

# LL-304ID2E-008

## DATA SHEET

QC:

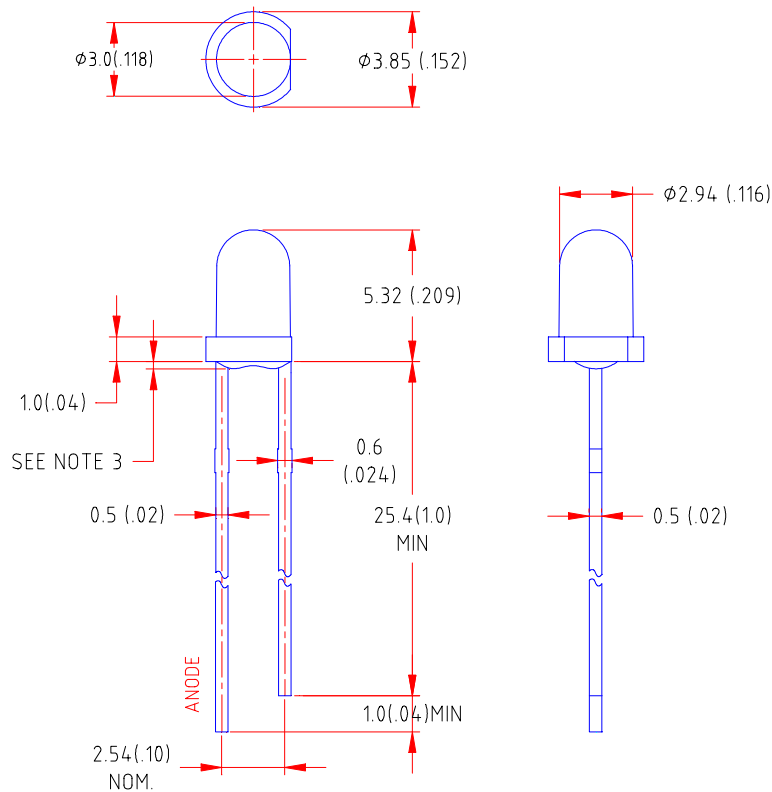
ENG:

Prepared By:

## Features

- ◆ Standard T-1 diameter package
- ◆ Wide viewing angle
- ◆ General purpose leads
- ◆ Reliable and rugged

## Package Dimension:



Part NO.	Chip Material	Lens Color	Source Color
LL-304ID2E-008	GaAsP	Red Diffused	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	50	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**

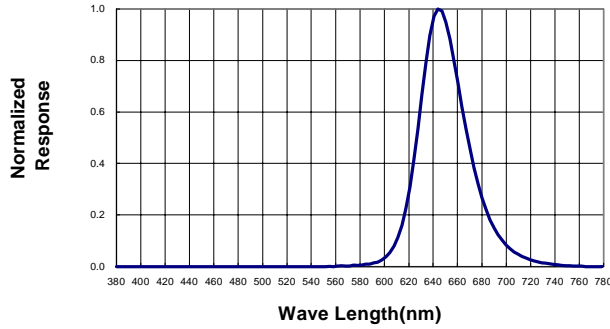
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	$I_v$	50	110	240	mcd	$I_F=20mA$ (Note 1)
Viewing Angle	$2\theta_{1/2}$	32	38	44	Deg	(Note 2)
Peak Emission Wavelength	$\lambda_p$	639	644	649	nm	$I_F=20mA$
Dominant Wavelength	$\lambda_d$	625	630	635	nm	$I_F=20mA$ (Note 3)
Spectral Line Half-Width	$\Delta\lambda$	35	40	45	nm	$I_F=20mA$
Forward Voltage	$V_F$	1.6	2.0	2.5	V	$I_F=20mA$
Reverse Current	$I_R$	---	---	100	$\mu A$	$V_R=5V$

**Note:**

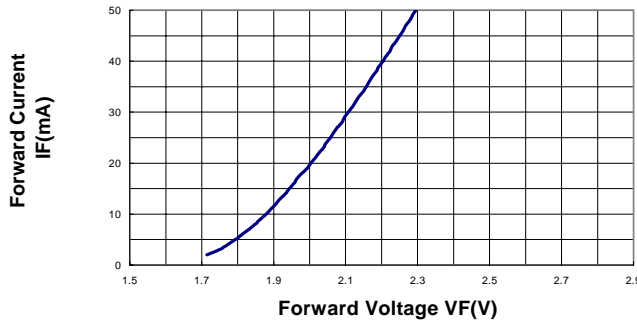
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2.  $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength ( $\lambda_d$ ) is derived from the CIE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

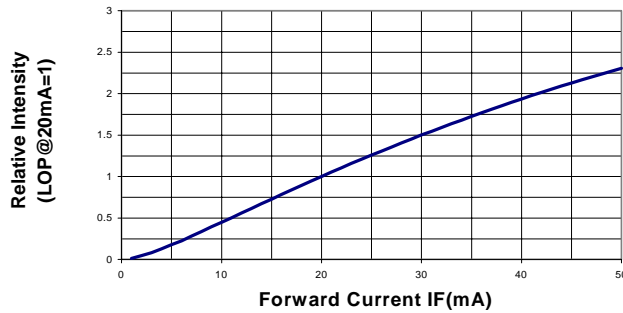
**Spectral Radiance ( Peak @ 644nm)**



**Forward Current vs Forward Voltage**



**Relative Luminous Intensity vs Forward Current**



**Beam Pattern**

