

# Kingbright®

## T-1 (3mm) BI-COLOR INDICATOR LAMPS

L-3WEGW HIGH EFFICIENCY RED / GREEN

L-3WSRSGW SUPER BRIGHT RED / SUPER BRIGHT GREEN

### Features

- UNIFORM LIGHT OUTPUT.
- LOW POWER CONSUMPTION.
- MILKY WHITE DIFFUSION LENS.
- 3 LEADS WITH ONE COMMON LEAD.
- THIRD COLOR (MIXED COLOR) AVAILABLE.
- SUPER BRIGHT VERSION AVAILABLE.
- I.C. COMPATIBLE.
- LONG LIFE - SOLID STATE RELIABILITY.

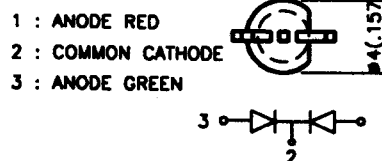
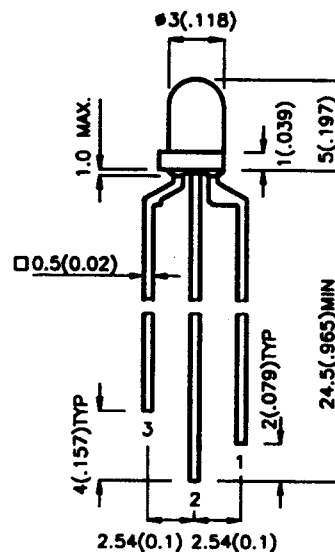
### Description

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

The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange 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-3WEGW	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	20	50	60°
	GREEN (GaP)		20	40	
L-3WSRSGW-CC	SUPER BRIGHT RED (GaAlAs)	WHITE DIFFUSED	90	300	
	SUPER BRIGHT GREEN (GaP)		20	50	

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

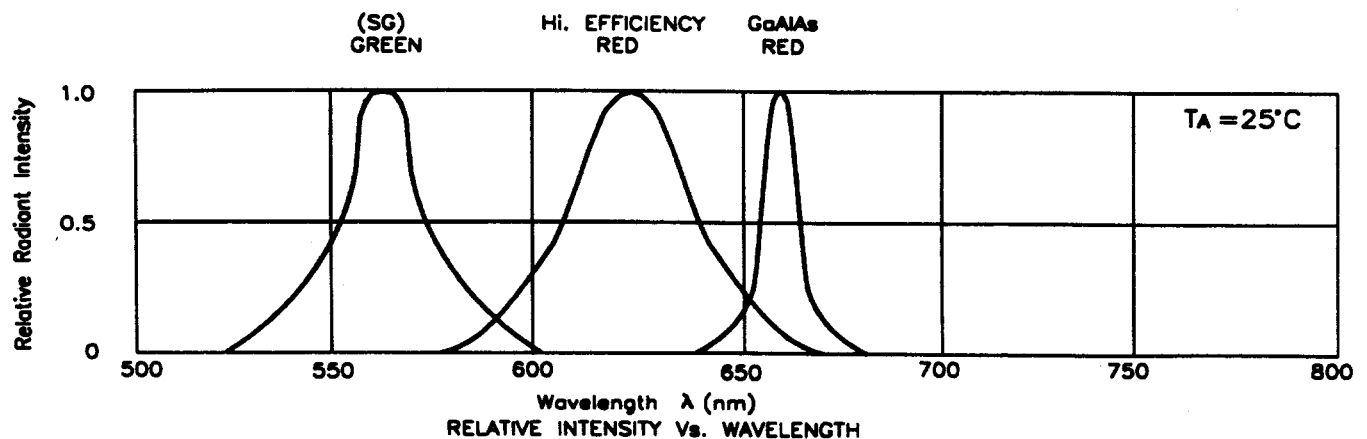
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{peak}$	Peak Wavelength	High Efficiency Red Green Super Bright Red Super Bright Green	625 565 660 565		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	High Efficiency Red Green Super Bright Red Super Bright Green	45 30 20 30		nm	IF=20mA
C	Capacitance	High Efficiency Red Green Super Bright Red Super Bright Green	12 45 95 45		pF	VF=0V;f=1MHz
V <sub>F</sub>	Forward Voltage	High Efficiency Red Green Super Bright Red Super Bright Green	2.0 2.2 1.85 2.2	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<sub>A</sub>=25°C

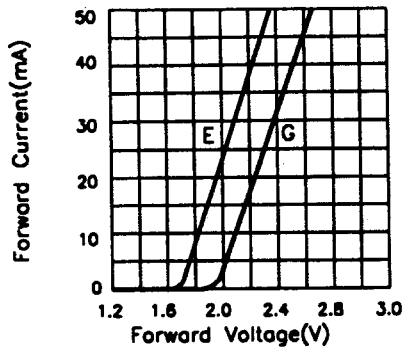
Parameter	High Efficiency Red	Green	Super Bright Red	Super Bright Green	Units
Power dissipation	105	105	100	105	mW
DC Forward Current	30	25	30	25	mA
Peak Forward Current [1]	150	150	150	150	mA
Reverse Voltage	5	5	5	5	V
Operation/Storage Temperature	-40°C To +85°C				
Lead Solder Temperature [2]	260°C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

Notes:

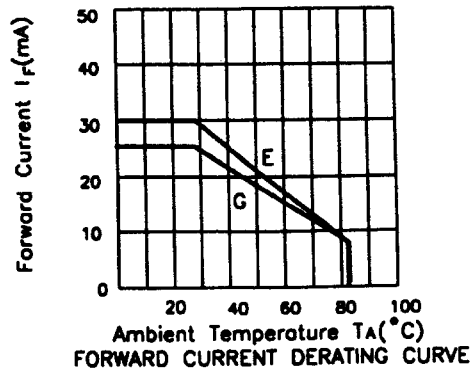
1.  $\tau \leq 10\mu s$ .
2. 4mm below package.



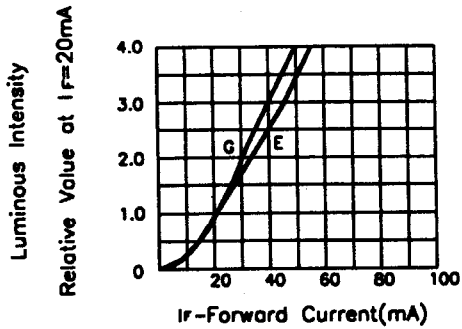
## High Efficiency Red / Green L-3WEGW



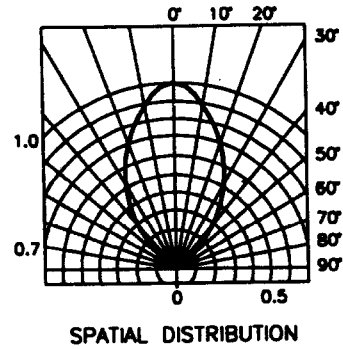
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

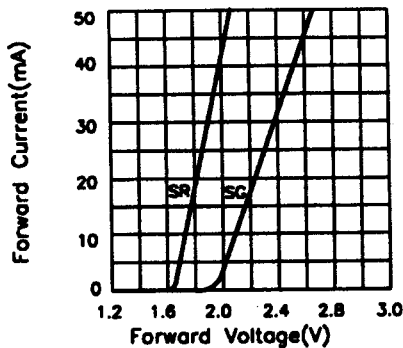


LUMINOUS INTENSITY Vs. FORWARD CURRENT

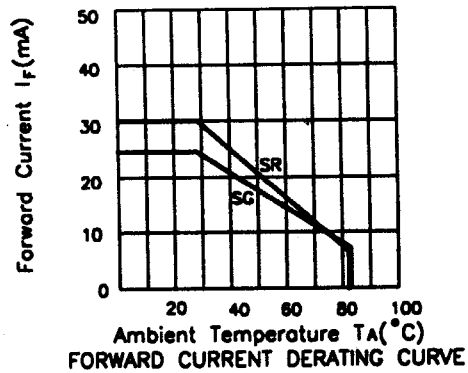


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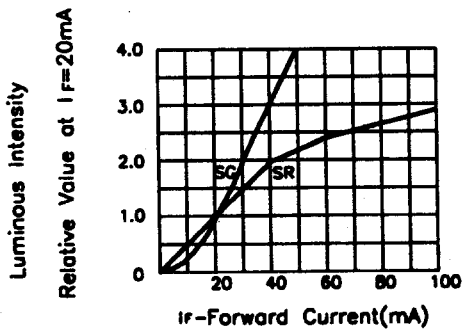
## Super Bright Red / Super Bright Green L-3WSRSGW-CC



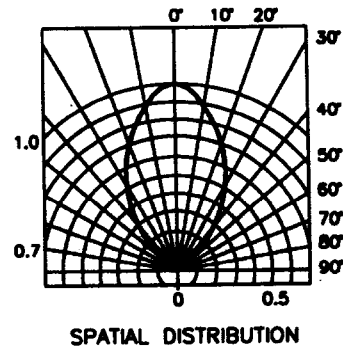
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION