Preliminary

LL-1003VM1H-001

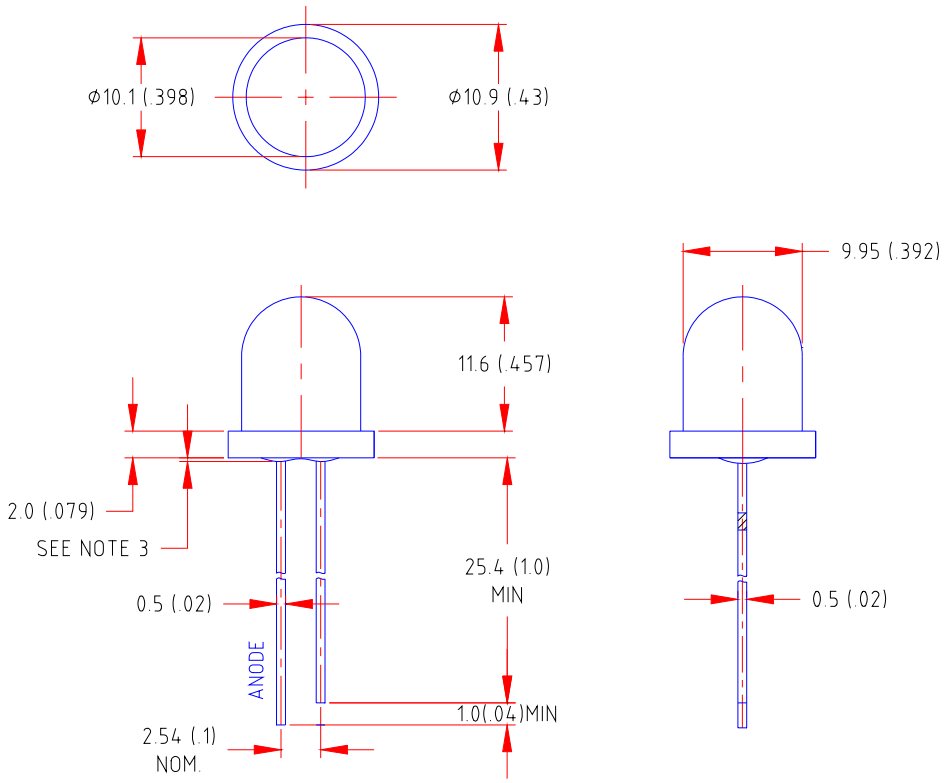
DATA SHEET

QC: ENG: Prepared By:

Features:

- ♦ High intensity
- ♦ Diameter 10mm package
- ♦ General purpose leads
- ♦ Reliable and rugged

Package Dimensions:



Part NO.	Chip Material	Lens Color	Source Color
LL-1003VM1H-001	AlGaInP	White Diffused	Super Bright Red

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. This data-sheet only valid for six months.

Absolute Maximum Ratings at Ta=25℃

Parameter	MAX.	Unit
Power Dissipation	90	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

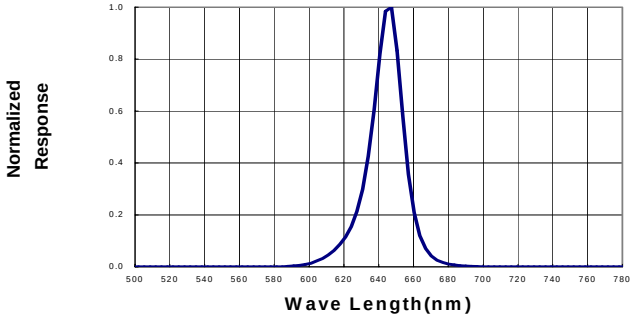
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	Iv	100	220	450	mcd	I_F=20mA Note 1
Viewing Angle	$2\theta_{1/2}$	55	65	75	Deg	Note 2
Peak Emission Wavelength	λp	640	645	650	nm	I_F=20mA
Dominant Wavelength	λd	625	630	635	nm	I_F=20mA Note 3
Spectral Line Half-Width	$\triangle\lambda$	15	20	25	nm	I_F=20mA
Forward Voltage	V_F	1.6	1.95	2.5	V	I_F=20mA
Reverse Current	I_R	---	---	100	μA	V_R=5V

Note:

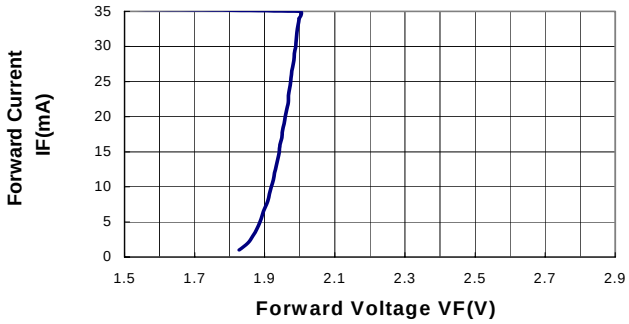
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength, λd is derived from the CIE chromaticity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

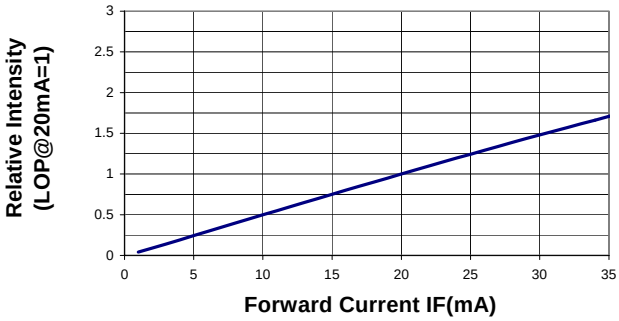
Spectral Radiance (Peak @ 645nm)



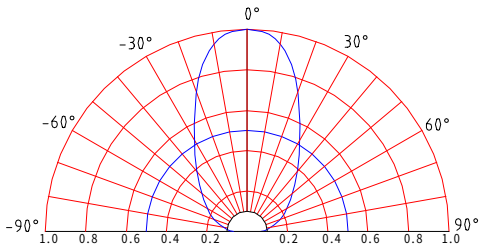
Forward Current
vs Forward Voltage



Relative Luminous Intensity
vs Forward Current



Beam Pattern



Relative Intensity (LOP @ MAX=1)