

Preliminary

LL-309VGM2E-009

DATA SHEET



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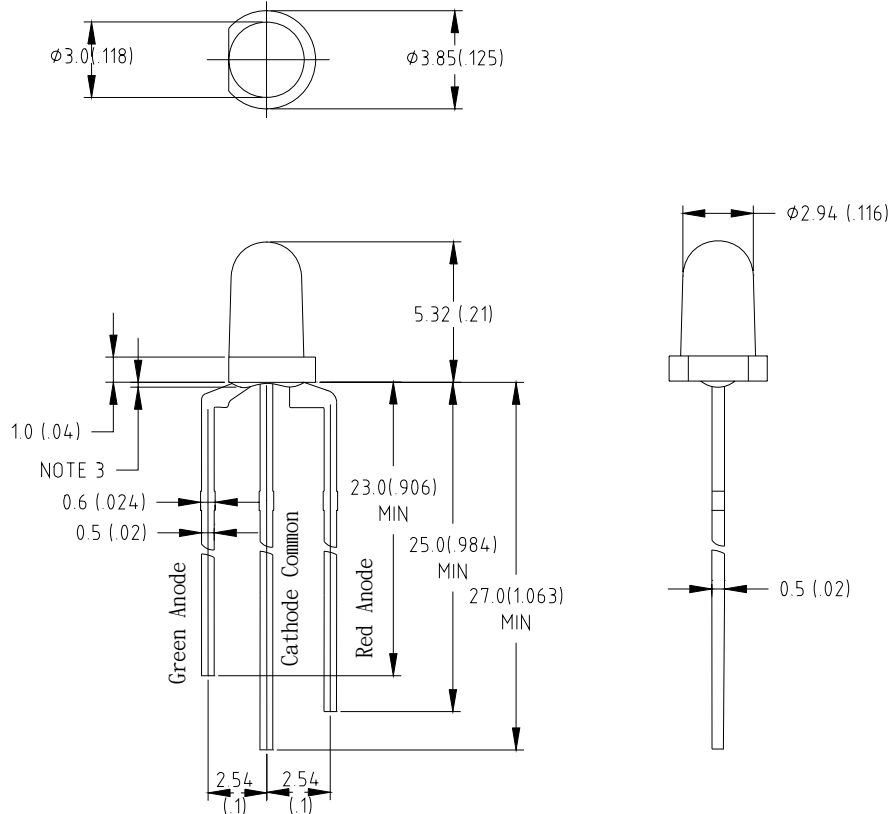
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Features:

- ◆ High intensity
- ◆ Standard 3mm diameter package
- ◆ General purpose leads
- ◆ Pb-free

Package Dimensions:



Part NO.	Chip Material		Lens Color	Emission Color
LL-309VGM2E-009	Red	Green	White Diffused	Red & Green
	AlGaInP	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°C

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	35	mA
	Green	50	
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	Emitting Color	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I _v	Green	28	60		mcd	I _F =20mA Note 1
		Red	63	140			
Viewing Angle	2θ _{1/2}	Green	55	65	75	Deg	Note 2
		Red	45	55	65		
Peak Emission Wavelength	λ _p	Green	563	568	573	nm	Measurement @Peak
		Red	645	650	655		
Dominant Wavelength	λ _d	Green	565	570	575	nm	Note 3
		Red	630	635	640		
Spectral Line Half-Width	Δλ	Green	25	30	35	nm	
		Red	15	20	25		
Forward Voltage	V _F	Green	1.7	2.2	2.6	V	I _F =20mA
		Red	1.5	2.0	2.5		
Reverse Current	I _R	Green			10	μA	V _R =5V
		Red					

Notes:

- Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
- θ_{1/2} is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- The dominant wavelength (λ_d) 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)

