

LL-503SD2E-010

DATA SHEET

QC:

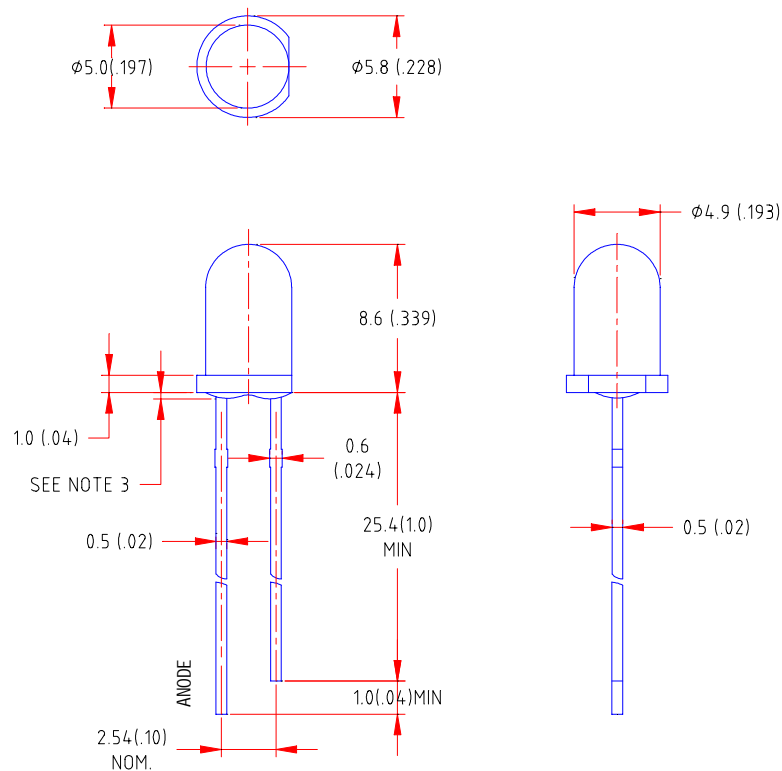
ENG:

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-503SD2E-010	AlGaAs	Red Diffused	Super Bright Red

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25 (.010)$ mm unless otherwise noted.
3. Protruded resin under flange is $1.0 \text{mm} (.04)$ max
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice

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	40	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

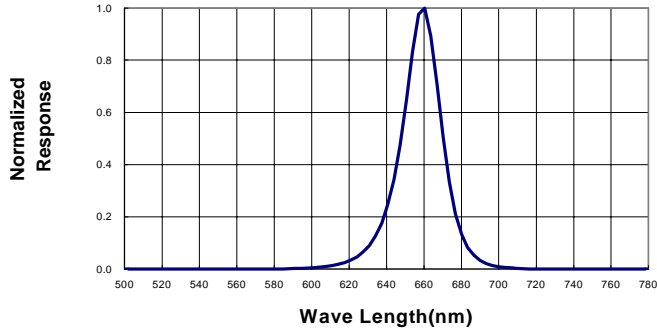
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I_v	50	110	200	mcd	$I_F=20mA$ (Note 1)
Viewing Angle	$2\theta_{1/2}$	28	35	42	Deg	(Note 2)
Peak Emission Wavelength	λ_p	655	660	665	nm	$I_F=20mA$
Dominant Wavelength	λ_d	635	640	645	nm	$I_F=20mA$ (Note 3)
Spectral Line Half-Width	$\Delta\lambda$	19	24	29	nm	$I_F=20mA$
Forward Voltage	V_F	1.5	1.8	2.4	V	$I_F=20mA$
Reverse Current	I_R	---	---	100	μA	$V_R=5V$

Note:

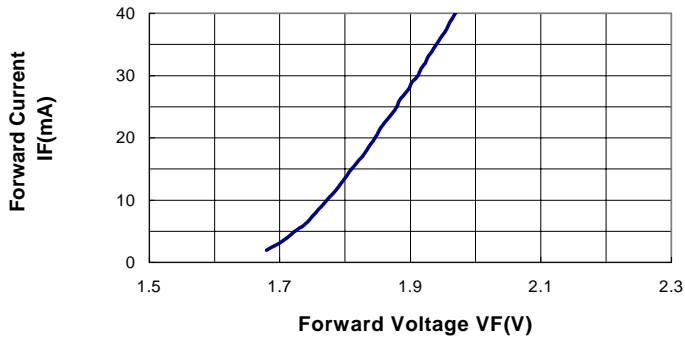
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength (λ_d) is derived from the CIE chromaticity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

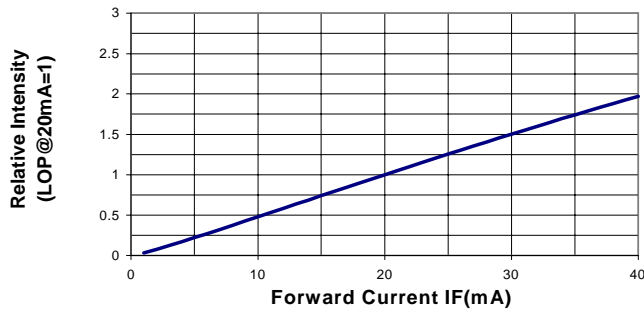
Spectral Radiance (Peak @ 660nm)



Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current



Beam Pattern

