

LL-509RGBM2E-014

DATA SHEET

QC :

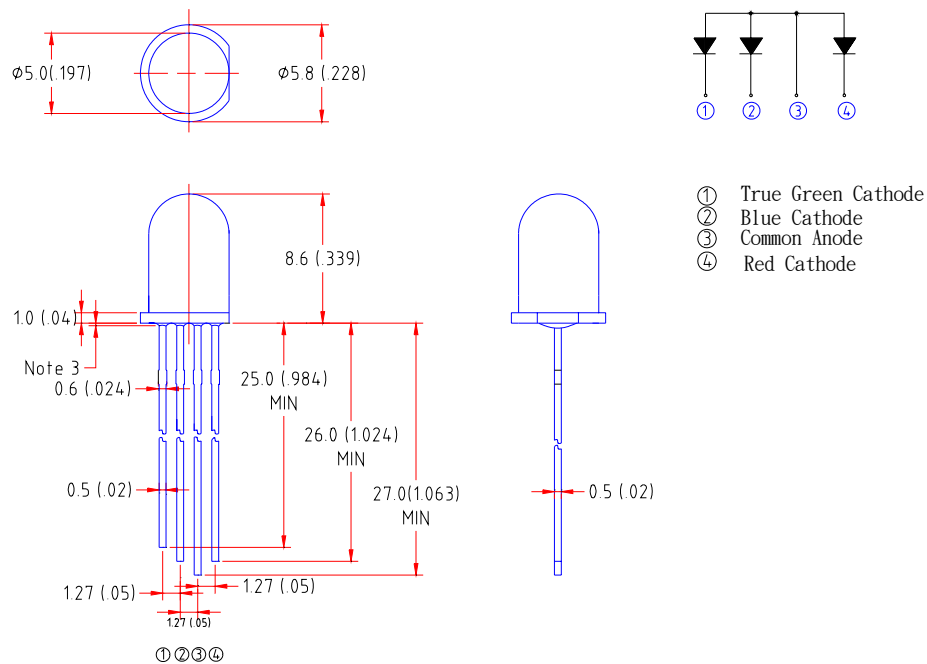
ENG :

Prepared By :

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-509RGBM2E-014	AlGaAs	InGaN	InGaN	White Diffused	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	100	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA
Continuous Forward Current	20	mA
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	120	240	500	mcd	I _f =20mA Note 1
		True Green	600	1400	3000		
		Blue	120	280	550		
Viewing Angle	2θ _{1/2}	Red	35	40	45	Deg	Note 2
		True Green	35	40	45		
		Blue	35	40	45		
Peak Emission Wavelength	λ _p	Red	655	660	665	nm	Measurement @Peak
		True Green	520	525	530		
		Blue	463	468	473		
Dominant Wavelength	λ _d	Red	635	640	645	nm	Note 3
		True Green	530	535	540		
		Blue	460	470	480		
Spectral Line Half-Width	Δλ	Red	20	25	30	nm	
		True Green	30	35	40		
		Blue	20	25	30		
Forward Voltage	V _f	Red	1.6	2.0	2.6	V	I _f =20mA
		True Green	2.6	3.2	4.0		
		Blue	2.8	3.5	4.0		
Reverse Current	I _R	Red	---	---	100	μA	V _R =5V
		True Green					
		Blue					

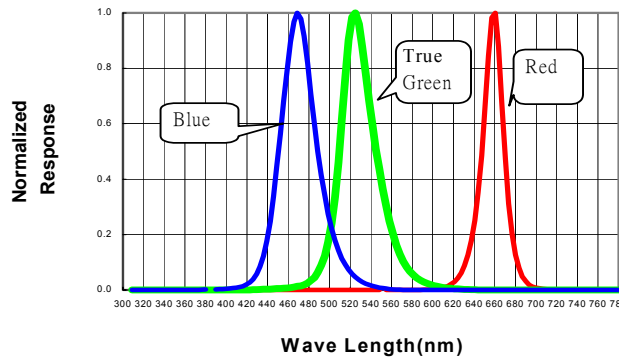
Notes:

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.

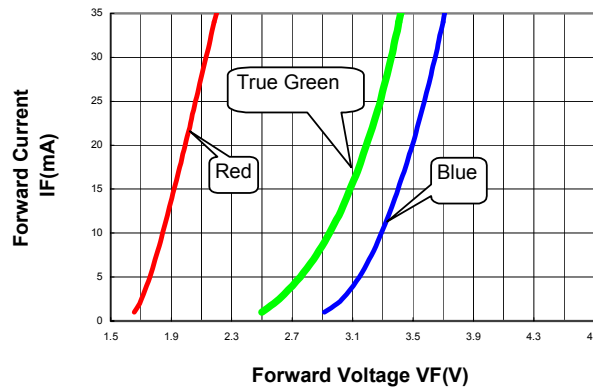
Typical Electrical / Optical Characteristics Curves

(25°C Ambient Temperature unless Otherwise Noted)

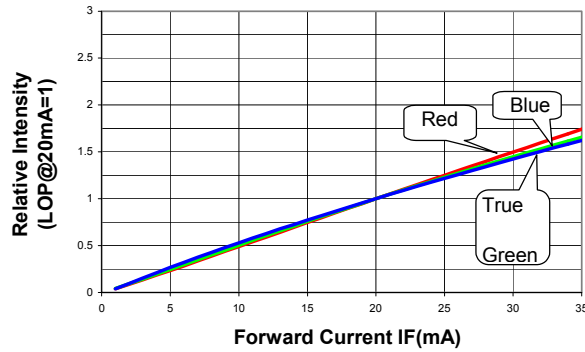
Spectral Radiance True Green Peak @ 525nm
 Red Peak @ 660nm
 Blue Peak @ 468nm



Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current



Beam Pattern

