

Preliminary

LL-509RGBC2E-039

DATA SHEET

QC :

ENG :

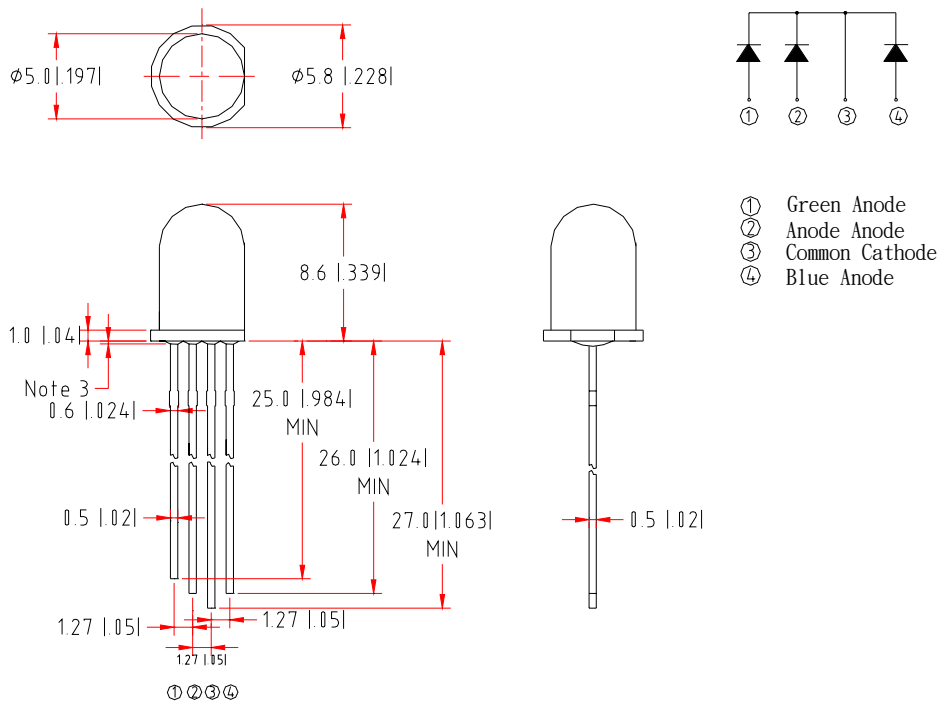
Prepared By:

Part No.	LL-509RGBC2E-039	Spec No.	S/N-04020701S	Page	1 of 5
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Features:

- ◆ High intensity
- ◆ Standard T-1 3/4 diameter package
- ◆ General purpose leads
- ◆ Reliable and rugged.

Package Dimensions:



Part NO.	Chip Material			Lens Color	Source Color
	Red	Green	Blue		
LL-509RGB2E-039	AlGaInP	InGaN	InGaN	Water Clear	Red & True Green & Blue

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. Precautions for ESD:
 STATIC SHIELD Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.
7. This data-sheet only valid for six months.

Absolute Maximum Ratings at Ta=25°C

Parameter	MAX.		Unit
Power Dissipation	Red	90	mW
	Blue	115	
	Green	115	
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100		mA
Continuous Forward Current	Red	35	mA
	Blue	30	
	Green	30	
Derating Linear From 50°C	0.4		mA/°C
Reverse Voltage	5		V
Operating Temperature Range	-40°C to +80°C		
Storage Temperature Range	-40°C to +80°C		
Lead Soldering Temperature [4mm(.157") From Body]	260°C for 5 Seconds		

Electrical Optical Characteristics at Ta=25°C

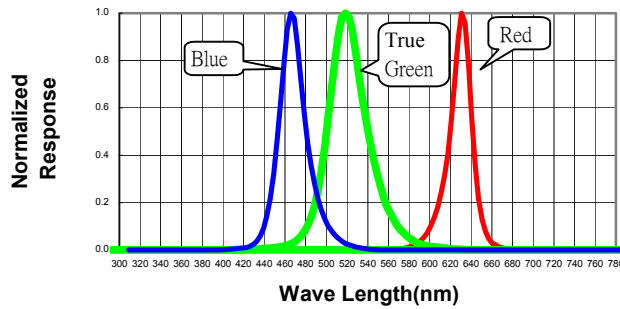
Parameter	Symbol	Emitting Color	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I _v	Red	250	550	1000	mcd	I _f =20mA Note 1
		True Green	310	690	1400		
		Blue	200	400	800		
Viewing Angle	2θ _{1/2}	Red	30	35	40	Deg	Note 2
		True Green	30	35	40		
		Blue	30	35	40		
Peak Emission Wavelength	λ _p	Red	625	630	635	nm	Measurement @Peak
		True Green	510	515	520		
		Blue	463	468	473		
Dominant Wavelength	λ _d	Red	615	620	625	nm	Note 3
		True Green	516	522	528		
		Blue	464	470	476		
Spectral Line Half-Width	Δλ	Red	15	20	25	nm	
		True Green	30	35	40		
		Blue	25	30	35		
Forward Voltage	V _f	Red	1.6	2.0	2.5	V	I _f =20mA
		True Green	2.8	3.3	4.0		
		Blue	2.8	3.5	4.0		
Reverse Current	I _R	Red	---	---	100	μA	V _R =5V
		True Green					
		Blue					

Notes:

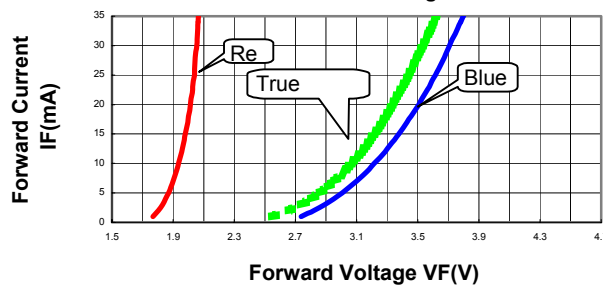
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. θ_{1/2} is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength (λ_d) is derived from the CIE chromaticity diagram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

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

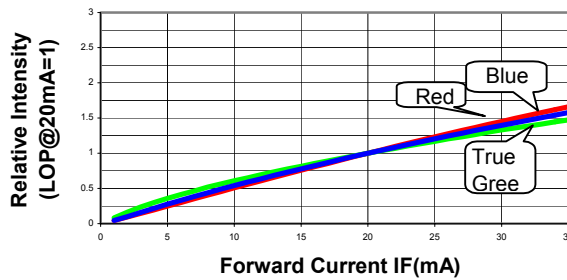
Spectral Radiance True Green Peak @ 515nm
 Red Peak @ 630nm
 Blue Peak @ 468nm



Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current



Beam Pattern

