

# Kingbright®

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

L-53SG SUPER BRIGHT GREEN

L-53SR SUPER BRIGHT RED

### Features

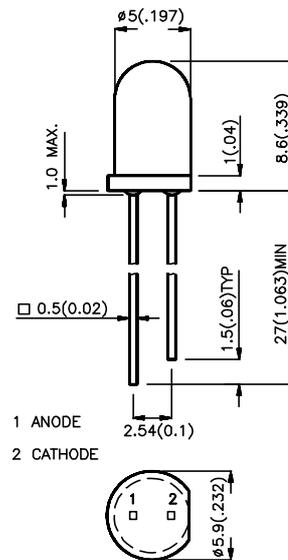
- | ULTRA BRIGHTNESS.
- | BOTH DIFFUSED AND WATER CLEAR LENS ARE AVAILABLE.
- | OUTSTANDING MATERIAL EFFICIENCY.
- | RELIABLE AND RUGGED.
- | IC COMPATIBLE/LOW CURRENT CAPABILITY.

### 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 2 $\theta$ 1/2
			Min.	Max.	
L-53SGC	SUPER BRIGHT GREEN (GaP)	WATER CLEAR	100	300	30°
L-53SRC-A	SUPER BRIGHT RED (GaAlAs)	WATER CLEAR	300	400	
L-53SRC-B			400	500	
L-53SRC-C			500	1000	
L-53SRC-DU			1000	1300	
L-53SRC-DV			1300	1600	
L-53SRC-DW			1600	2000	
L-53SRC-E			2000	3500	
L-53SRC-F	3500	4500			
L-53SGD	SUPER BRIGHT GREEN (GaP)	GREEN DIFFUSED	20	60	60°
L-53SRD-B	SUPER BRIGHT RED (GaAlAs)	RED DIFFUSED	90	110	
L-53SRD-C			110	200	
L-53SRD-D			200	300	
L-53SRD-E			300	500	
L-53SRD-F			500	700	
L-53SRD-G			700	1000	
L-53SRD-H			1000	1600	

### Note:

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

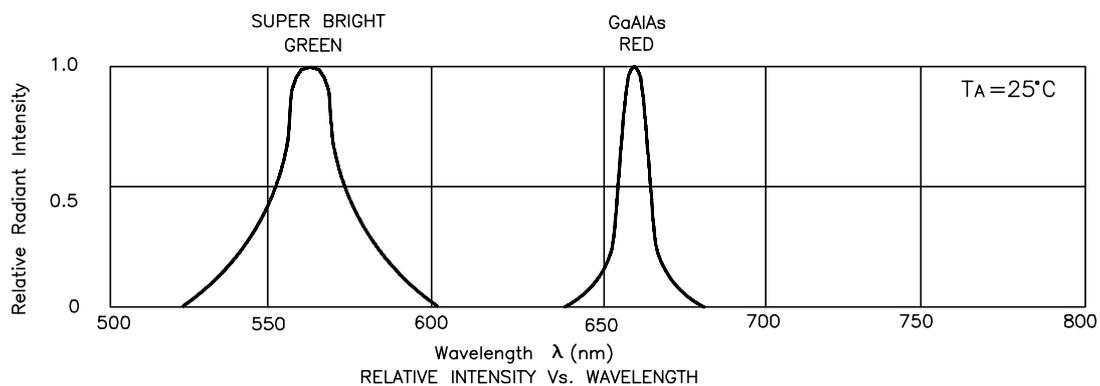
### Electrical / Optical Characteristics at T<sub>A</sub>=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{\text{peak}}$	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		μA	VR = 5V

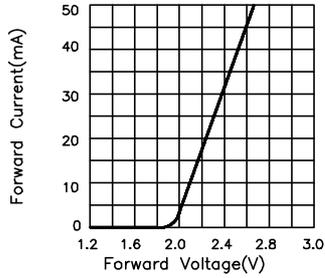
### Absolute Maximum Ratings at T<sub>A</sub>=25°C

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		

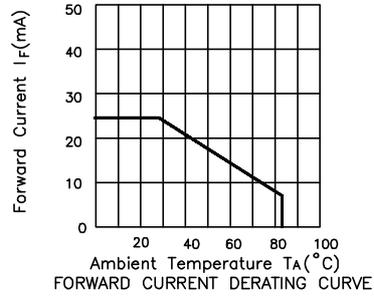
Notes:  
 1. 1/10 Duty Cycle, 0.1ms Pulse Width.  
 2. 4mm below package base.



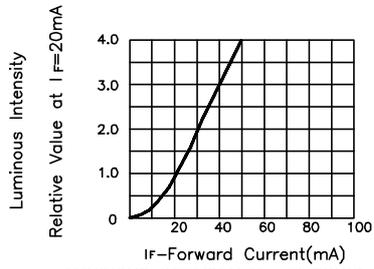
### Super Bright Green L-53SGC / L-53SGD



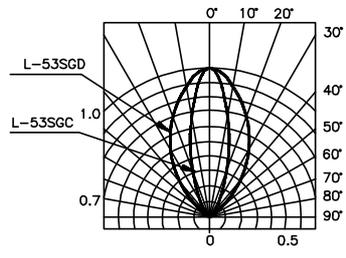
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

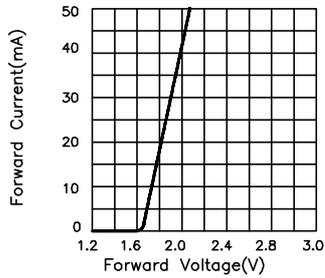


LUMINOUS INTENSITY Vs. FORWARD CURRENT

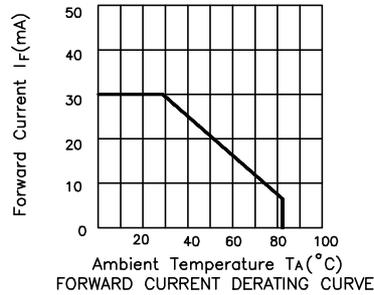


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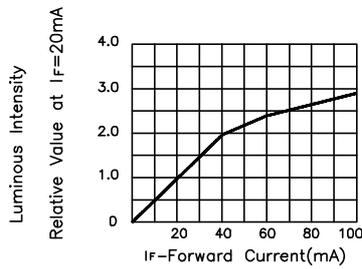
### Super Bright Red L-53SRC / L-53SRD



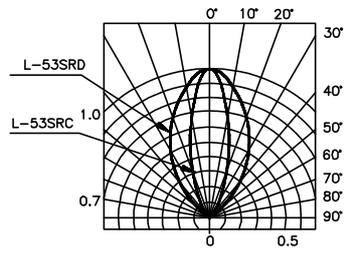
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION

