

# Preliminary

## LL-503VM2E-011

### DATA SHEET

QC :

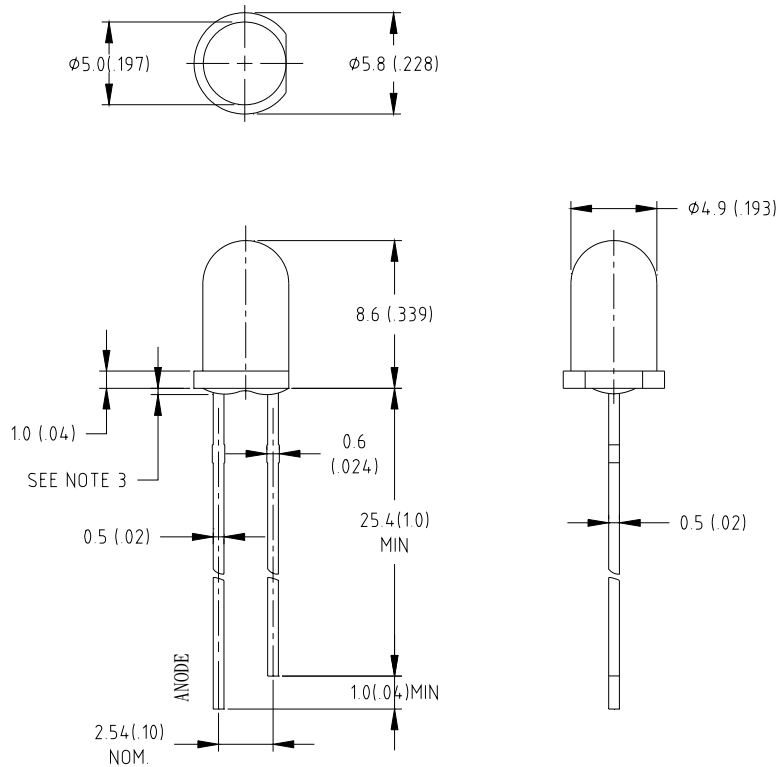
ENG :

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-503VM2E-011	AlGaInP	White Diffused	Super Bright Red

### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25$  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. This data-sheet only valid for six months.

**Absolute Maximum Ratings at Ta=25°C**

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°C	0.4	mA/°C
Reverse Voltage	5	V
Operating Temperature Range	-40°C to +80°C	
Storage Temperature Range	-40°C to +80°C	
Lead Soldering Temperature [4mm(.157") From Body]	260°C for 5 Seconds	

**Electrical Optical Characteristics at Ta=25°C**

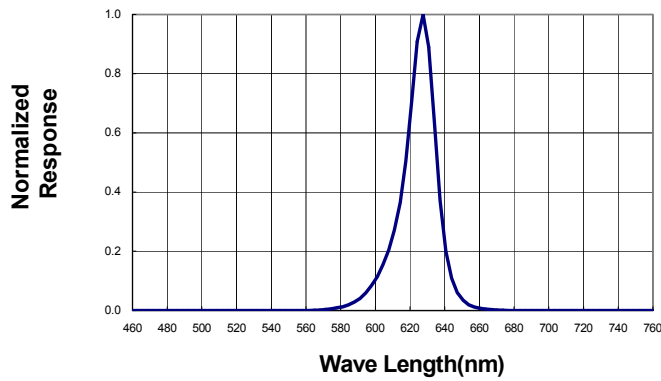
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	$I_v$	1500	3000	6000	mcd	$I_f=20\text{mA}$ (Note 1)
Viewing Angle	$2\theta_{1/2}$	25	30	35	Deg	(Note 2)
Peak Emission Wavelength	$\lambda_p$	630	635	640	nm	$I_f=20\text{mA}$
Dominant Wavelength	$\lambda_d$	625	630	635	nm	$I_f=20\text{mA}$ (Note 3)
Spectral Line Half-Width	$\Delta\lambda$	15	20	25	nm	$I_f=20\text{mA}$
Forward Voltage	$V_f$	1.8	2.2	2.7	V	$I_f=20\text{mA}$
Reverse Current	$I_R$	---	---	100	$\mu\text{A}$	$V_R=5\text{V}$

**Notes:**

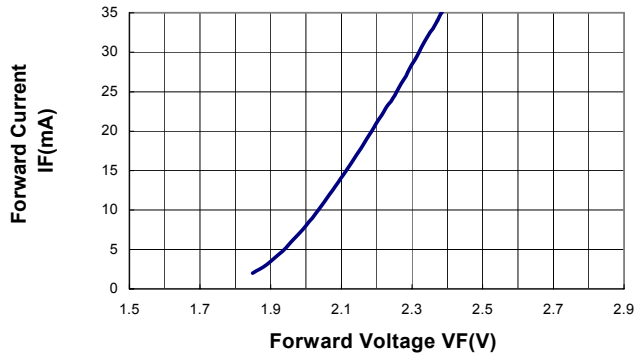
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2.  $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength ( $\lambda_d$ ) is derived from the CIE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

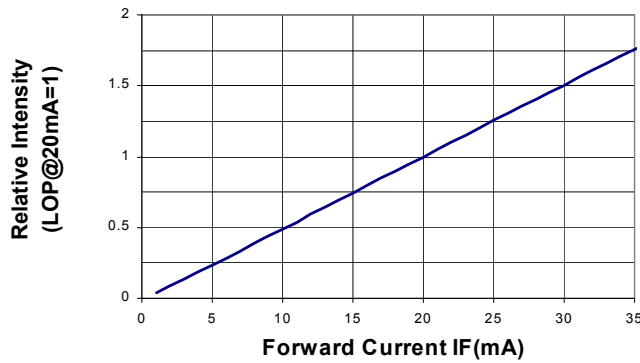
**Spectral Radiance (Peak @ 635 nm)**



**Forward Current vs Forward Voltage**



**Relative Luminous Intensity vs Forward Current**



**Beam Pattern**

