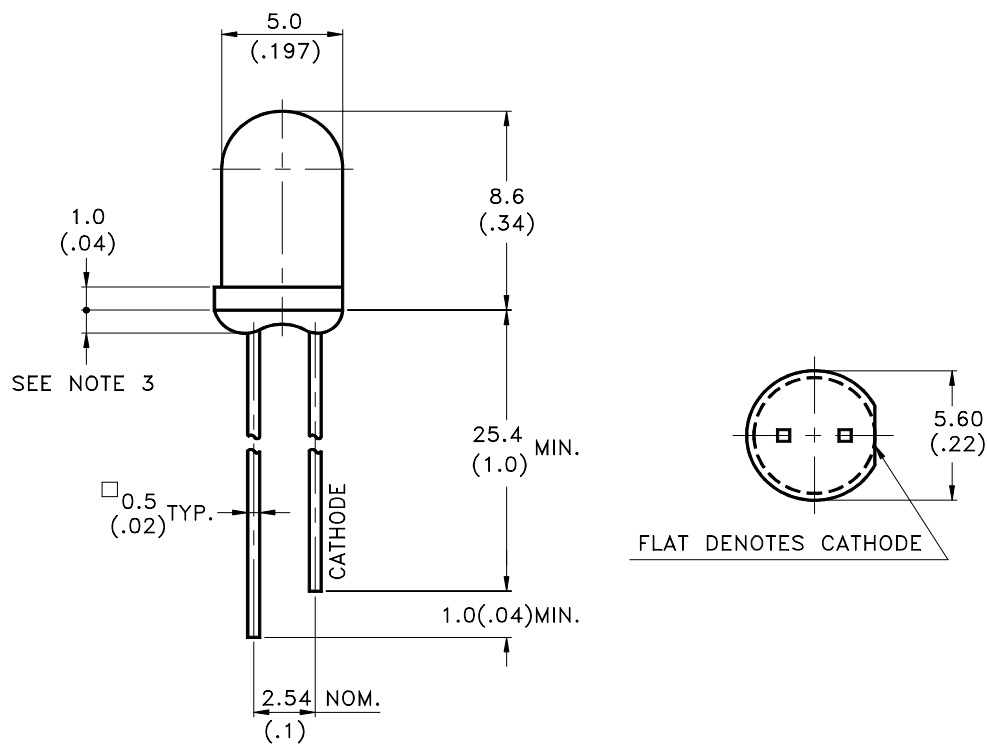


## Features

- \* Integral current limiting resistor LED.
- \* Chip resistor built in, required with 5 volts supply.
- \* Cost effective (save external resistor space and cost)

## Package Dimensions



Part No.	Lens	Source Color
LTL-4233-R1	Green Diffused	Green

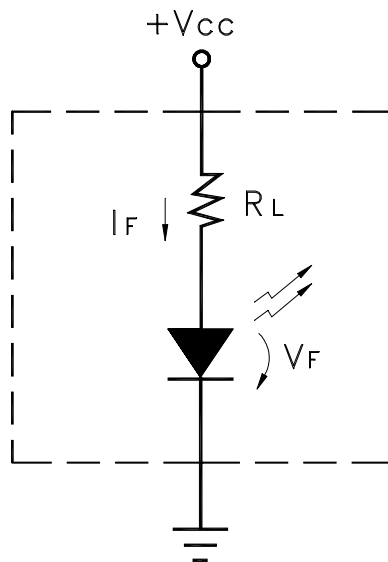
### Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm}(.010\text{'})$  unless otherwise noted.
3. Protruded resin under flange is  $1.0\text{mm}(.04\text{'})$  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	Maximum Rating	Unit
DC Forward Voltage (TA=25°C)	7.5	V
Derating Linear From 50°C	0.071	V/°C
Reverse Voltage	5	V
Operating Temperature Range	-40°C to + 85°C	
Storage Temperature Range	-55°C to + 100°C	
Lead Soldering Temperature [1.6mm(.063") From Body]	260°C for 5 Seconds	

### Equivalent circuit:



$V_{cc} = 5 \text{ Volts}$   
 $(R_L = 240 \text{ ohms} \pm 20\%)$

$$I_F = \frac{V_{cc} - V_F}{R_L}$$

**Electrical / Optical Characteristics at TA=25°C**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I <sub>v</sub>	12.6	40		mcd	V <sub>CC</sub> = 5V Note 1,4
Viewing Angle	2θ <sub>1/2</sub>		36		deg	Note 2 (Fig.5)
Peak Emission Wavelength	λ <sub>p</sub>		565		nm	Measurement @Peak (Fig.1)
Dominant Wavelength	λ <sub>d</sub>		569		nm	Note 3
Spectral Line Half-Width	Δλ		30		nm	
Forward Current	I <sub>F</sub>	8	12	16	mA	V <sub>CC</sub> = 5V
Reverse Current	I <sub>R</sub>			100	μA	V <sub>R</sub> = 5V

- Note: 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission International De L'Eclairage) eye-response curve.
2. θ<sub>1/2</sub> is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength, λ<sub>d</sub> is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
4. The I<sub>v</sub> guarantee should be added ± 15% .

## Typical Electrical / Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

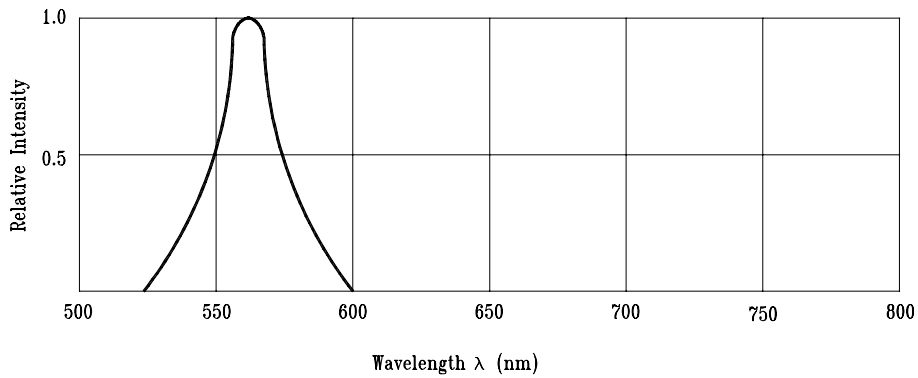


Fig.1 Relative Intensity vs. Wavelength

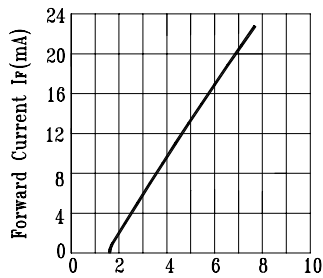


Fig.2 Forward Current vs. Applied Forward Voltage  
5 Volts Devices

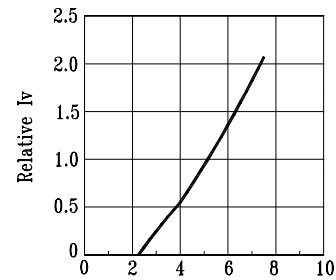


Fig.3 Relative Luminous Intensity vs. Applied Forward Voltage  
5 Volts Devices

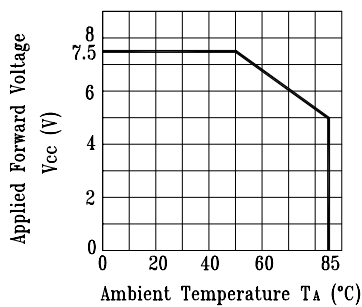


Fig.4. Maximum Allowed Applied Forward Voltage vs. Ambient Temperature  
5 Volts Devices

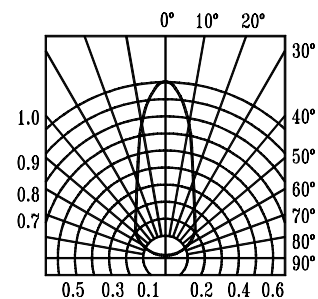


Fig.5 Spatial Distribution