LL-509VGC2E-013

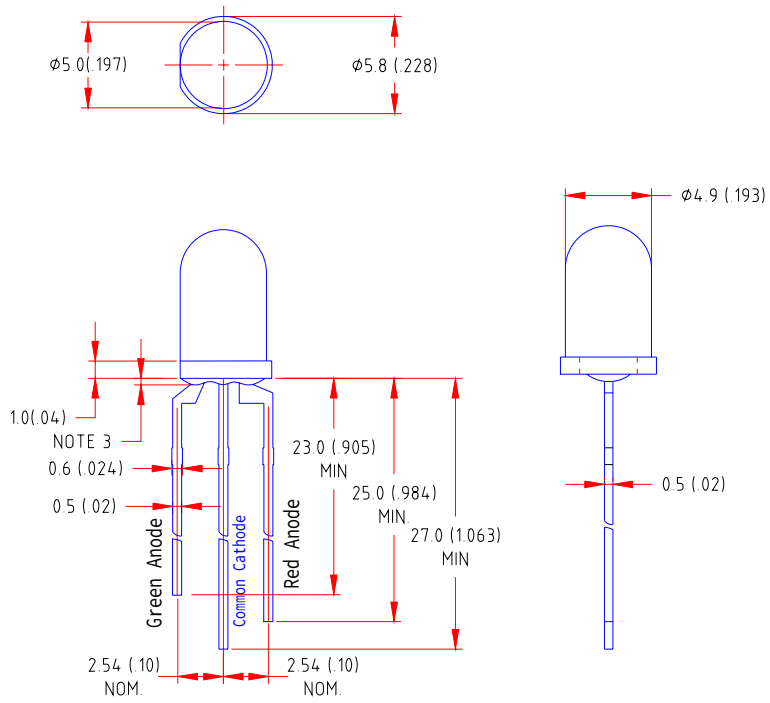
DATA SHEET

QC: ENG: Prepared By:

Features

- ♦ High intensity
- ♦ Standard T-1 3/4 diameter package
- ♦ Wide viewing angle
- ♦ General purpose leads
- ♦ Reliable and rugged

Package Dimension:



Part NO.	Chip Material		Lens Color	Source Color
LL-509VGC2E-013	Red	Green	Water Clear	Red & Green
	AlGaInP	AlGaInP		

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25(.010")mm 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℃

Parameter	MAX.	Unit
Power Dissipation	100	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA
Continuous Forward Current	35	mA
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℃

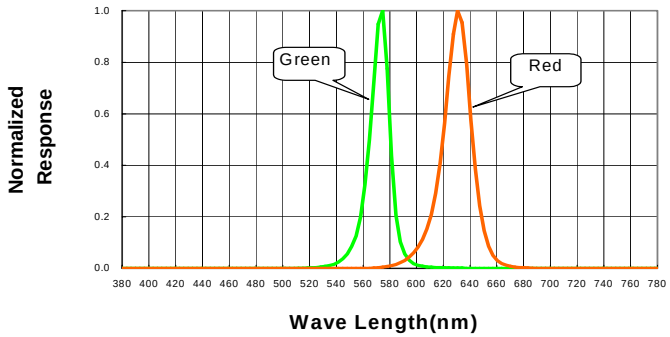
Parameter	Symbol	Emitting Color	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	Iv	Red	490	1000	2200	mcd	I_f=20mA Note 1
		Green	280	600	1200		
Viewing Angle	$2\theta_{1/2}$	Red	20	25	30	Deg	Note 2
		Green	20	25	30		
Peak Emission Wavelength	λp	Red	627	632	637	nm	Measurement @Peak
		Green	571	576	580		
Dominant Wavelength	λd	Red	615	620	625	nm	Note 3
		Green	567	574	578		
Spectral Line Half-Width	$\triangle\lambda$	Red	15	20	25	nm	
		Green	13	18	23		
Forward Voltage	V_F	Red	1.6	2.05	2.6	V	I_F=20mA
		Green	1.6	2.05	2.6		
Reverse Current	I_R	Red	---	---	100	μA	V_R=5V
		Green					

Note:

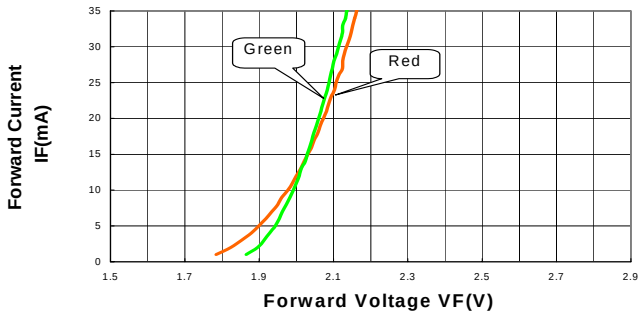
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength (λd) is derived from the CIE chromaticity 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)

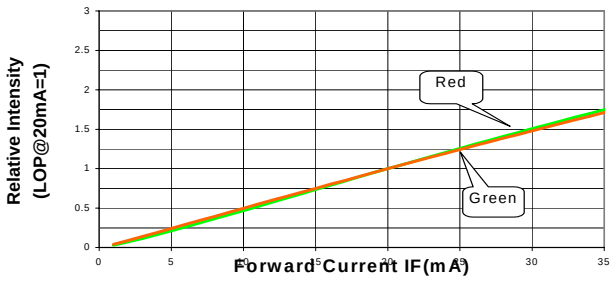
Spectral Radiance **Green Peak @ 576nm**
Red Peak @ 632nm



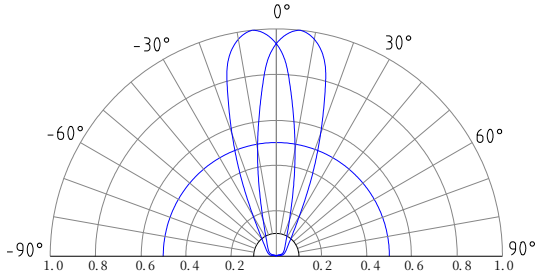
Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current



Beam Pattern



Relative Intensity (LOP @ MAX=1)