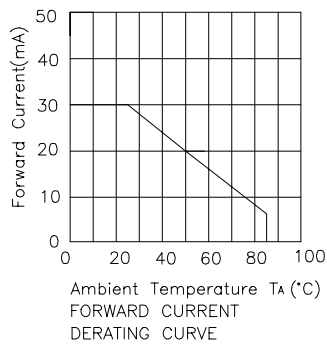
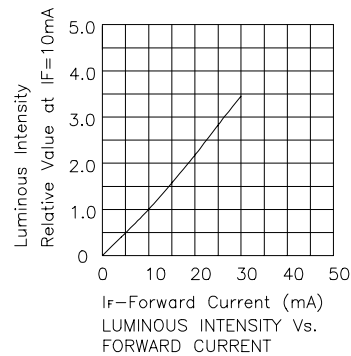
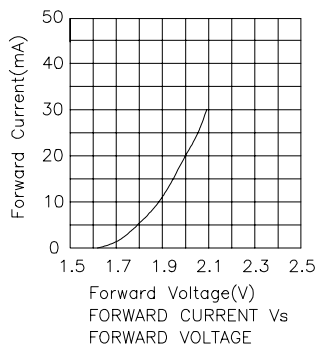
Parameter	High Efficiency Red	Super Bright Green	Yellow	Super Bright Red	Units
Power dissipation	105	105	105	100	mW
DC Forward Current	30	25	30	30	mA
Peak Forward Current [1]	160	140	140	155	mA
Reverse Voltage	5	5	5	5	V
Operating/Storage Temperature	-40°C To +85°C				
Lead Solder Temperature [2]	260°C For 5 Seconds				

Notes:

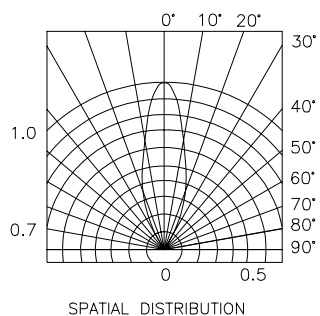
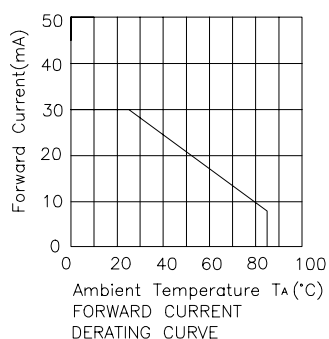
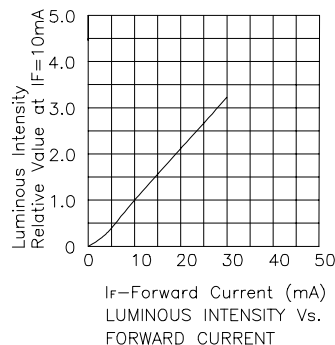
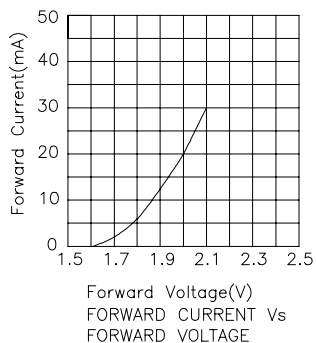
- 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 4mm below package base.



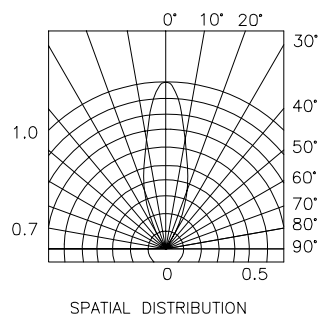
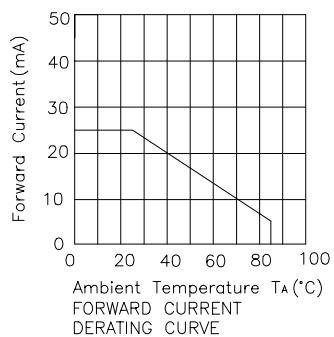
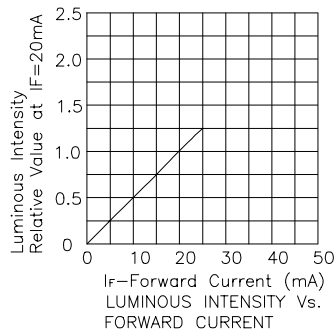
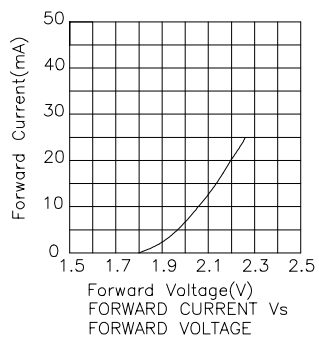
## High Efficiency Red L-1593IT



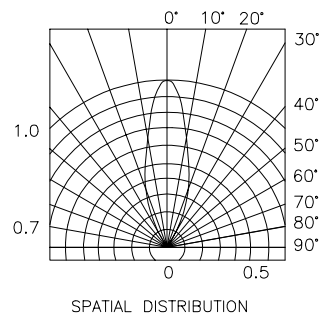
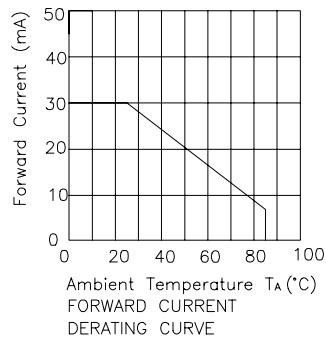
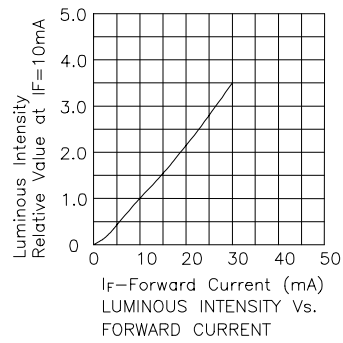
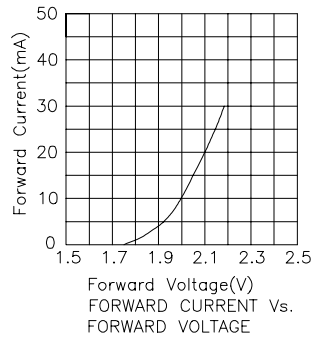
## High Efficiency Red L-1593EC



## Super Bright Green L-1593SGT



## Yellow L-1593YC,L-1593YT



## Super Bright Red L-1593SRC-D,L-1593SRT-D

