

# Preliminary

## LL-309YGM2E-001

### DATA SHEET



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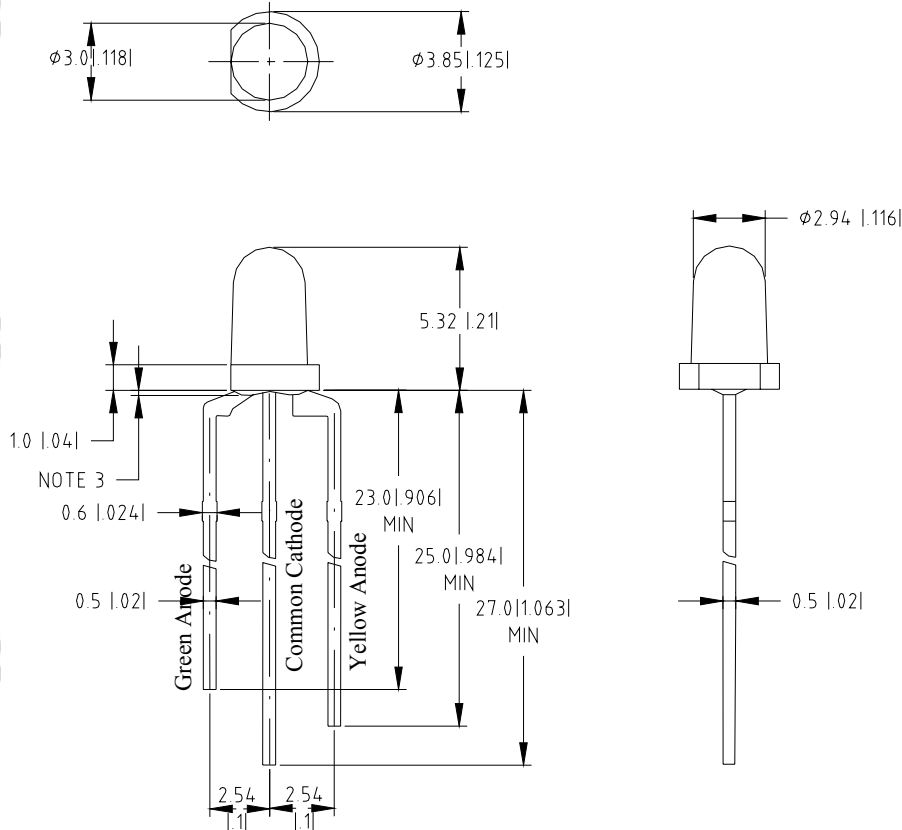
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### Features:

- ◆ Standard 3mm diameter package
- ◆ General purpose leads
- ◆ Pb-free

### Package Dimensions:



Part NO.	Chip Material		Lens Color	Emission Color
LL-309YGM2E-001	Yellow GaAsP	Green GaP	White Diffused	Yellow & Green

### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm}$  (.010") unless otherwise noted.
3. Protruded resin under flange is 1.0mm (.04") max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.
6. This data-sheet only valid for six months.



**Absolute Maximum Ratings at Ta=25°C**

Parameter	MAX.		Unit
	Power Dissipation	Yellow	
	Green	130	
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100		mA
Continuous Forward Current	Yellow	35	mA
	Green	50	
Derating Linear From 50°C	0.4		mA/°C
Reverse Voltage	5		V
Operating Temperature Range	-30°C to +80°C		
Storage Temperature Range	-40°C to +100°C		
Lead Soldering Temperature [4mm(.157") From Body]	260°C for 5 Seconds		



**Electrical Optical Characteristics at Ta=25°C**

Parameter	Symbol	Emitting Color	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I <sub>v</sub>	Green	19	42		mcd	I <sub>F</sub> =20mA Note 1
		Yellow	6	13			
Viewing Angle	2θ <sub>1/2</sub>	Green	70	80	90	Deg	Note 2
		Yellow	70	80	90		
Peak Emission Wavelength	λ <sub>p</sub>	Green	563	568	573	nm	Measurement @Peak
		Yellow	583	588	593		
Dominant Wavelength	λ <sub>d</sub>	Green	565	570	575	nm	Note 3
		Yellow	585	590	595		
Spectral Line Half-Width	Δλ	Green	25	30	35	nm	
		Yellow	30	35	40		
Forward Voltage	V <sub>F</sub>	Green	1.7	2.2	2.6	V	I <sub>F</sub> =20mA
		Yellow	1.6	2.1	2.6		
Reverse Current	I <sub>R</sub>	Green			50	μA	V <sub>R</sub> =5V
		Yellow					

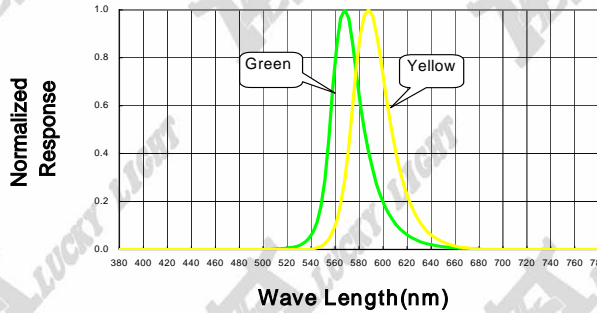
Note:

1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. θ<sub>1/2</sub> is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength (λ<sub>d</sub>) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
4. Forward voltage measurement allowance is ±0.1V
5. Luminous Intensity Measurement Allowance is ± 10%

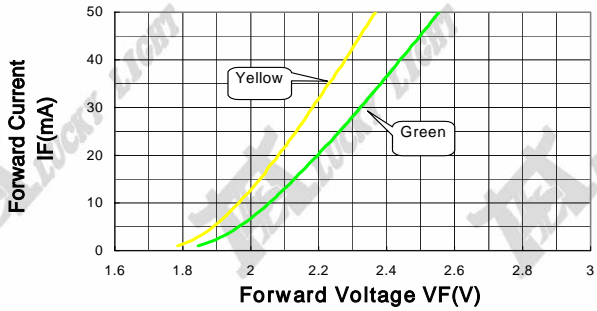


**Typical Electrical / Optical Characteristics Curves**  
 (25°C Ambient Temperature Unless Otherwise Noted)

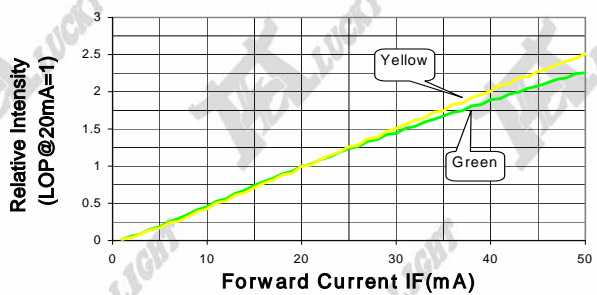
**Spectral Radiance** Green Peak @ 568nm  
 Yellow Peak @ 588nm



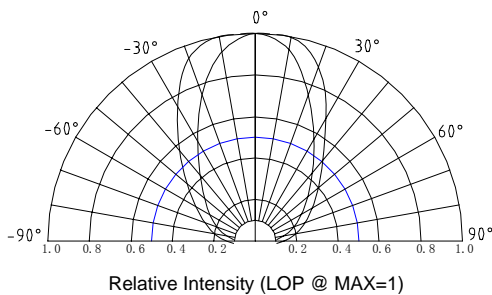
**Forward Current vs Forward Voltage**



**Relative Luminous Intensity vs Forward Current**



**Beam Pattern**



**Forward Current Derating Curve**

