

L-59CB/1 SERIES

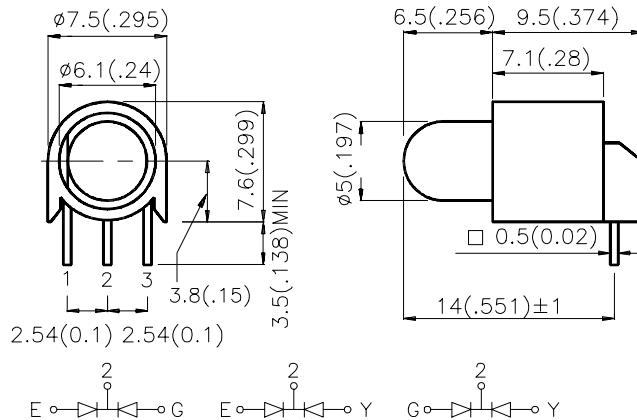
### Features

- 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  $\pm 0.25$  (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	I <sub>V</sub> (mcd) @ 20 mA		Viewing Angle
			Min.	Typ.	
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. 60°/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

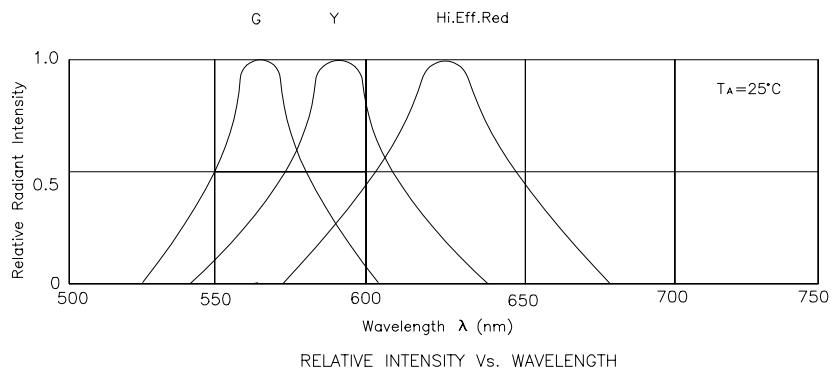
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ <sub>peak</sub>	Peak Wavelength	High Efficiency Red Green Yellow	627 565 590		nm	IF=20mA
λ D	Dominate Wavelength	High Efficiency Red Green Yellow	625 568 588		nm	IF=20mA
Δλ1/2	Spectral Line Halfwidth	High Efficiency Red Green Yellow	45 30 35		nm	IF=20mA
C	Capacitance	High Efficiency Red Green Yellow	15 15 20		pF	VF=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

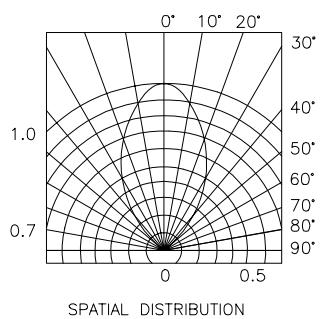
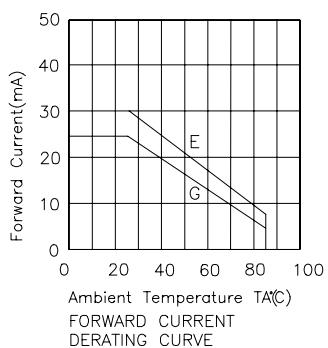
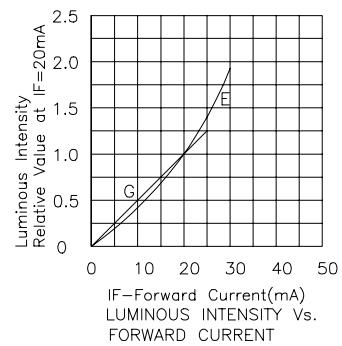
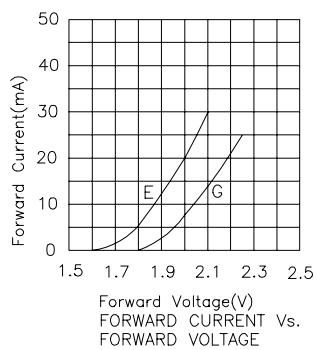
Parameter	High Efficiency Red	Green	Yellow	Units
Power dissipation	105	105	105	mW
DC Forward Current	30	25	30	mA
Peak Forward Current [1]	160	140	140	mA
Reverse Voltage	5	5	5	V
Operating/Storage Temperature		-40°C To +85°C		
Lead Solder Temperature [2]		260°C For 5 Seconds		

Notes:

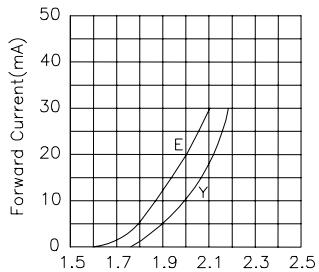
1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. 4mm below package base.



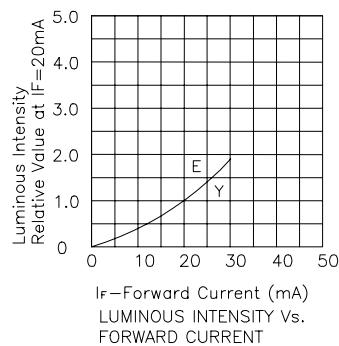
## High Efficiency Red / Green L-59CB/1EGW



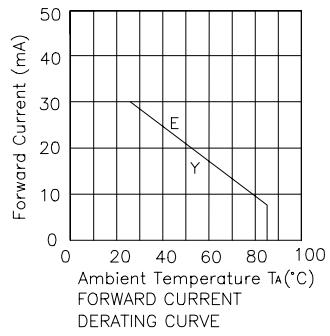
## High Efficiency Red / Yellow L-59CB/1EYW



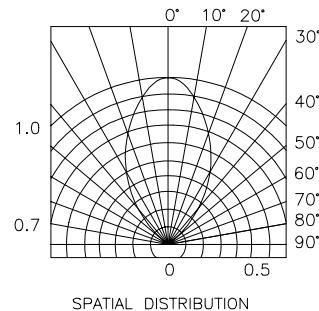
Forward Voltage(V)  
FORWARD CURRENT Vs.  
FORWARD VOLTAGE



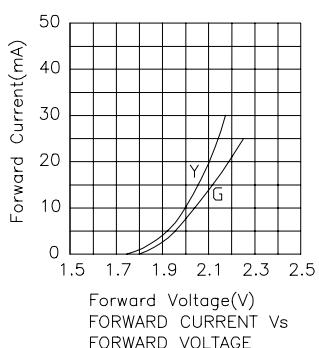
If—Forward Current (mA)  
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT



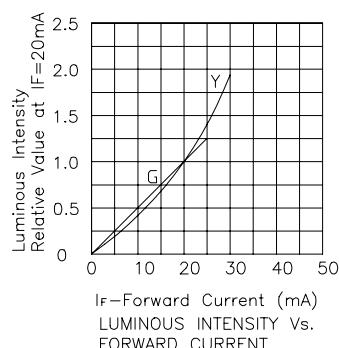
Ambient Temperature TA (°C)  
FORWARD CURRENT  
DERATING CURVE



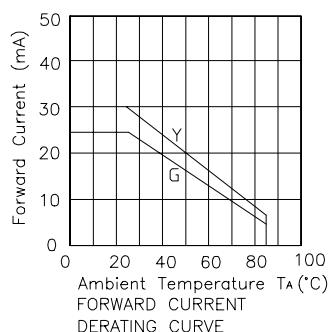
SPATIAL DISTRIBUTION



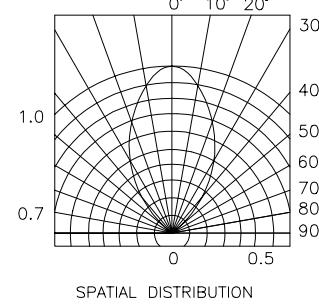
Forward Voltage(V)  
FORWARD CURRENT Vs.  
FORWARD VOLTAGE



If—Forward Current (mA)  
LUMINOUS INTENSITY Vs.  
FORWARD CURRENT



Ambient Temperature TA (°C)  
FORWARD CURRENT  
DERATING CURVE



SPATIAL DISTRIBUTION