

Kingbright®

T-1 3/4 (5mm) BI-COLOR INDICATOR LAMPS

L-59 SERIES

Features

- UNIFORM LIGHT OUTPUT.
- LOW POWER CONSUMPTION.
- MILKY WHITE DIFFUSION LENS.
- 3 LEADS WITH ONE COMMON LEAD.
- EXCEPT L-59EGW-CA IS COMMON ANODE TYPE, ALL OTHER ITEMS ARE COMMON CATHODE TYPE.
- THIRD COLOR (MIXED COLOR) AVAILABLE.
- SUPER BRIGHT VERSION AVAILABLE.
- I.C. COMPATIBLE.
- LONG LIFE - SOLID STATE RELIABILITY.

Description

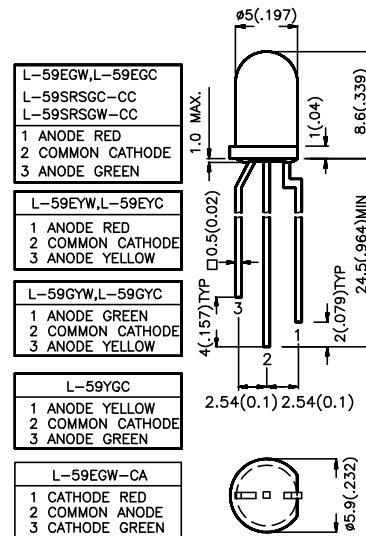
The Green and Super Bright Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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

The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow 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 θ 1/2
			Min.	Max.	
L-59EGW	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	20	90	60°
	GREEN (GaP)		20	70	
L-59EGW-CA	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	3.2	8	60°
	GREEN (GaP)		3.2	8	
L-59EYW	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	20	90	60°
	YELLOW (GaAsP/GaP)		20	60	
L-59GYW	GREEN (GaP)	WHITE DIFFUSED	20	70	60°
	YELLOW (GaAsP/GaP)		20	60	
L-59SRSGW-CC	SUPER BRIGHT RED (GaAlAs)	WHITE DIFFUSED	100	300	60°
	SUPER BRIGHT GREEN (GaP)		40	80	
L-59EGC	HIGH EFFICIENCY RED (GaAsP/GaP)	WATER CLEAR	100	300	24°
	GREEN (GaP)		50	200	
L-59EYC	HIGH EFFICIENCY RED (GaAsP/GaP)	WATER CLEAR	100	300	24°
	YELLOW (GaAsP/GaP)		30	80	
L-59GYC	GREEN (GaP)	WATER CLEAR	50	200	24°
	YELLOW (GaAsP/GaP)		30	80	
L-59SRSGC-CC	SUPER BRIGHT RED (GaAlAs)	WATER CLEAR	300	700	24°
	SUPER BRIGHT GREEN (GaP)		80	200	

Note:

1. θ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

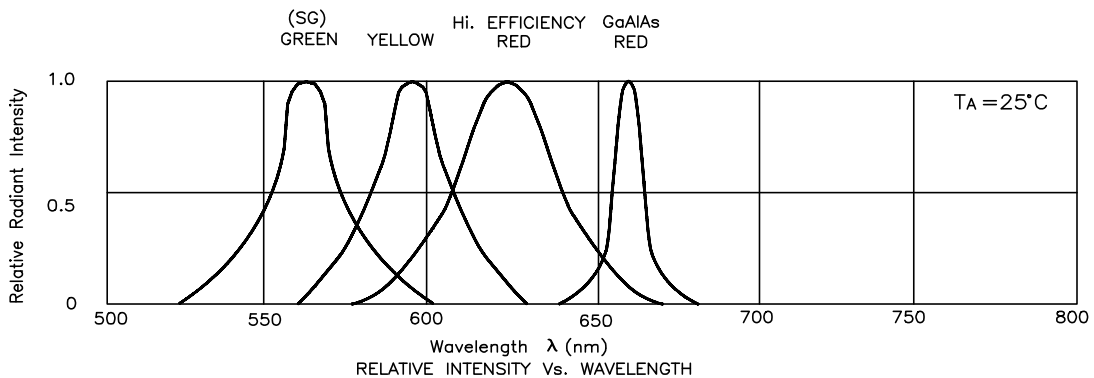
Electrical / Optical Characteristics at T_A=25°C

Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λ_{peak}	Peak Wavelength	High Efficiency Red Green Yellow Super Bright Red Super Bright Green	625 565 590 660 565		nm	IF=20mA
$\Delta\lambda_{1/2}$	Spectral Line Halfwidth	High Efficiency Red Green Yellow Super Bright Red Super Bright Green	45 30 35 20 30		nm	IF=20mA
C	Capacitance	High Efficiency Red Green Yellow Super Bright Red Super Bright Green	12 45 10 95 45		pF	VF=0V;f=1MHz
V _F	Forward Voltage	High Efficiency Red Green Yellow Super Bright Red Super Bright Green	2.0 2.2 2.1 1.85 2.2	2.5 2.5 2.5 2.5 2.5	V	IF=20mA
I _R	Reverse Current	All	10		uA	VR = 5V

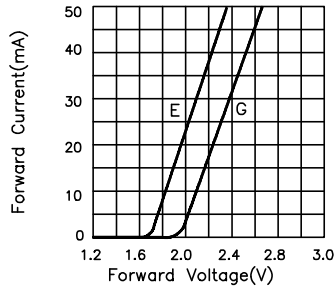
Absolute Maximum Ratings at T_A=25°C

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

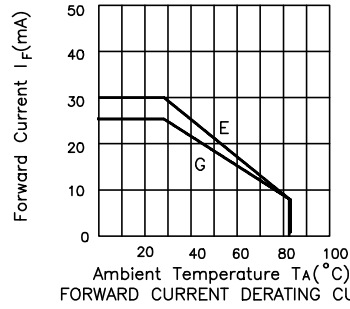
- Notes:
 1. 1/10 Duty Cycle, 0.1ms Pulse Width.
 2. 4mm below package base .



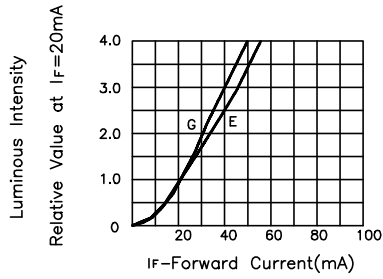
High Efficiency Red / Green L-59EG



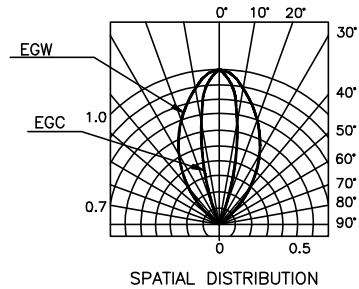
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

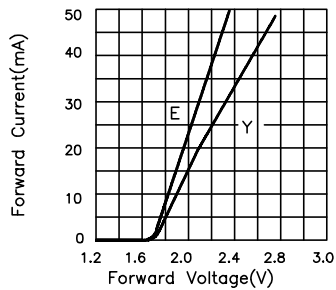


LUMINOUS INTENSITY Vs. FORWARD CURRENT

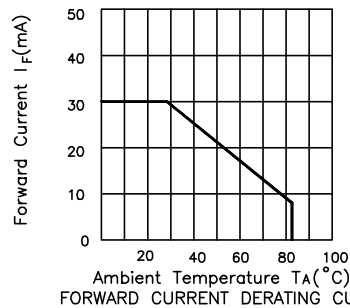


SPATIAL DISTRIBUTION

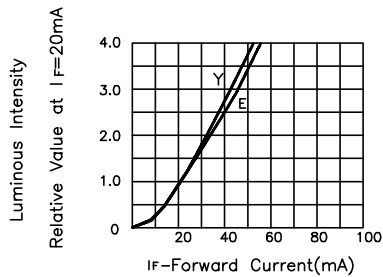
High Efficiency Red / Yellow L-59EY



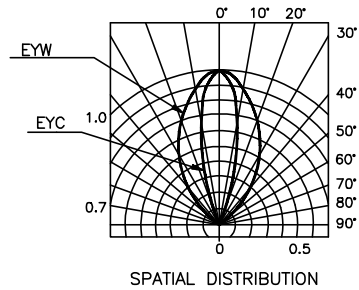
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

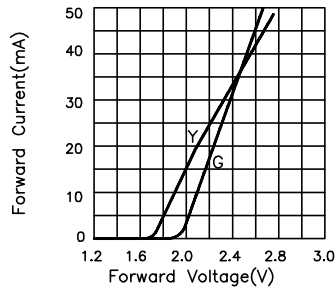


LUMINOUS INTENSITY Vs. FORWARD CURRENT

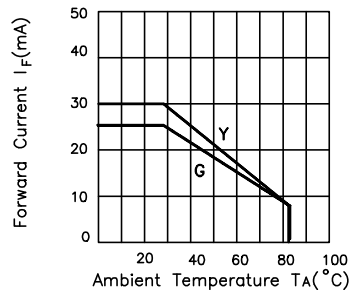


SPATIAL DISTRIBUTION

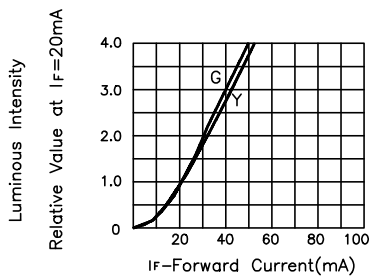
Green / Yellow L-59GY , YELLOW / GREEN L-59YG



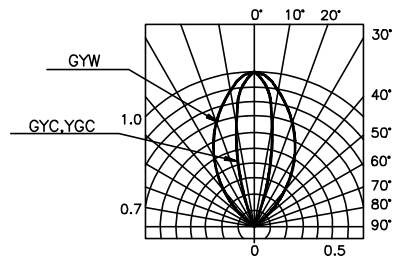
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

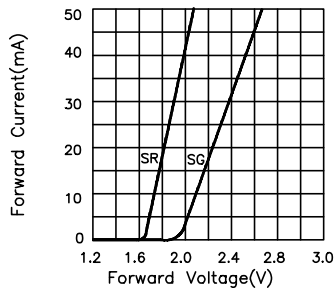


LUMINOUS INTENSITY Vs. FORWARD CURRENT

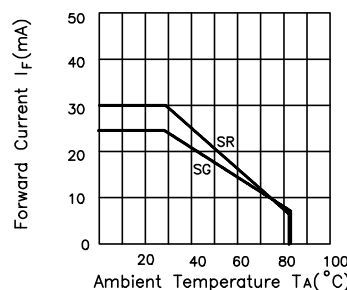


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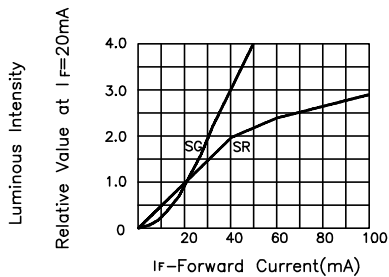
Super Bright Red / Super Bright Green L-59SRSG



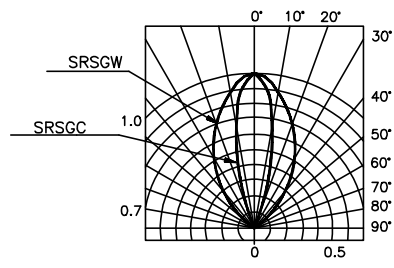
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION