# LL-509BZM2E-001

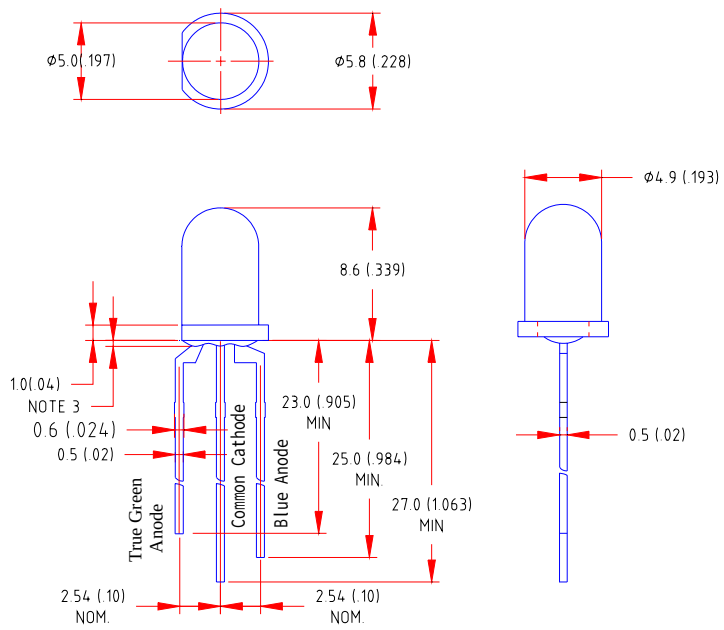
## DATA SHEET

QC: ENG: Prepared By:

## Features

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

## Package Dimension:




| Part NO. | Chip Material | | Lens Color | Source Color |
|---|---|---|---|---|
| LL-509BZM2E-001 | True Green | Blue | White Diffused | True Green & Blue |
| | GaInN | GaInN | | |

**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. Caution in ESD:
   Siatic Electricity and surge damages the LED. lt is recommend to use a wrist band or anti-electrostatic glove when handling the LED.All devices, equipment and machinery must be properly grounded.

**Absolute Maximum Ratings at Ta=25℃**

| Parameter | MAX. | Unit |
|---|---|---|
| Power Dissipation | 100 | mW |
| Peak Forward Current<br>(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<br>[4mm(.157") From Body] | 260℃ for 5 Seconds | |

## Electrical Optical Characteristics at Ta=25℃

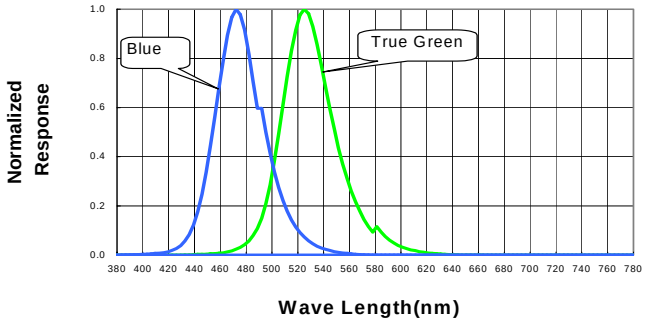
| Parameter | Symbol | Emitting Color | Min. | Typ. | Max. | Unit | Test Condition |
|---|---|---|---|---|---|---|---|
| Luminous Intensity | Iv | Blue | 300 | 640 | 1300 | mcd | $I_f$=20mA Note 1 |
| | | True Green | 800 | 1650 | 3500 | | |
| Viewing Angle | $2\theta_{1/2}$ | Blue | 34 | 39 | 44 | Deg | Note 2 |
| | | True Green | 34 | 39 | 44 | | |
| Peak Emission Wavelength | $\lambda p$ | Blue | 463 | 468 | 473 | nm | $I_F$=20mA |
| | | True Green | 520 | 525 | 530 | | |
| Dominant Wavelength | $\lambda d$ | Blue | 460 | 470 | 480 | nm | $I_F$=20mA Note 3 |
| | | True Green | 520 | 534 | 544 | | |
| Spectral Line Half-Width | $\triangle\lambda$ | Blue | 35 | 40 | 45 | nm | $I_F$=20mA |
| | | True Green | 35 | 40 | 45 | | |
| Forward Voltage | $V_F$ | Blue | 2.8 | 3.6 | 4.0 | V | $I_F$=20mA |
| | | True Green | 2.8 | 3.2 | 4.0 | | |
| Reverse Current | $I_R$ | Blue | --- | --- | 100 | μA | $V_R$=5V |
| | | True Green | | | | | |

Note:

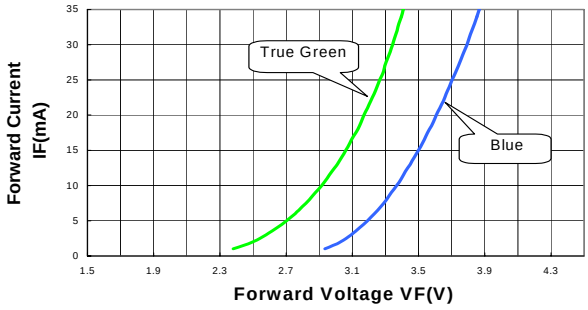
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength ( $\lambda$ ) is derived from the CIE chromaticity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

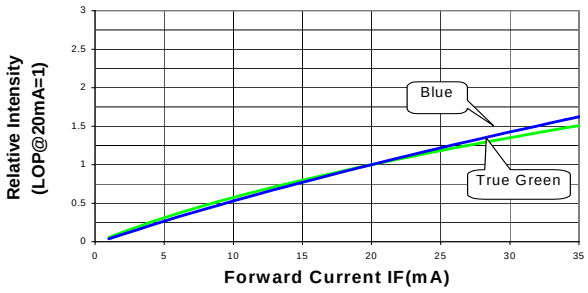
**Spectral Radiance** True Green Peak @ 525nm
Blue Peak @ 468nm



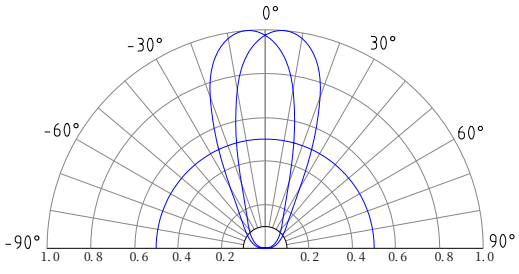

**Forward Current vs Forward Voltage**




**Relative Luminous Intensity vs Forward Current**




Beam Pattern




Relative Intensity (LOP @ MAX=1)