L59 SERIES

Features

- UNIFORM LIGHT OUTPUT.
- LOW POWER CONSUMPTION.
- MILKY WHITE DIFFUSION LENS.
- 3 LEADS WITH ONE COMMON LEAD.
- EXCEPT L59EGW/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 High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode.

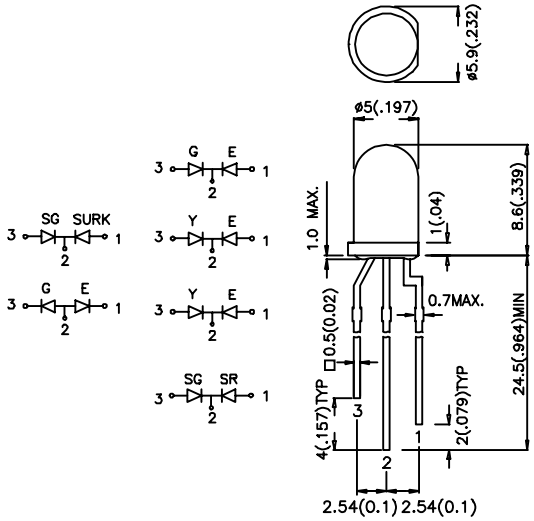
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

The Yellow source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light Emitting Diode.

The Super Bright Red source color devices are made with Gallium Aluminum Arsenide Red Light Emitting Diode.

The Hyper Red (SURK) source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.

Package Dimensions

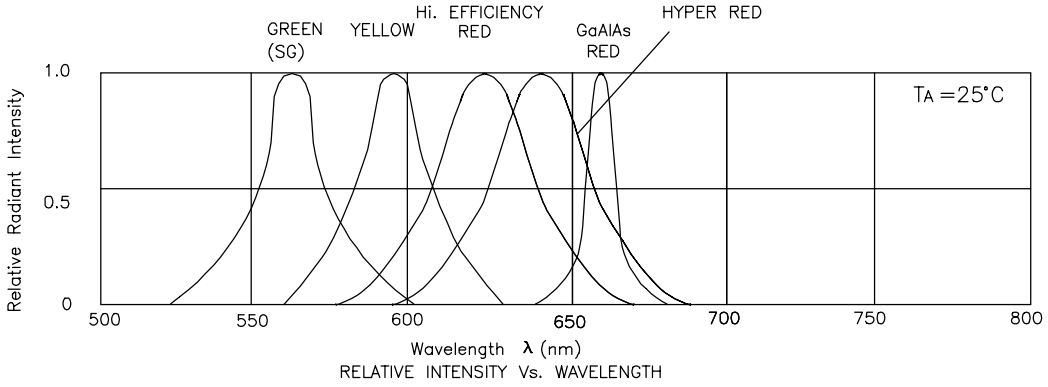


Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(0.01") unless otherwise noted.
3. Lead spacing is measured where the lead emerge package.
4. Specifications are subjected to change without notice.

Selection Guide

Part No.	Dice	Lens Type	Iv (mcd) @ 20 mA		Viewing Angle
			Min.	Typ.	2θ1/2
L59EGW	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	20	60	60°
	GREEN (GaP)		20	50	
L59EGW/CA	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	3	5	60°
	GREEN (GaP)		3	5	
L59EYW	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	20	60	60°
	YELLOW (GaAsP/GaP)		20	40	
L59GYW	GREEN (GaP)	WHITE DIFFUSED	20	50	60°
	YELLOW (GaAsP/GaP)		20	40	
L59SRSGW/CC	SUPER BRIGHT RED (GaAlAs)	WHITE DIFFUSED	100	200	60°
	SUPER BRIGHT GREEN (GaP)		40	60	
L59SURKSGW	HYPER RED (InGaAlP)	WHITE DIFFUSED	300	500	60°
	SUPER BRIGHT GREEN (GaP)		40	60	
L59EGC	HIGH EFFICIENCY RED (GaAsP/GaP)	WATER CLEAR	100	150	24°
	GREEN (GaP)		50	100	
L59EYC L59YEC	HIGH EFFICIENCY RED (GaAsP/GaP)	WATER CLEAR	100	150	24°
	YELLOW (GaAsP/GaP)		30	60	
L59GYC	GREEN (GaP)	WATER CLEAR	50	100	24°
	YELLOW (GaAsP/GaP)		30	60	
L59SRSGC/CC	SUPER BRIGHT RED (GaAlAs)	WATER CLEAR	300	500	24°
	SUPER BRIGHT GREEN (GaP)		80	100	
L59SURKSGC	HYPER RED (InGaAlP)	WATER CLEAR	900	2000	24°
	SUPER BRIGHT GREEN (GaP)		80	100	

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



RELATIVE INTENSITY Vs. WAVELENGTH

Electrical / Optical Characteristics at T_A=25°C

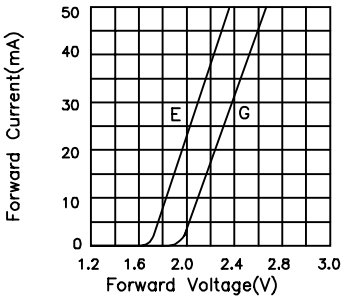
Symbol	Parameter	Device	Typ.	Max.	Units	Test Conditions
λpeak	Peak Wavelength	High Efficiency Red Green Super Bright Green Yellow Super Bright Red Hyper Red	625 565 565 590 660 640		nm	IF=20mA
Δλ1/2	Spectral Line Halfwidth	High Efficiency Red Green Super Bright Green Yellow Super Bright Red Hyper Red	45 30 30 35 20 25		nm	IF=20mA
C	Capacitance	High Efficiency Red Green Super Bright Green Yellow Super Bright Red Hyper Red	12 45 45 10 95 35		pF	VF=0V;f=1MHz
V_F	Forward Voltage	High Efficiency Red Green Super Bright Green Yellow Super Bright Red Hyper Red	2.0 2.2 2.2 2.1 1.85 2.0	2.5 2.5 2.5 2.5 2.5 2.2	V	IF=20mA
I_R	Reverse Current	All		10	uA	VR = 5V

Absolute Maximum Ratings at T_A=25°C

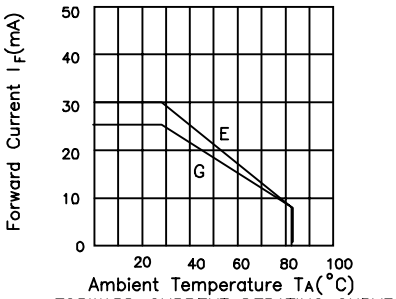
Parameter	High Efficiency Red	Green	Yellow	Super Brihgt Green	Super Bright Red	Hyper Red	Units
Power dissipation	105	105	105	105	100	170	mW
DC Forward Current	30	25	30	25	30	50	mA
Peak Forward Current [1]	150	150	150	150	150	150	mA
Reverse Voltage	5	5	5	5	5	5	V
Operating/Storage Temperature	-40°C To +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.

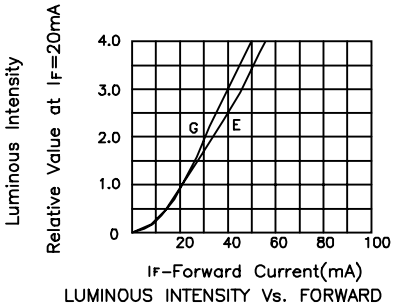
High Efficiency Red / Green L59EGW, L59EGW/CA, L59EGC



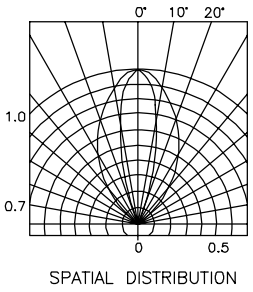
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

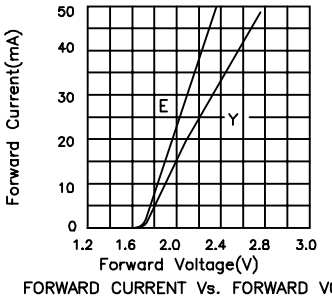


LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION

High Efficiency Red / Yellow L59EYW, L59EYC



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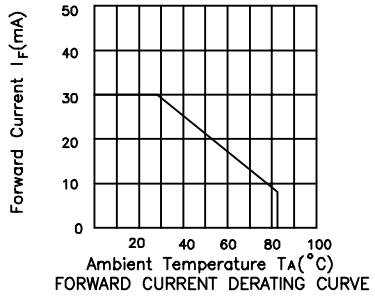

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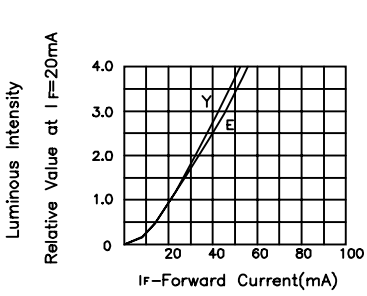
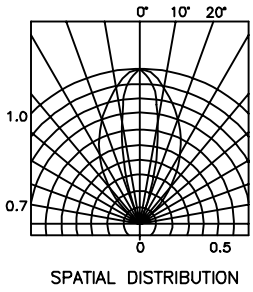
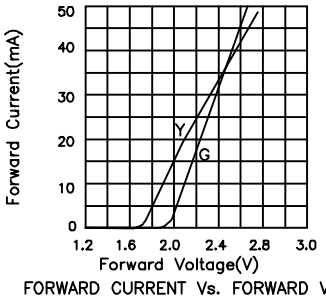




SPATIAL DISTRIBUTION

Green / Yellow L59GYW, L59GYC, L59YGC



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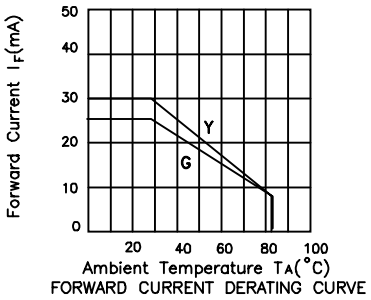

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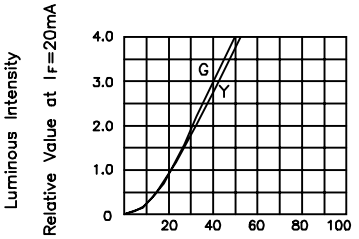
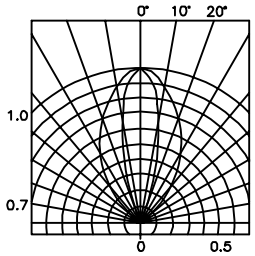
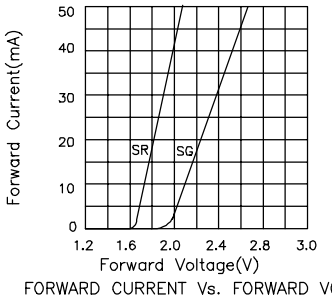


LUMINOUS INTENSITY Vs. FORWARD CURRENT

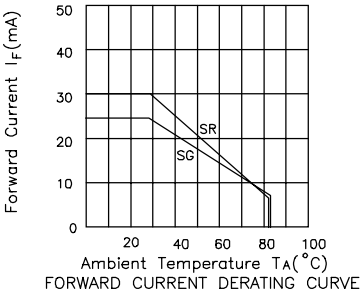


SPATIAL DISTRIBUTION

Super Bright Red / Super Bright Green L59SRSGW/CC ,L59SRSGC/CC



FORWARD CURRENT Vs. FORWARD VOLTAGE



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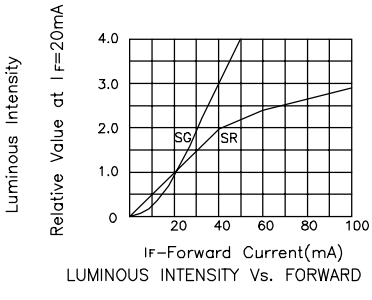
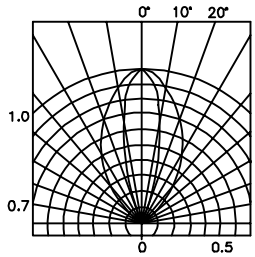
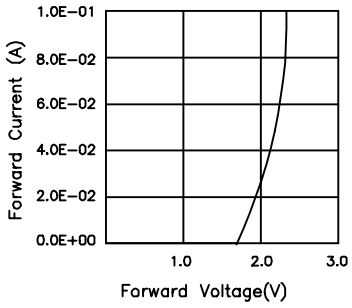


LUMINOUS INTENSITY Vs. FORWARD CURRENT



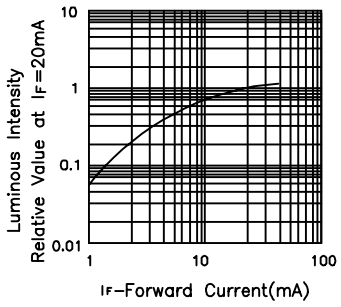
SPATIAL DISTRIBUTION

L59SURKSGW , L59SURKSGC
Hyper Red

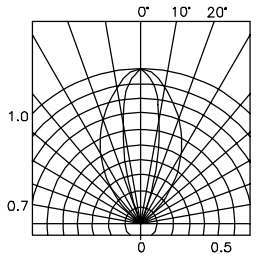


FORWARD CURRENT Vs. FORWARD VOLTAGE

FORWARD CURRENT
DERATING CURVE

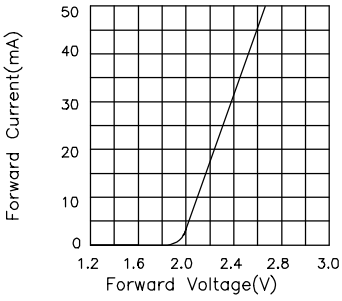


LUMINOUS INTENSITY Vs.FORWARD CURRENT



SPATIAL DISTRIBUTION

Super Bright Green



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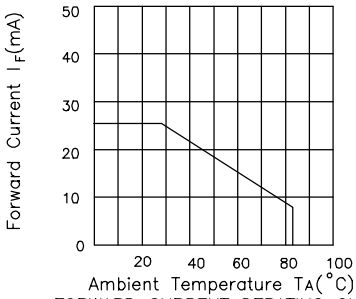

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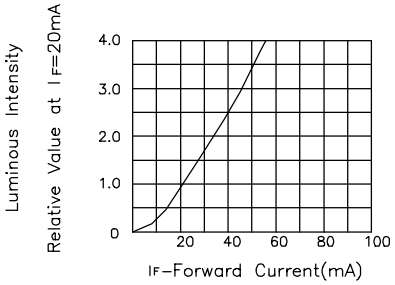
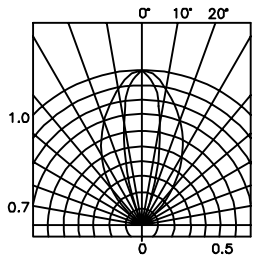


LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION