Preliminary

LL-509BYC2E-004

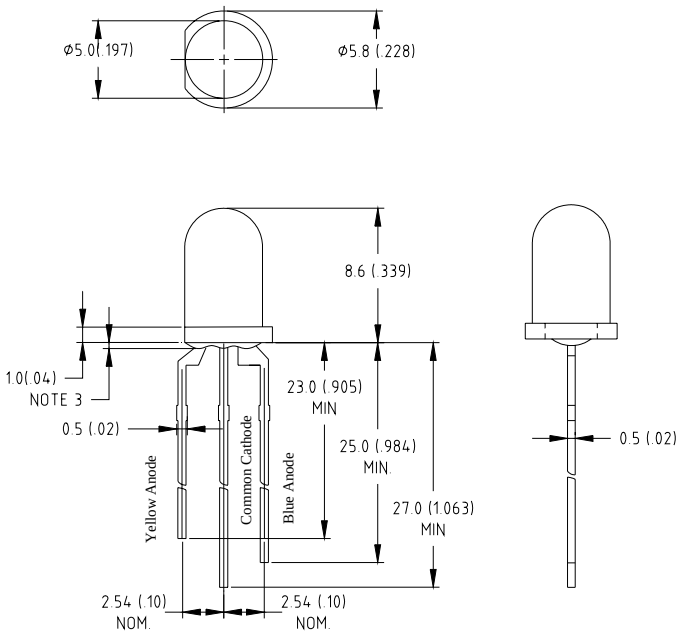
DATA SHEET

QC: ENG: Prepared By:

Features:

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

Package Dimensions:



Part NO.	Chip Material		Lens Color	Source Color
LL-509BYC2E-004	Blue	Yellow	Water Clear	Blue & Yellow
	GaInN	AlGaInP		

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25 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. 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	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	Yellow	500	1100	2200	mcd	I_f=20mA Note 1
		Blue	500	1000	2200		
Viewing Angle	$2\theta_{1/2}$	Yellow	20	25	30	Deg	Note 2
		Blue	20	25	30		
Peak Emission Wavelength	λp	Yellow	585	590	595	nm	I_F=20mA
		Blue	463	468	473		
Dominant Wavelength	λd	Yellow	585	590	595	nm	I_F=20mA Note 3
		Blue	460	470	480		
Spectral Line Half-Width	$\triangle\lambda$	Yellow	15	20	25	nm	I_F=20mA
		Blue	35	40	45		
Forward Voltage	V_F	Yellow	1.6	2.0	2.5	V	I_F=20mA
		Blue	2.8	3.5	4.0		
Reverse Current	I_R	Yellow	---	---	100	μA	V_R=5V
		Blue					

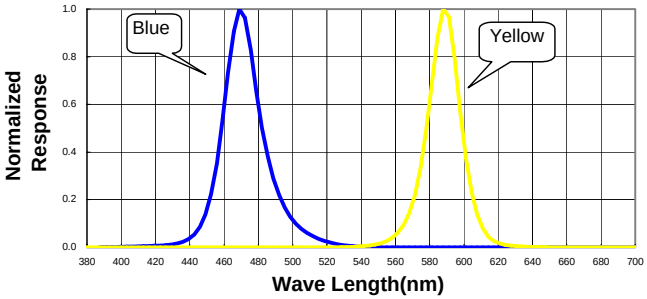
Note:

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.

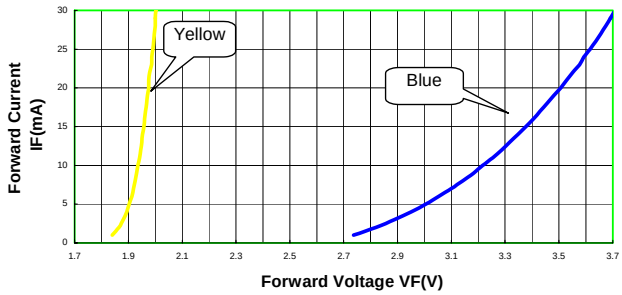
Typical Electrical / Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

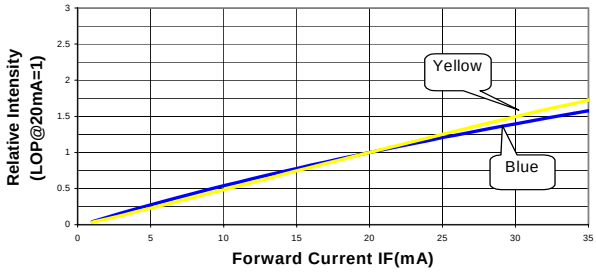
Spectral Radiance Yellow Peak @ 590nm
Blue Peak @ 468nm



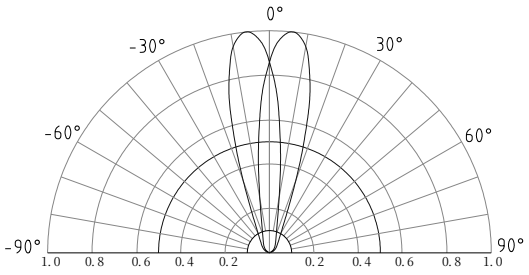
Forward Current
vs Forward Voltage



Relative Luminous Intensity
vs Forward Current



Beam Pattern



Relative Intensity (LOP @ MAX=1)