

## 5mm LEDs

Order code	Manufacturer code	Description
72-8990	n/a	L-1513SRC-C LED 5MM S/RED CLR 1000MCD RC
72-8992	n/a	L-1513SRC-F LED 5MM S/RED CLR 4500MCD RC

5mm LEDs	Page 1 of 4
The enclosed information is believed to be correct, Information may change without notice due to product improvement. Users should ensure that the product is suitable for their use. E. & O. E.	Revision A 20/02/2007

# Kingbright®

## T-1 3/4(5mm) SUPER BRIGHT LED LAMPS

L-1513SG SUPER BRIGHT GREEN

L-1513SR SUPER BRIGHT RED

### Features

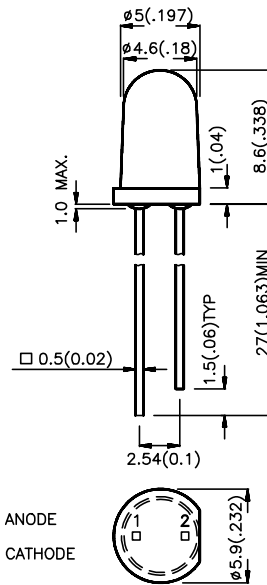
- ULTRA BRIGHTNESS.
- SMALL VIEWING ANGLE.
- IC COMPATIBLE/LOW CURRENT CAPABILITY.
- T-1 3/4 DIAMETER PACKAGE, TAPERED TYPE.
- RELIABLE AND RUGGED.

### Description

The Super Bright Green source color devices are made with Gallium Phosphide Green 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  $\pm 0.25(0.01)$  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) @ 20 mA		Viewing Angle <b>2<math>\theta</math>1/2</b>
			Min.	Max.	
L-1513SGT	SUPER BRIGHT GREEN (GaP)	GREEN TRANSPARENT	100	200	20°
L-1513SGC		WATER CLEAR	100	300	20°
L-1513SRC-C	SUPER BRIGHT RED (GaAlAs)	WATER CLEAR	500	1000	20°
L-1513SRC-DU			1000	1300	20°
L-1513SRC-D			1000	2000	20°
L-1513SRC-E			2000	3500	20°
L-1513SRC-F			3500	4500	20°
L-1513SRD			RED DIFFUSED	100	500

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

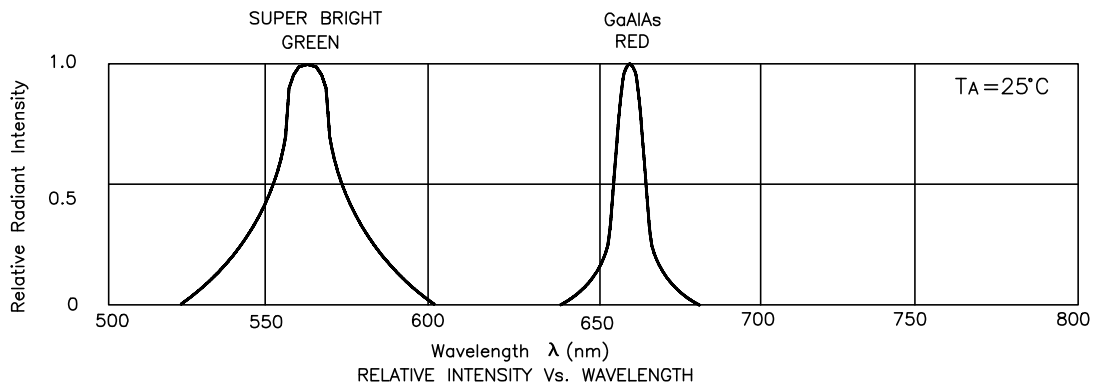
Electrical / Optical Characteristics at T<sub>A</sub>=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{peak}$	Peak Wavelength	Super Bright Green Super Bright Red	565 660		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	Super Bright Green Super Bright Red	30 20		nm	IF=20mA
C	Capacitance	Super Bright Green Super Bright Red	45 95		pF	VF=0V;f=1MHz
V <sub>F</sub>	Forward Voltage	Super Bright Green Super Bright Red	2.2 1.85	2.5 2.5	V	IF=20mA
I <sub>R</sub>	Reverse Current	All	10		uA	VR = 5V

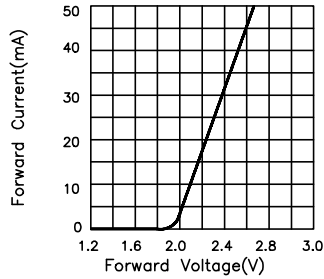
Absolute Maximum Ratings at T<sub>A</sub>=25°C

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

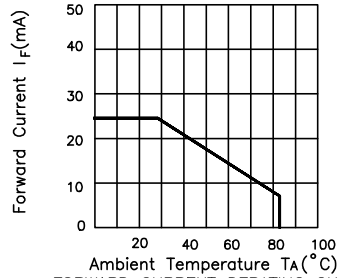
Notes:  
 1. 1/10 Duty Cycle, 0.1ms Pulse Width.  
 2. 4mm below package base.



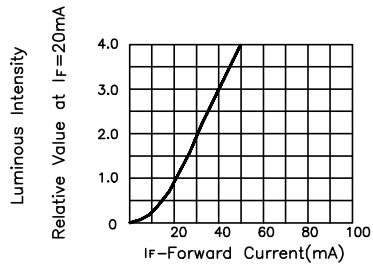
### Super Bright Green L-1513SGT / L-1513SGC



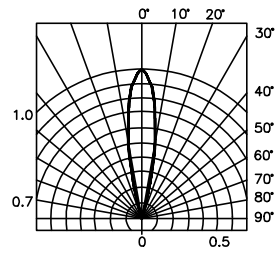
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

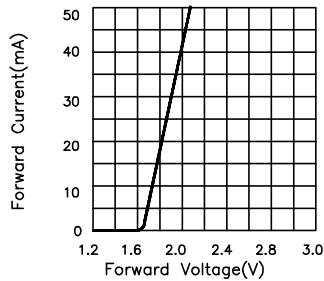


LUMINOUS INTENSITY Vs. FORWARD CURRENT

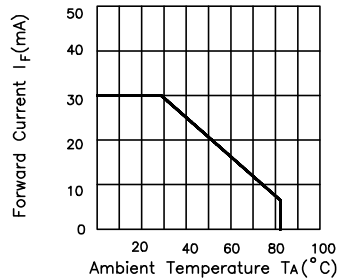


SPATIAL DISTRIBUTION

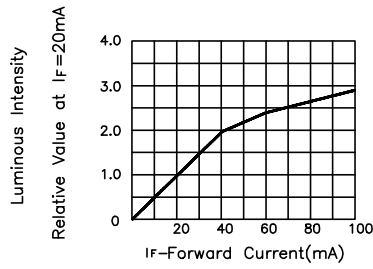
### Super Bright Red L-1513SRC / L-1513SRD



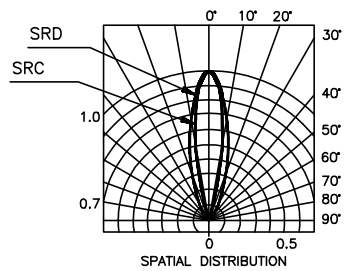
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION