LUCKY LIGHT

Preliminary

LL-U42RGBC2B-012

DATA SHEET

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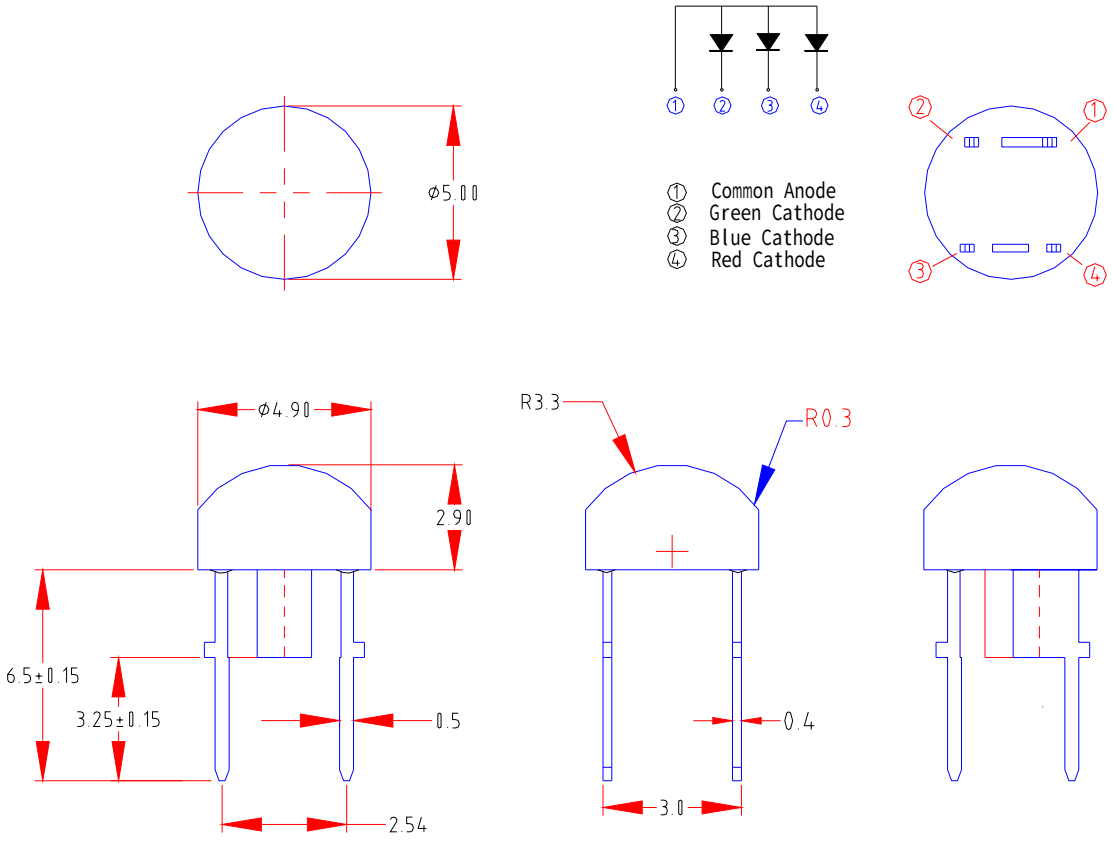
Package Dimensions:



Part NO.	Chip Material			Lens Color	Emission Color
LL-U42RGBC2B-012	Red	True Green	Blue	Water Clear	Red & True Green & Blue
	AlGaInP	InGaN	InGaN		

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm (.010”) unless otherwise noted.
3. Protruded resin under lens 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 electricity and surge can 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	80	
	Blue	80	
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100		mA
Continuous Forward Current	Red	35	mA
	True Green	20	
	Blue	20	
Derating Linear From 50℃	0.4		mA/℃
Reverse Voltage	5		V
Electrostatic Discharge (ESD)	150		V
Operating Temperature Range	-30℃ to +80℃		
Storage Temperature Range	-40℃ to +100℃		
Lead Soldering Temperature [4mm(.157") From Body]	260℃ for 5 Seconds		

Electrical Optical Characteristics at Ta=25℃

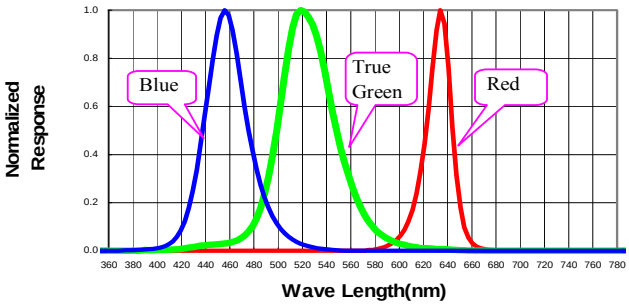
Parameter	Symbol	Emitting Color	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I_V	Red	140	310		mcd	I_F=20mA Note 1
		True Green	210	460			
		Blue	63	140			
Viewing Angle	$2\theta_{1/2}$	Red	110	120	130	Deg	Note 2
		True Green	110	120	130		
		Blue	110	120	130		
Peak Emission Wavelength	λp	Red	630	635	640	nm	Measurement @Peak
		True Green	515	520	525		
		Blue	455	460	465		
Dominant Wavelength	λd	Red	620	625	630	nm	Note 3
		True Green	520	525	530		
		Blue	460	465	470		
Spectral Line Half-Width	△λ	Red	20	25	30	nm	
		True Green	45	50	55		
		Blue	35	40	45		
Forward Voltage	V_F	Red	1.7	2.1	2.6	V	I_F=20mA
		True Green	2.8	3.4	4.0		
		Blue	2.8	3.5	4.0		
Reverse Current	I_R	Red			50	μA	V_R=5V
		True Green					
		Blue					

Notes:

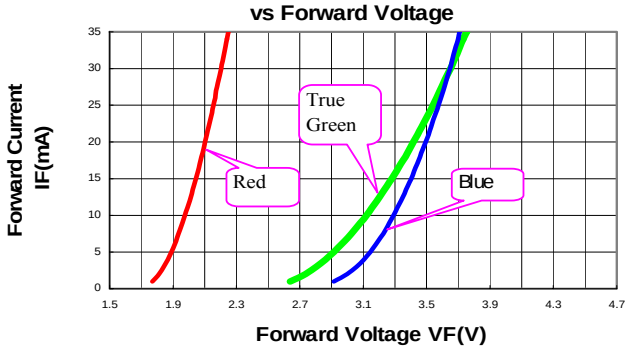
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength (λd) is derived from the CIE chromaticity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

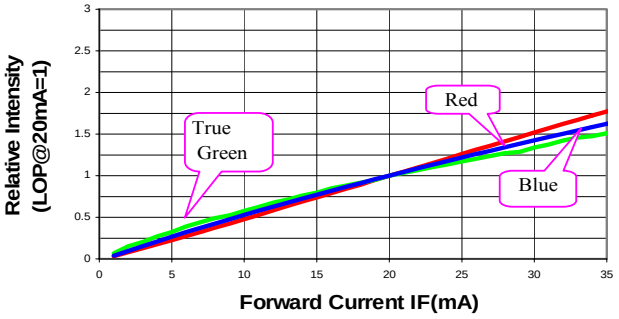
Spectral Radiance Red Peak @ 635nm
True Green Peak @ 520nm
Blue Peak @ 460nm



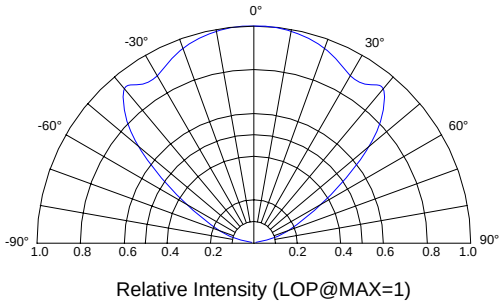
Forward Current
vs Forward Voltage



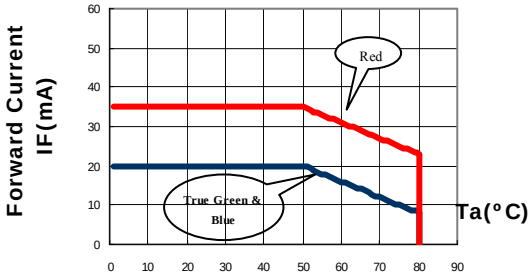
Relative Luminous Intensity
vs Forward Current



Beam Pattern



Forward Cureent
Derating Curve



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