

# Preliminary

## LL-503GD2E-008

### DATA SHEET



QC: 王士光

ENG: 鄭文斌

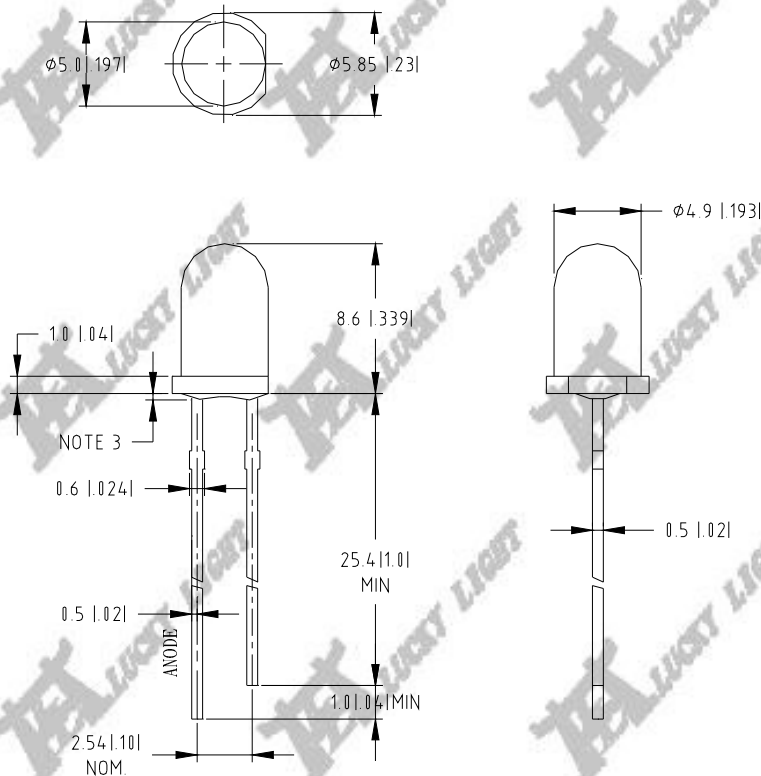
Prepared By: 賓娟

Part No.	LL-503GD2E-008	Spec No.	S/N-07112402	Page	1 of 4
----------	----------------	----------	--------------	------	--------

## Features:

- ◆ Standard 5mm diameter package
- ◆ General purpose leads
- ◆ Pb-free

## Package Dimensions:



Part NO.	Chip Material	Lens Color	Emission Color
LL-503GD2E-008	GaP	Green Diffused	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.



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

Parameter	MAX.	Unit
Power Dissipation	130	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA
Continuous Forward Current	50	mA
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]	280°C for 5 Seconds	

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I <sub>V</sub>	35	75		mcd	I <sub>F</sub> =20mA (Note 1)
Viewing Angle	2θ <sub>1/2</sub>	35	40	45	Deg	(Note 2)
Peak Emission Wavelength	λ <sub>p</sub>	563	568	573	nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>	565	570	575	nm	I <sub>F</sub> =20mA (Note 3)
Spectral Line Half-Width	Δλ	25	30	35	nm	I <sub>F</sub> =20mA
Forward Voltage	V <sub>F</sub>	1.7	2.2	2.6	V	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>			10	μA	V <sub>R</sub> =5V

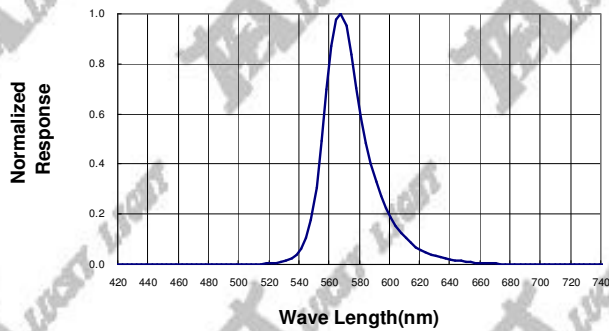
**Notes:**

- Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
- θ<sub>1/2</sub> is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- 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.
- Forward voltage measurement allowance is ±0.1V
- Luminous Intensity Measurement Allowance is ± 10%.

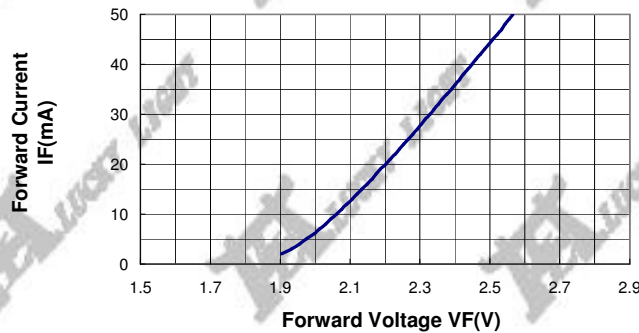


**Typical Electrical / Optical Characteristics Curves**  
 (25°C Ambient Temperature Unless Otherwise Noted)

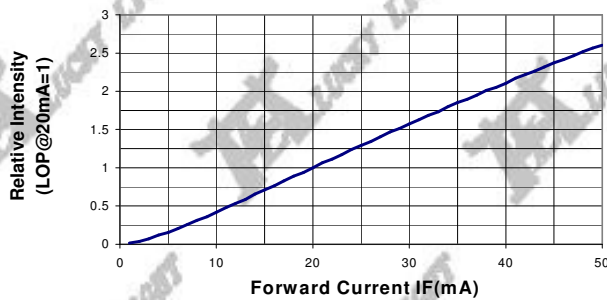
**Spectral Radiance (Peak @ 568nm)**



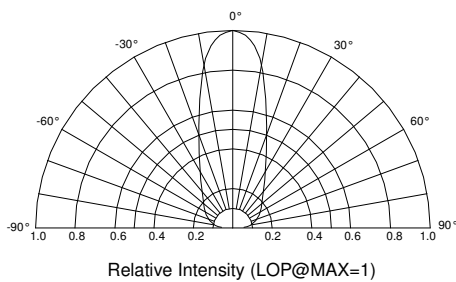
**Forward Current vs Forward Voltage**



**Relative Luminous Intensity vs Forward Current**



**Beam Pattern**



**Forward Current Derating Curve**

