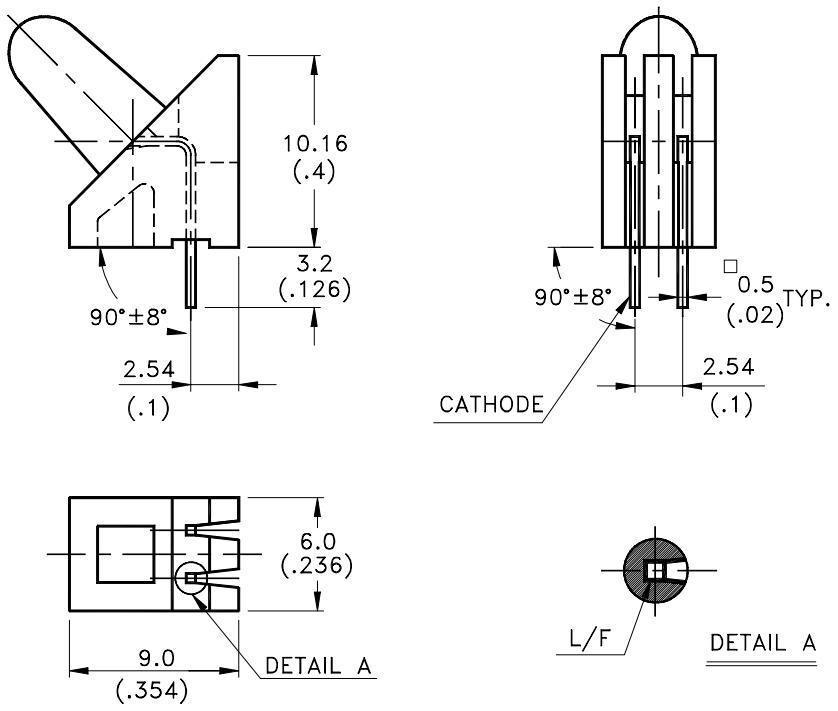
Features

* Designed for ease in circuit board assembly.
* Black case enhance contrast ratio.
* Solid state light source.
* Reliable and rugged.

Package Dimensions



Part No. LTL-	Lens	Source Color
337P	Red Diffused	Bright Red

NOTES:
1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm(.010") unless otherwise noted.
3. The holder color is black.
4. The LED lamp is LTL-337P.

Absolute Maximum Ratings at T_a=25℃

Parameter	Maximum Rating	Unit
Power Dissipation	40	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	60	mA
Continuous Forward Current	15	mA
Derating Linear From 50℃	0.2	mA/℃
Reverse Voltage	5	V
Operating Temperature Range	-55℃ to + 100℃	
Storage Temperature Range	-55℃ to + 100℃	
Lead Soldering Temperature [1.6mm(.063") From Body]	260℃ for 5 Seconds	

Electrical Optical Characteristics at Ta=25℃

Parameter	Symbol	Part No. LTL-	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	Iv	412-11	1.1	3.7		mcd	IF = 10mA Note 1,4
Viewing Angle	2θ 1/2	412-11		34		deg	Note 2 (Fig.6)
Peak Emission Wavelength	λp	412-11		697		nm	Measurement @Peak (Fig.1)
Dominant Wavelength	λd	412-11		657		nm	Note 3
Spectral Line Half-Width	Δλ	412-11		90		nm	
Forward Voltage	VF	412-11		2.1	2.6	V	IF = 20mA
Reverse Current	IR	412-11			100	μA	VR = 5V
Capacitance	C	412-11		55		pF	VF = 0 , f = 1MHz

NOTE: 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

2. θ 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.

4. Iv needs ±15% additionary for guaranteed limits.

Typical Electrical / Optical Characteristics Curves

(25℃ Ambient Temperature Unless Otherwise Noted)

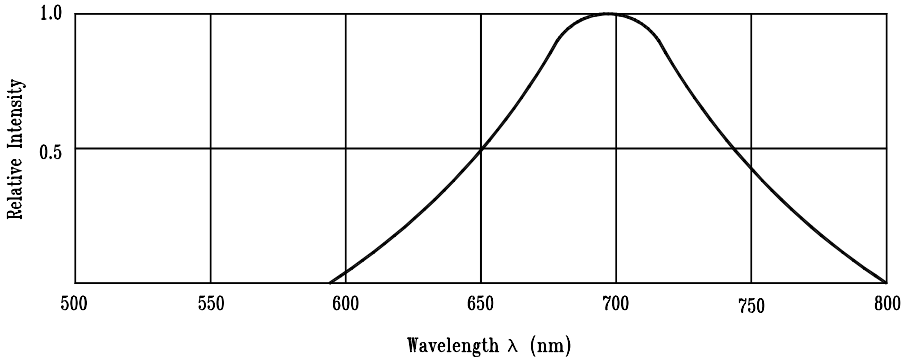


Fig.1 Relative Intensity vs. Wavelength

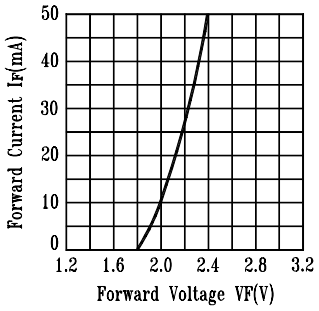


Fig.2 Forward Current vs. Forward Voltage

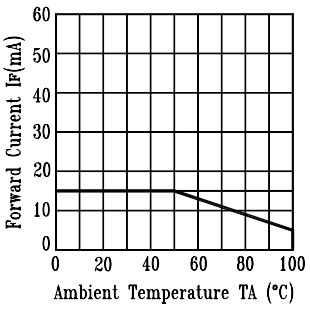


Fig.3 Forward Current Derating Curve

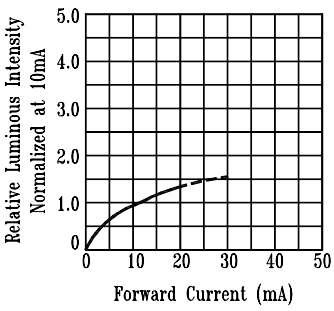


Fig.4 Relative Luminous Intensity vs. Forward Current

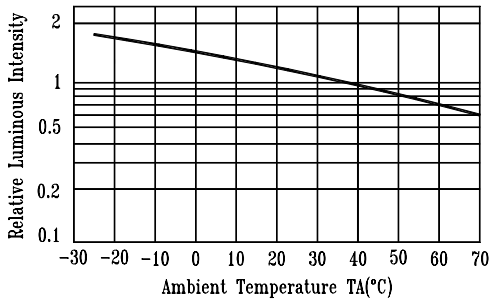


Fig.5 Luminous Intensity vs. Ambient Temperature

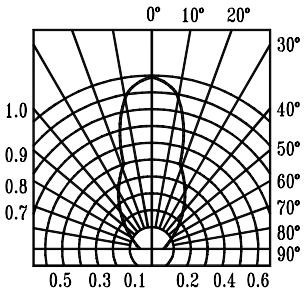


Fig.6 Spatial Distribution