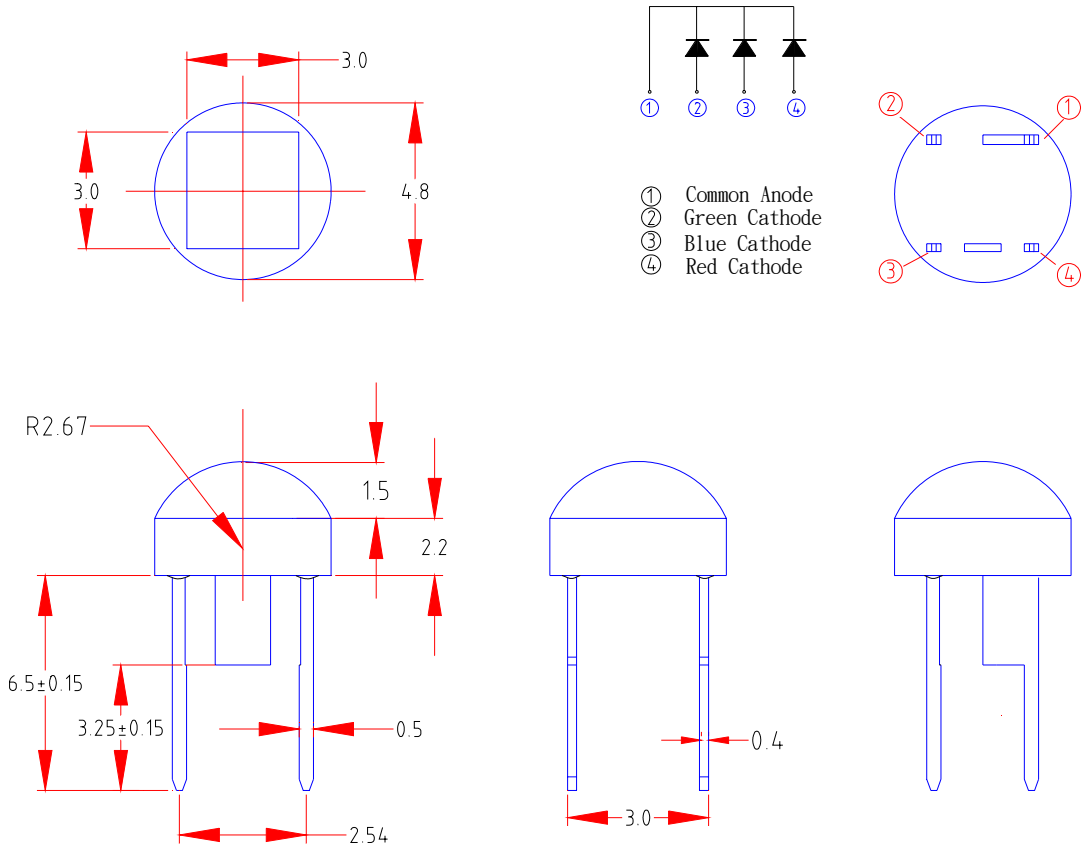
Preliminary

LL-U42RGBM2A-008

DATA SHEET

QC: ENG: Prepared By:

Package Dimensions:



Part NO.	Chip Material			Lens Color	Source Color
LL-U42RGBM 2A-008	Red AlGaInP	True Green InGaN	Blue InGaN	White Diffused	Red & True Green & Blue

Notes:

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

Parameter	MAX.		Unit
Power Dissipation	Red	90	mW
	True Green	115	
	Blue	115	
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100		mA
Continuous Forward Current	Red	35	mA
	True Green	30	
	Blue	30	
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	I_V	Red	40	90	180	mcd	I_f=20mA Note 1
		True Green	150	310	600		
		Blue	50	100	190		
Viewing Angle	$2\theta_{1/2}$	Red	120	130	140	Deg	Note 2
		True Green	120	130	140		
		Blue	120	130	140		
Peak Emission Wavelength	λp	Red	630	635	640	nm	Measurement @Peak
		True Green	515	520	525		
		Blue	465	470	475		
Dominant Wavelength	λd	Red	625	630	635	nm	Note 3
		True Green	520	525	530		
		Blue	464	468	474		
Spectral Line Half-Width	△λ	Red	20	25	30	nm	
		True Green	35	40	45		
		Blue	20	25	30		
Forward Voltage	V_F	Red	1.8	2.0	2.4	V	I_F=20mA
		True Green	2.8	3.3	3.8		
		Blue	2.8	3.3	3.8		
Reverse Current	I_R	Red	---	---	100	μA	V_R=5V
		True Green					
		Blue					

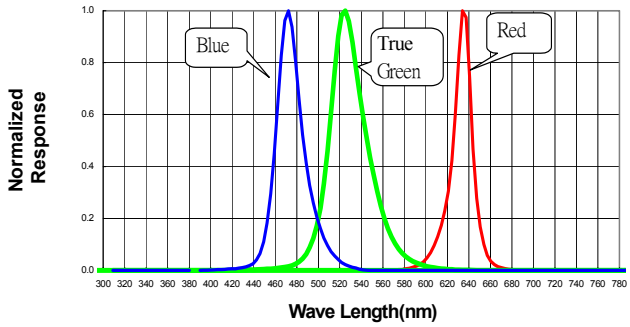
Notes:

1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$ 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.

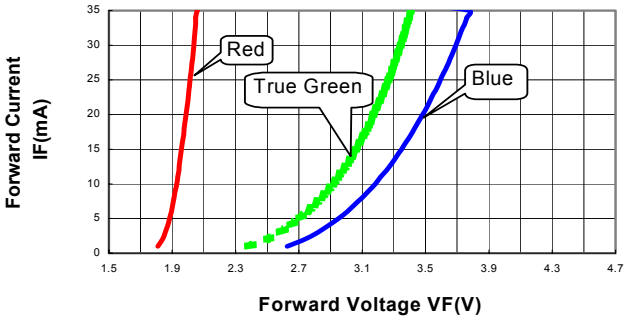
Typical Electrical / Optical Characteristics Curves

(25℃ Ambient Temperature unless Otherwise Noted)

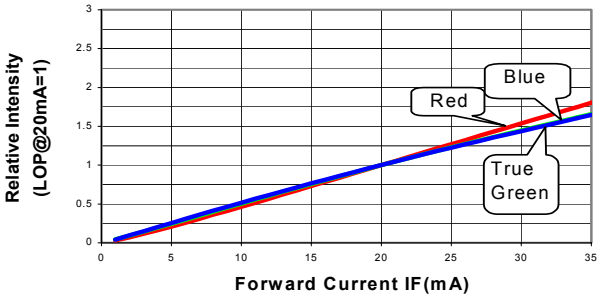
Spectral Radiance True Green Peak @ 525nm
Red Peak @ 635nm
Blue Peak @ 470nm



Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current



Beam Pattern