Kingbright

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

L-59CB/1 SERIES

## 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.
- ●UL RATING : 94V-0.
- ●HOUSING MATERIAL: TYPE 66 NYLON.

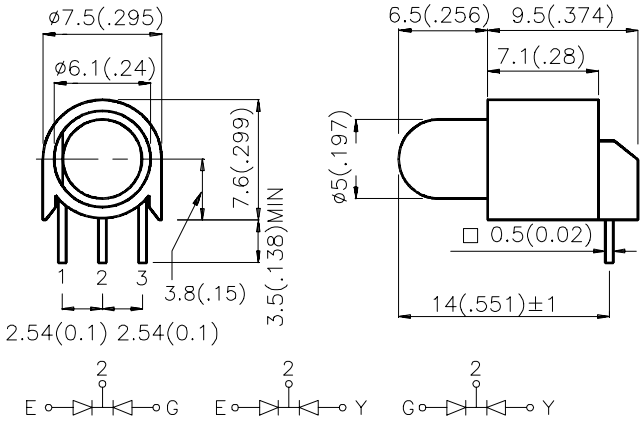
## Description

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

The 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.

**Package Dimensions**




Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±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) @ 20 mA | | Viewing Angle |
|---|---|---|---|---|---|
| | | | Min. | Typ. | 2θ1/2 |
| L-59CB/1EGW | HIGH EFFICIENCY RED (GaAsP/GaP) | WHITE DIFFUSED | 20 | 60 | 60° |
| | GREEN (GaP) | | 20 | 50 | |
| L-59CB/1EYW | HIGH EFFICIENCY RED (GaAsP/GaP) | WHITE DIFFUSED | 20 | 60 | 60° |
| | YELLOW (GaAsP/GaP) | | 20 | 40 | |
| L-59CB/1GYW | GREEN (GaP) | WHITE DIFFUSED | 20 | 50 | 60° |
| | YELLOW (GaAsP/GaP) | | 20 | 40 | |

Note:
1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

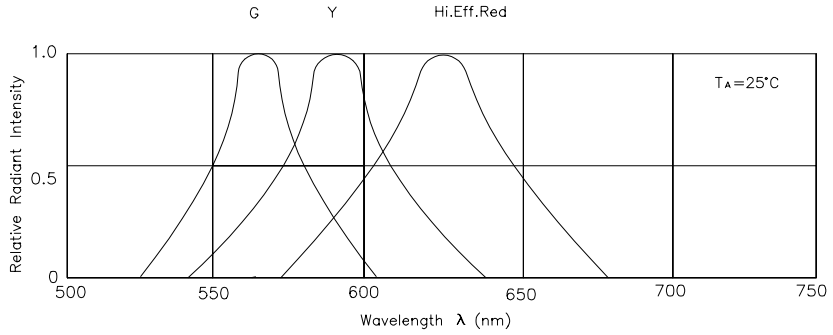
## Electrical / Optical Characteristics at $T_A$=25°C

| Symbol | Parameter | Device | Typ. | Max. | Units | Test Conditions |
|---|---|---|---|---|---|---|
| λpeak | Peak Wavelength | High Efficiency Red<br>Green<br>Yellow | 627<br>565<br>590 | | nm | IF=20mA |
| λ D | Dominate Wavelength | High Efficiency Red<br>Green<br>Yellow | 625<br>568<br>588 | | nm | IF=20mA |
| Δλ1/2 | Spectral Line Halfwidth | High Efficiency Red<br>Green<br>Yellow | 45<br>30<br>35 | | nm | IF=20mA |
| C | Capacitance | High Efficiency Red<br>Green<br>Yellow | 15<br>15<br>20 | | pF | VF=0V;f=1MHz |
| $V_F$ | Forward Voltage | High Efficiency Red<br>Green<br>Yellow | 2.0<br>2.2<br>2.1 | 2.5<br>2.5<br>2.5 | V | IF=20mA |
| $I_R$ | Reverse Current | All | | 10 | uA | VR = 5V |

## Absolute Maximum Ratings at $T_A$=25°C

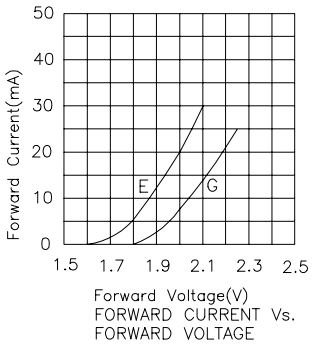
| Parameter | High Efficiency Red | Green | Yellow | Units |
|---|---|---|---|---|
| Power dissipation | 105 | 105 | 105 | mW |
| DC Forward Current | 30 | 25 | 30 | mA |
| Peak Forward Current [1] | 160 | 140 | 140 | mA |
| Reverse Voltage | 5 | 5 | 5 | V |
| Operating/Storage Temperature | -40°C To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

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

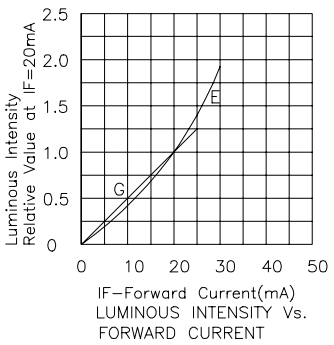



RELATIVE INTENSITY Vs. WAVELENGTH

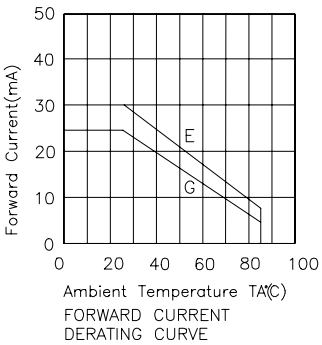
**High Efficiency Red / Green L-59CB/1EGW**



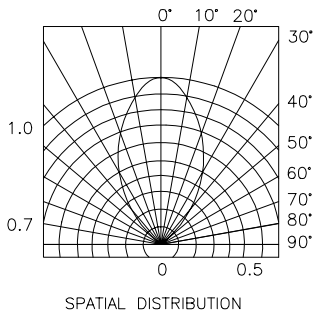

FORWARD CURRENT Vs. FORWARD VOLTAGE




LUMINOUS INTENSITY Vs. FORWARD CURRENT

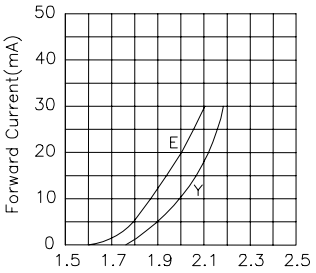



FORWARD CURRENT DERATING CURVE

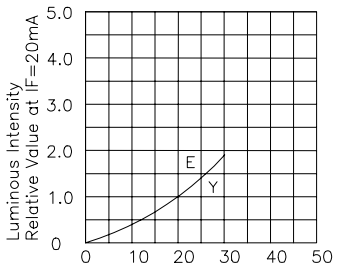



SPATIAL DISTRIBUTION

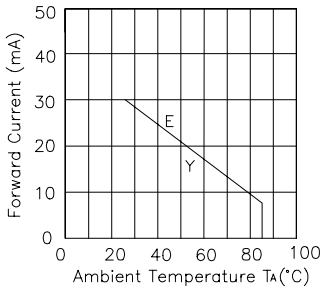
## High Efficiency Red / Yellow L-59CB/1EYW



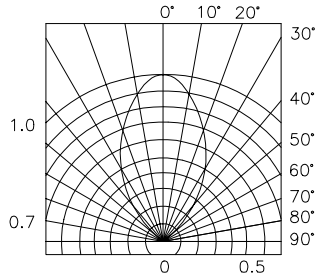

FORWARD CURRENT Vs
FORWARD VOLTAGE




LUMINOUS INTENSITY Vs.
FORWARD CURRENT

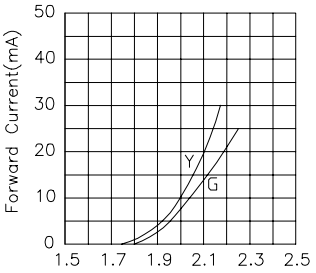



FORWARD CURRENT
DERATING CURVE

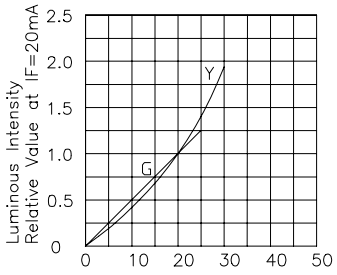



SPATIAL DISTRIBUTION

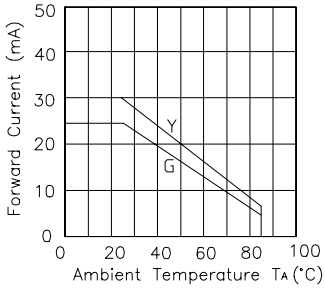
## Green / Yellow L-59CB/1GYW



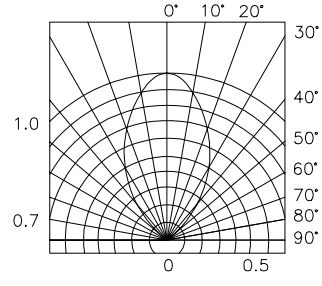

FORWARD CURRENT Vs
FORWARD VOLTAGE




LUMINOUS INTENSITY Vs.
FORWARD CURRENT




FORWARD CURRENT
DERATING CURVE

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