

## 5mm LEDs

Order code	Manufacturer code	Description
56-0922	L-59CB/1EGW	TRI-COLOUR 5MM PCB LED

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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 04/07/2003

# Kingbright®

## T-1 3/4 (5mm) BI-COLOR RIGHT ANGLE LED INDICATORS

L-59CB/1

L-59BL/1

### Features

- PRE-TRIMMED LEADS FOR PC BOARD MOUNTING.
- 3 LEADS WITH COMMON CATHODE LEAD.
- THIRD COLOR (MIXED COLOR) AVAILABLE.
- I.C. COMPATIBLE.
- BLACK CASE ENHANCES CONTRAST RATIO.
- WIDE VIEWING ANGLE.
- HIGH RELIABILITY - LIFE MEASURED IN YEARS.

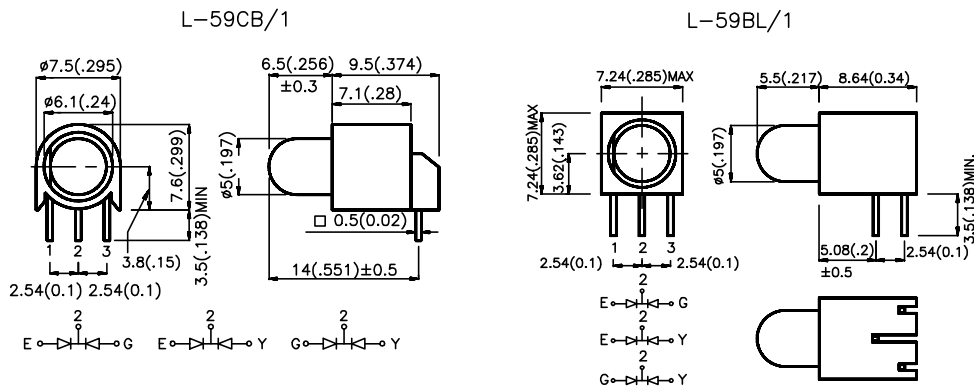
### Description

The 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 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 emerges package.
4. Specifications are subjected to change without notice.

## Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20 mA		Viewing Angle
			Min.	Max	$2\theta_{1/2}$
L-59CB/1EGW	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	20	90	60°
	GREEN (GaP)		20	70	
L-59CB/1EYW	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	20	90	60°
	YELLOW (GaAsP/GaP)		20	60	
L-59CB/1GYW	GREEN (GaP)	WHITE DIFFUSED	20	70	60°
	YELLOW (GaAsP/GaP)		20	60	

\*Luminous intensity of L-59BL/1 series is same as the above in accordance with dice and lens type.

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

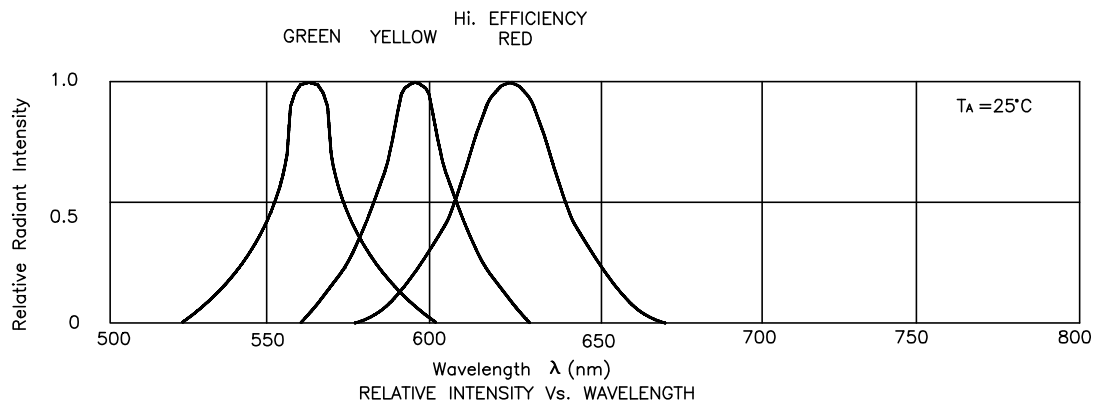
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
$\lambda_{peak}$	Peak Wavelength	High Efficiency Red Green Yellow	625 565 590		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	High Efficiency Red Green Yellow	45 30 35		nm	IF=20mA
C	Capacitance	High Efficiency Red Green Yellow	12 45 10		pF	VR=0V;f=1MHz
V <sub>F</sub>	Forward Voltage	High Efficiency Red Green Yellow	2.0 2.2 2.1	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	Yellow	Units
Power dissipation	105	105	105	mW
DC Forward Current	30	25	30	mA
Peak Forward Current [1]	150	150	150	mA
Reverse Voltage	5	5	5	V
Operating/Storage Temperature	-40 °C To +85 °C			
Lead Soldering Temperature [2]	260 °C For 5 Seconds			

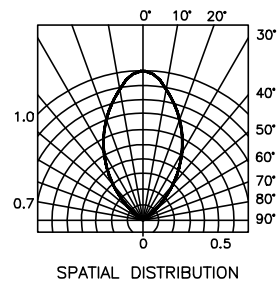
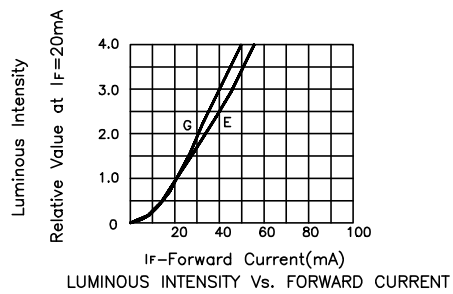
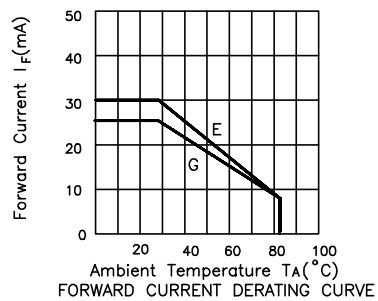
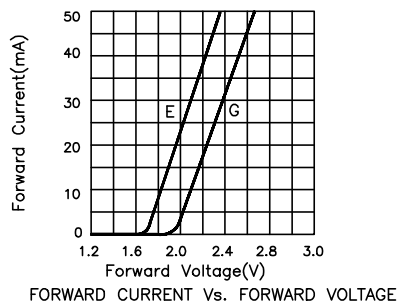
Notes:

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

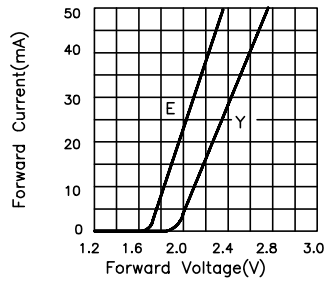


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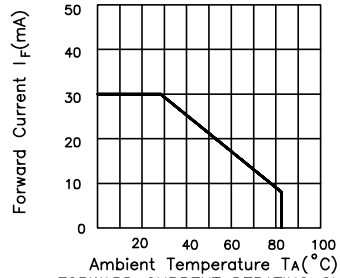
### High Efficiency Red / Green



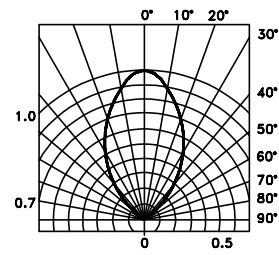
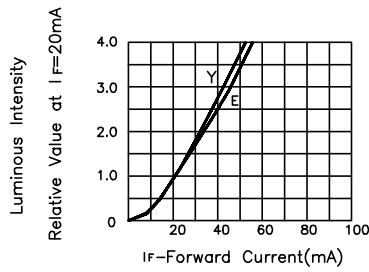
### High Efficiency Red / Yellow



FORWARD CURRENT Vs. FORWARD VOLTAGE

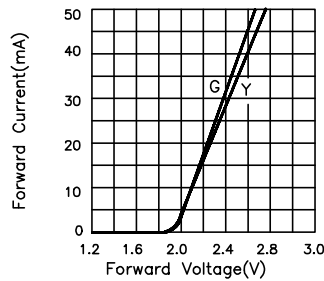


FORWARD CURRENT DERATING CURVE

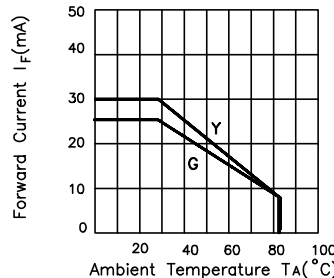


SPATIAL DISTRIBUTION

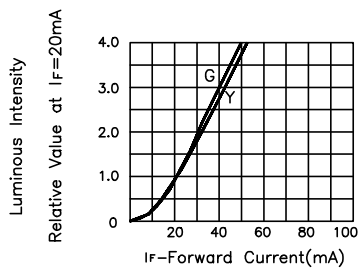
### Green / Yellow



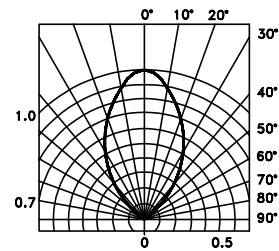
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION