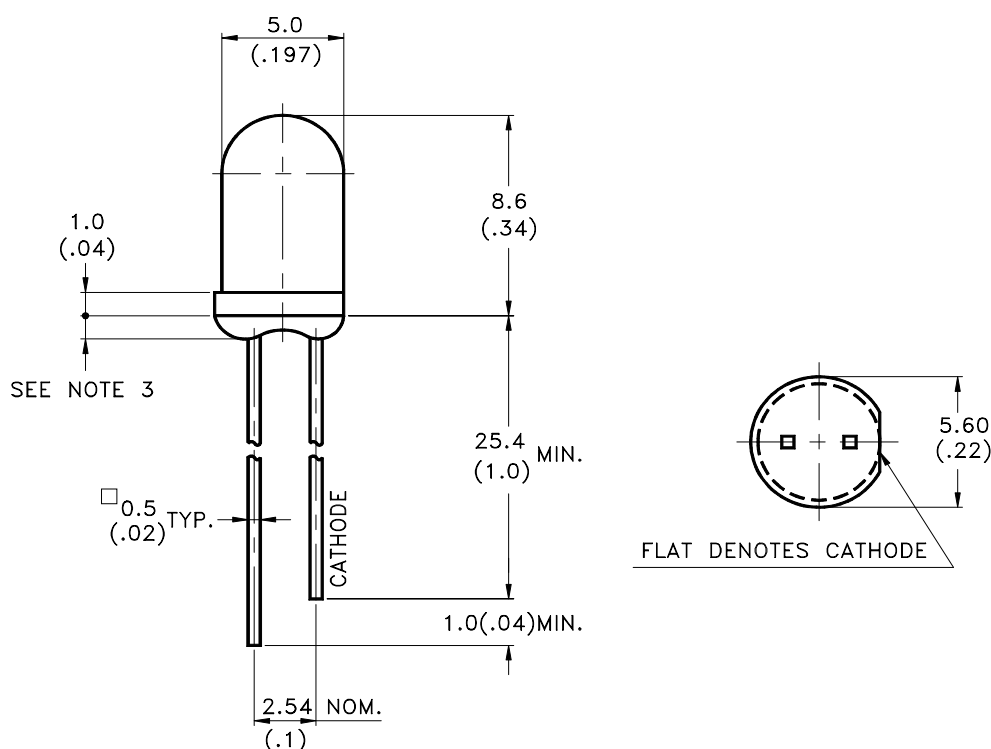


Features

- * Integral current limiting resistor.
- * Cost effective.
Save space and resistor cost.
- * External resistor required with 12 volts supply.

Package Dimensions



Part No.	Lens	Source Color
LTL-4213-FL	Red Diffused	Bright Red

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25\text{mm}(.010")$ 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.

Absolute Maximum Ratings at TA=25°C

Parameter	Maximum Rating
Operating Temperature Range	0°C to + 70°C
Storage Temperature Range	-50°C to + 85°C
Lead Soldering Temperature [1.6mm(.063") 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	0.6 1.8	1.1 4.0		mcd	VDD: 3.0V VDD: 10.0V Note 1
Viewing Angle	2 $\theta_{1/2}$		36		deg	Note 2 (Fig. 4)
Peak Emission Wavelength	λ_p		697		nm	Measurement @Peak (Fig. 1)
Dominant Wavelength	λ_d		657		nm	Note 3
Operating Voltage	VDD	3.0		10.0	volt	Fig. 2
Blinking Freq.	f	2.0		2.4	HZ	VDD: 3.0...10.0V Fig. 3

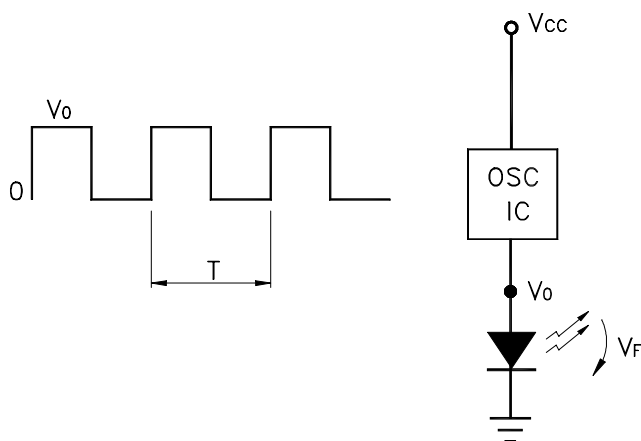
Note: 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission International De L'Eclairage) eye-response curve.

2. $\theta_{1/2}$ 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.

4. The I_v guarantee should be added $\pm 15\%$.

Equivalent circuit:



Typical Electrical / Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

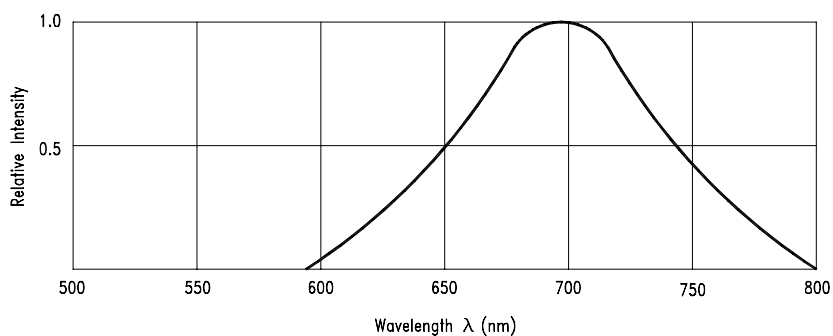


Fig.1 Relative Intensity vs. Wavelength

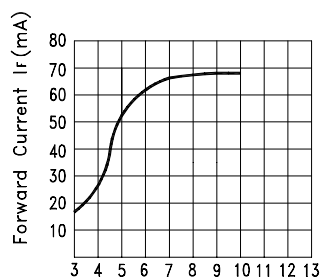


Fig.2 Applied Voltage V_{DD} (Volt)

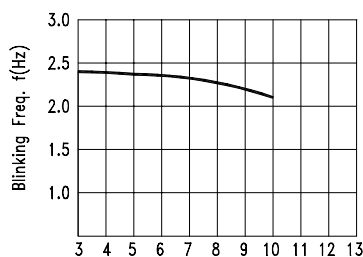


Fig.3 Applied Voltage V_{DD} (Volt)

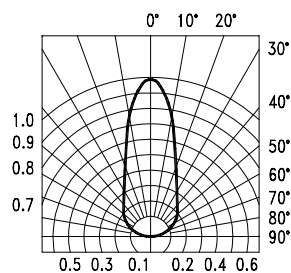


Fig.4 Spatial Distribution