

# Kingbright®

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

L-57 Series

2

### Features

- LOW POWER CONSUMPTION.
- HIGH EFFICIENCY RED, GREEN, YELLOW AND SUPER BRIGHT RED ARE AVAILABLE.
- I.C. COMPATIBLE.
- LONG LIFE - SOLID STATE RELIABILITY.

### Description

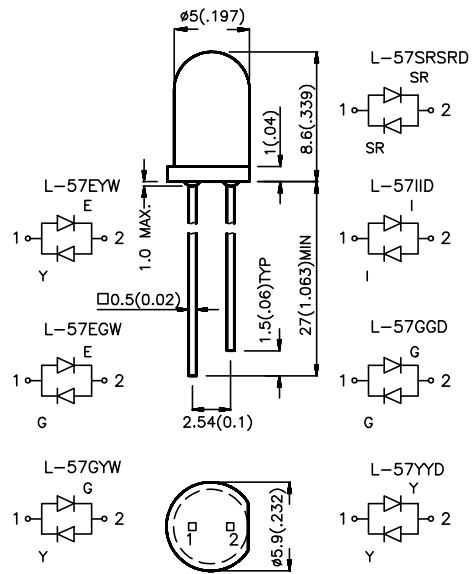
The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode.

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.

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 $\theta$ 1/2
			Min.	Max.	
L-57IID	HIGH EFFICIENCY RED (GaAsP/GaP)	RED DIFFUSED	8	40	60°
	HIGH EFFICIENCY RED (GaAsP/GaP)		8	40	
L-57GGD	GREEN (GaP)	GREEN DIFFUSED	5	20	60°
	GREEN (GaP)		5	20	
L-57YYD	YELLOW (GaAsP/GaP)	YELLOW DIFFUSED	5	20	60°
	YELLOW (GaAsP/GaP)		5	20	
L-57SRSRD	SUPER BRIGHT RED (GaAlAs)	RED DIFFUSED	80	200	60°
	SUPER BRIGHT RED (GaAlAs)		80	200	
L-57EGW	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	8	40	60°
	GREEN (GaP)		5	20	
L-57EYW	HIGH EFFICIENCY RED (GaAsP/GaP)	WHITE DIFFUSED	8	40	60°
	YELLOW (GaAsP/GaP)		5	20	
L-57GYW	GREEN (GaP)	WHITE DIFFUSED	5	20	60°
	YELLOW (GaAsP/GaP)		5	20	

- Note:
1.  $\theta$ 1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

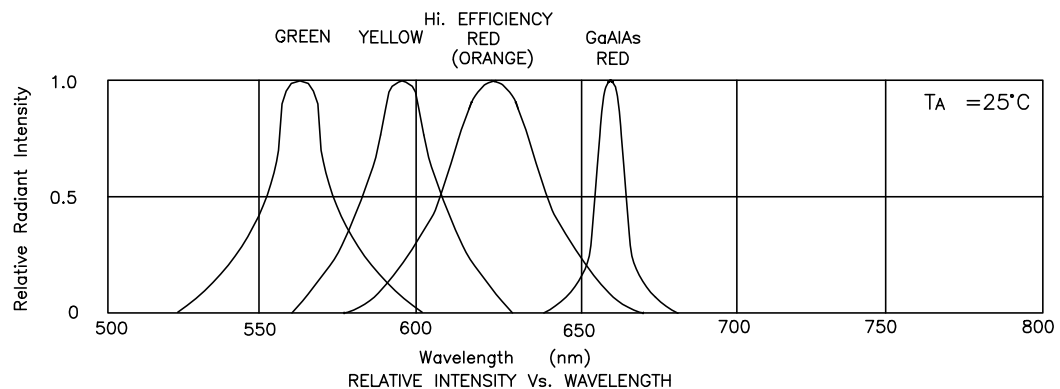
### Electrical / Optical Characteristics at T<sub>A</sub>=25°C

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

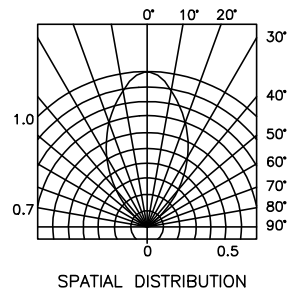
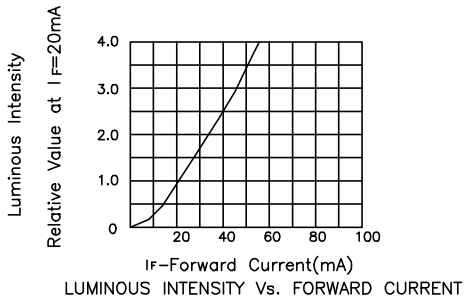
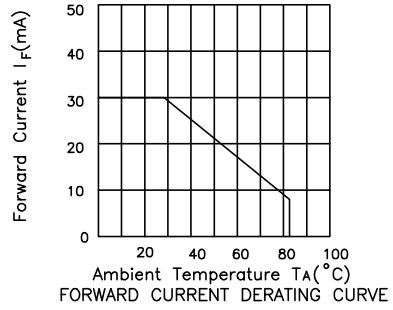
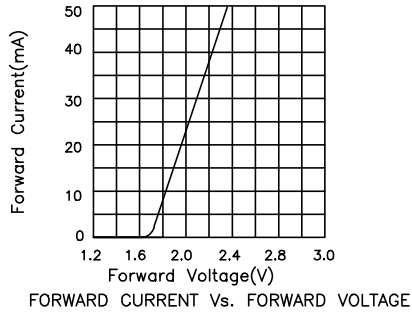
### Absolute Maximum Ratings at T<sub>A</sub>=25°C

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

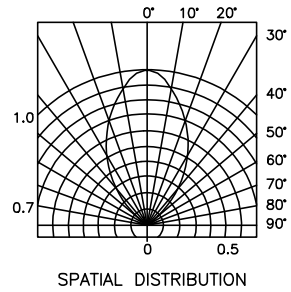
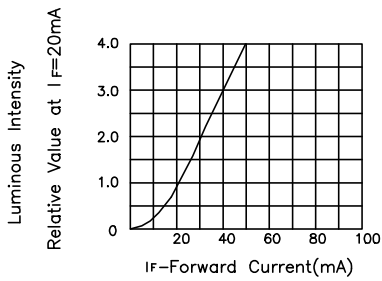
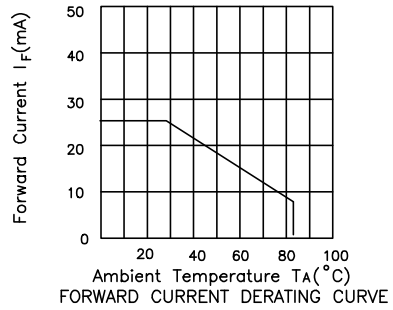
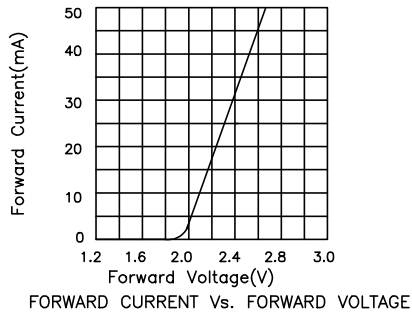
- Notes:  
 1. 1/10 Duty Cycle, 0.1ms Pulse Width.  
 2. 4mm below package base.



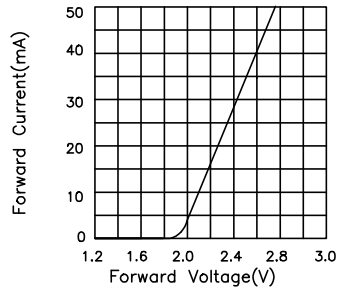
### High Efficiency Red L-57IID



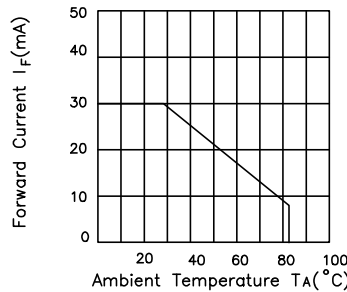
### Green L-57GGD



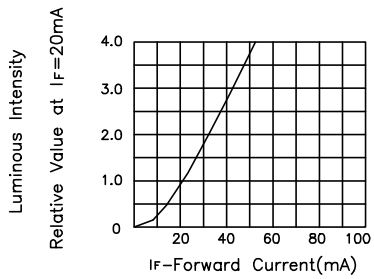
### Yellow L-57YYD



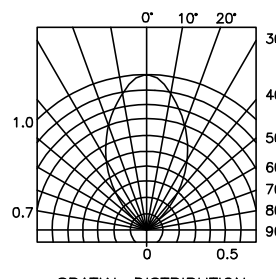
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

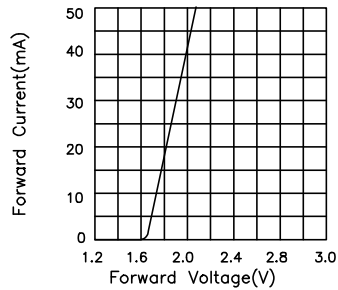


LUMINOUS INTENSITY Vs. FORWARD CURRENT

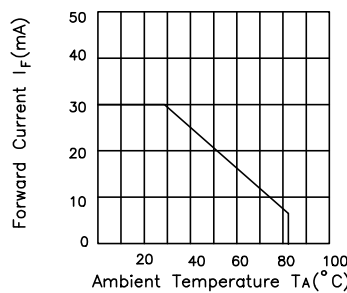


SPATIAL DISTRIBUTION

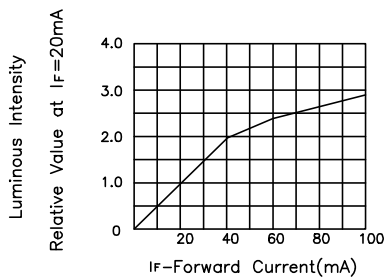
### Super Bright Red L-57SRSD



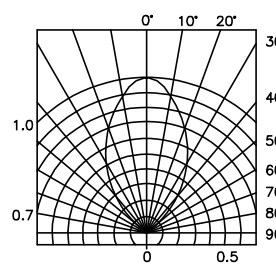
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

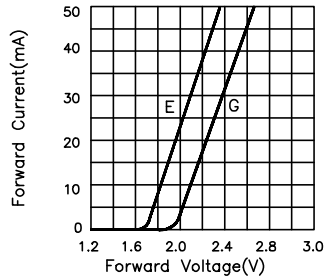


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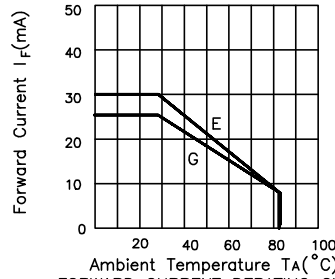


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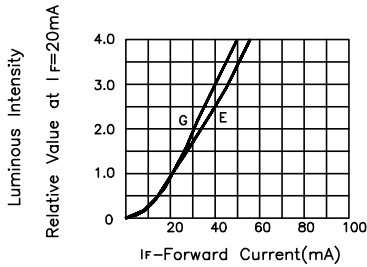
### High Efficiency Red / Green L-57EGW



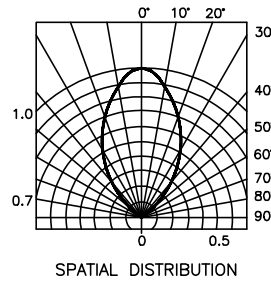
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

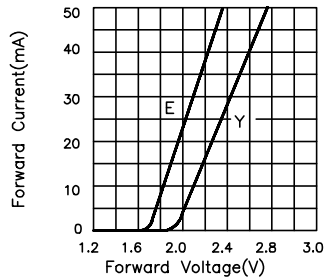


LUMINOUS INTENSITY Vs. FORWARD CURRENT

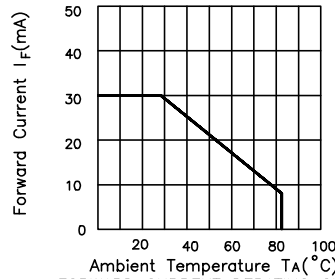


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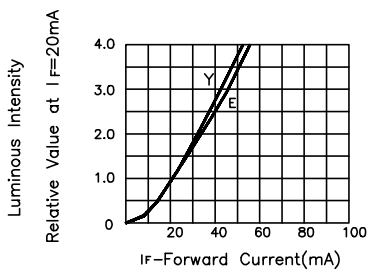
### High Efficiency Red / Yellow L-57EYW



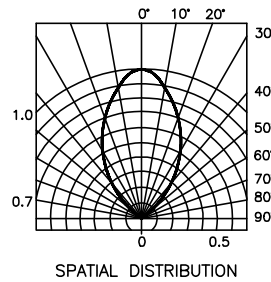
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

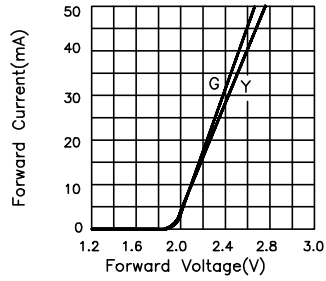


LUMINOUS INTENSITY Vs. FORWARD CURRENT

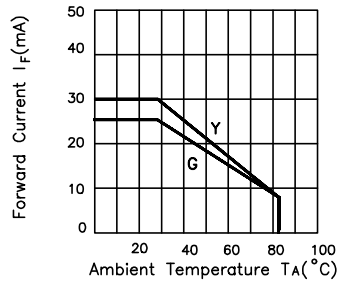


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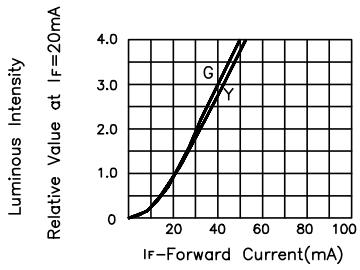
Green / Yellow L-57GYW



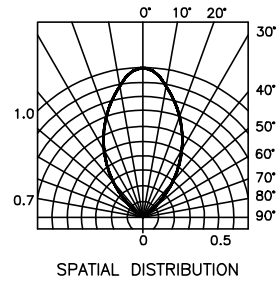
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION