LUCKY LIGHT

Preliminary

LL-309SGM2A-001

DATA SHEET

RoHS Compliant

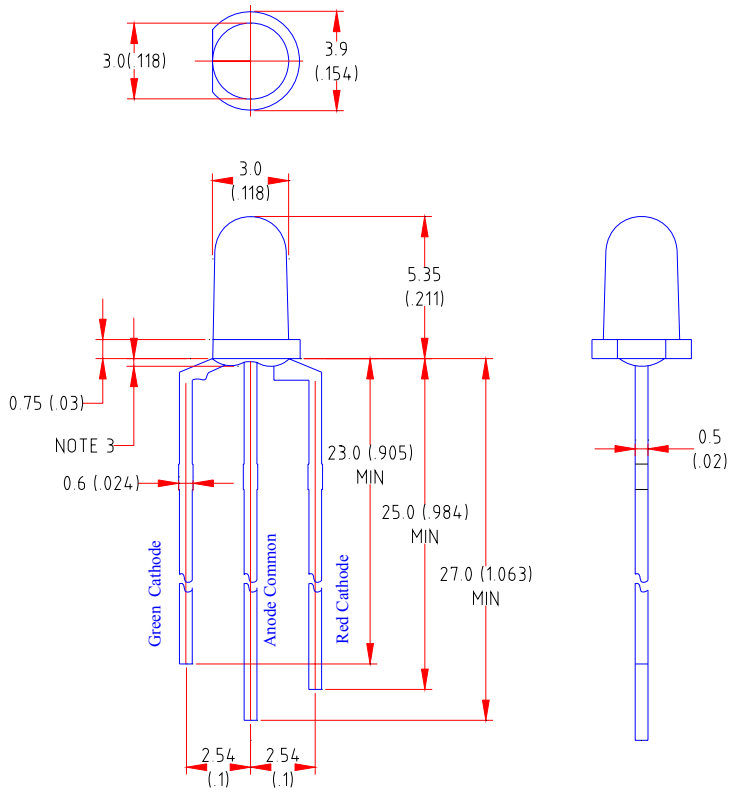
佳光電子(台山)有限公司 受控文件

QC:何遠花　　ENG:　鄭 文 斌　　Prepared By: 賓娟

Features

- Standard 3mm diameter package
- Wide viewing angle
- General purpose leads
- Pb-free

Package Dimension:



Part NO.	Chip Material		Lens Color	Emission Color
LL-309SGM2A-001	Red	Green	White Diffused	Red & Green
	AlGaAs	Gap		

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
6. This data-sheet only valid for six months.

Absolute Maximum Ratings at Ta=25℃

Parameter	MAX.		Unit
Power Dissipation	Red	90	mW
	Green	130	
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	Red	35	mA
	Green	130	
Continuous Forward Current	40		mA
Derating Linear From 50℃	0.4		mA/℃
Reverse Voltage	5		V
Operating Temperature Range	-30℃ to +80℃		
Storage Temperature Range	-40℃ to +100℃		
Lead Soldering Temperature [4mm(.157") From Body]	280℃ for 5 Seconds		

Electrical Optical Characteristics at Ta=25℃

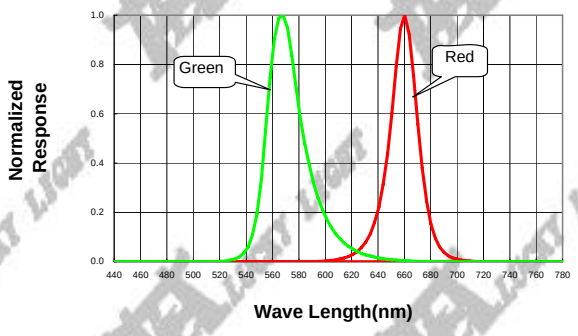
Parameter	Symbol	Emitting Color	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	Iv	Green	13	28		mcd	I_F=20mA Note 1
		Red	28	60			
Viewing Angle	$2\theta_{1/2}$	Green	75	85	95	Deg	Note 2
		Red	75	85	95		
Peak Emission Wavelength	λp	Green	559	564	569	nm	Measurement @Peak
		Red	655	660	665		
Dominant Wavelength	λd	Green	565	570	575	nm	Note 3
		Red	630	635	640		
Spectral Line Half-Width	△λ	Green	25	30	35	nm	
		Red	20	25	30		
Forward Voltage	V_F	Green	1.7	2.2	2.6	V	I_F=20mA
		Red	1.5	1.85	2.4		
Reverse Current	I_R	Green			10	μA	V_R=5V
		Red					

Note:

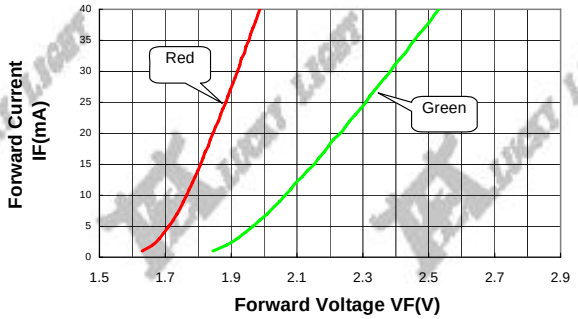
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength (λd) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
4. Forward voltage measurement allowance is ±0.1V
5. Luminous Intensity Measurement Allowance is ±10%

Typical Electrical / Optical Characteristics Curves
(25℃ Ambient Temperature Unless Otherwise Noted)

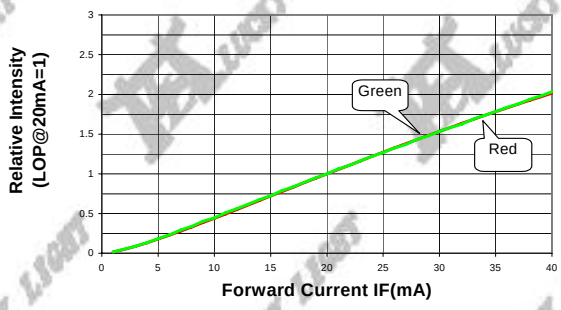
Spectral Radiance **Green Peak @ 568nm**
Red Peak @ 660nm



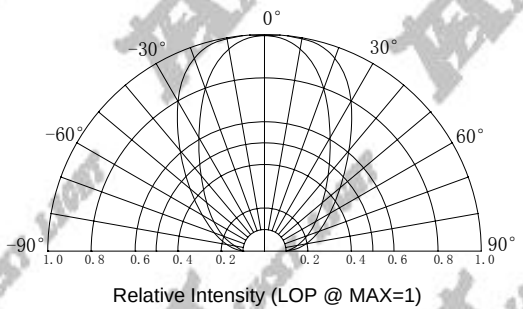
Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current



Beam Pattern



Forward Cureent Derating Curve