

# Preliminary

## LL-309SGM2E-004

### DATA SHEET

QC :

ENG :

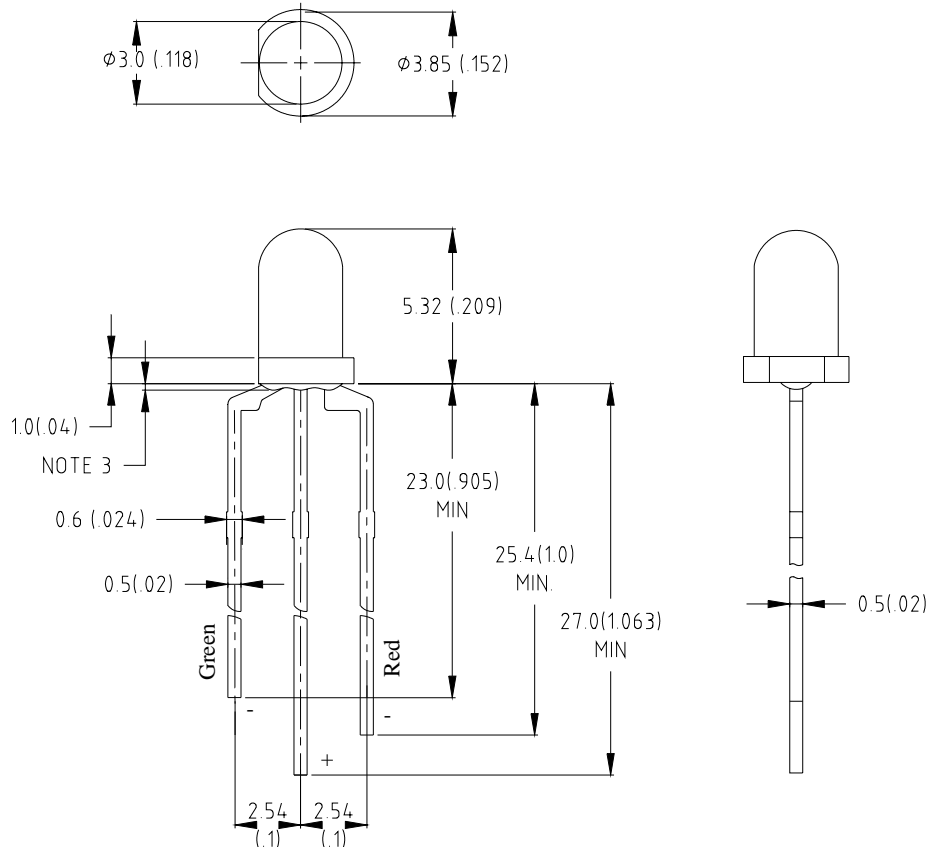
Prepared By:

Part No.	LL-309SGM2E-004	Spec No.	S/N-03062345D	Page	1 of 5
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## Features:

- ◆ High intensity
- ◆ Standard T-1 diameter package
- ◆ General purpose leads
- ◆ Reliable and rugged

## Package Dimensions:



Part NO.	Chip Material		Lens Color	Source Color
LL-309SGM2E-004	Red	Green	White Diffused	Red & Green
	AlGaAs	GaP		

### 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

Parameter	MAX.		Unit
	Power Dissipation	Red	
	Green	130	
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100		mA
Continuous Forward Current	Red	85	mA
	Green	130	
Derating Linear From 50	0.4		mA/
Reverse Voltage	5		V
Operating Temperature Range	-40 to +80		
Storage Temperature Range	-40 to +80		
Lead Soldering Temperature [4mm(.157") From Body]	260 for 5 Seconds		

### Electrical Optical Characteristics at Ta=25

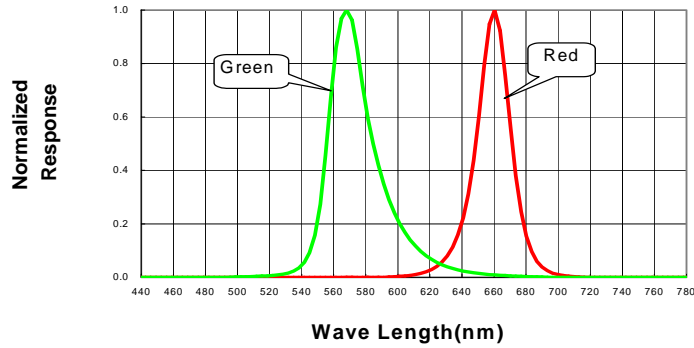
Parameter	Symbol	Emitting Color	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I <sub>v</sub>	Green	14	30	60	mcd	I <sub>f</sub> =20mA Note 1
		Red	14	30	60		
Viewing Angle	2 <sub>1/2</sub>	Green	70	80	90	Deg	Note 2
		Red	70	80	90		
Peak Emission Wavelength	p	Green	563	568	573	nm	Measurement @Peak
		Red	655	660	665		
Dominant Wavelength	d	Green	565	570	575	nm	Note 3
		Red	640	645	650		
Spectral Line Half-Width		Green	25	30	35	nm	
		Red	20	25	30		
Forward Voltage	V <sub>f</sub>	Green	1.8	2.2	2.6	V	I <sub>f</sub> =20mA
		Red	1.6	1.85	2.4		
Reverse Current	I <sub>R</sub>	Green	---	---	100	μA	V <sub>R</sub> =5V
		Red					

**Notes:**

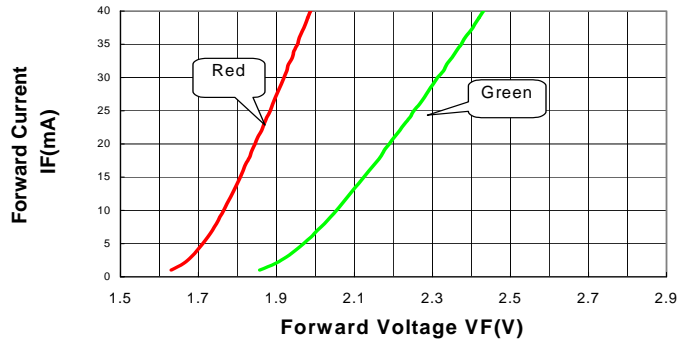
- 1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. <sub>1/2</sub> is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- 3.The dominant wavelength ( d ) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

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

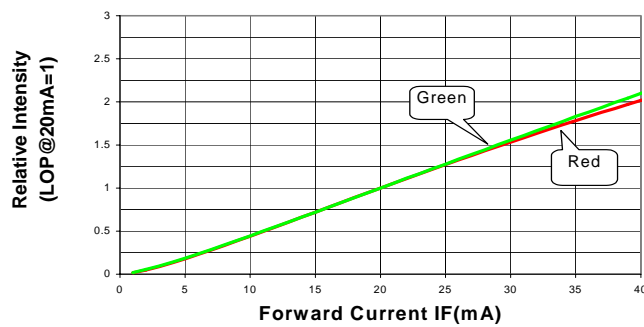
**Spectral Radiance** Green Peak @ 568nm  
 Red Peak @ 660nm



**Forward Current vs Forward Voltage**



**Relative Luminous Intensity vs Forward Current**



**Beam Pattern**

