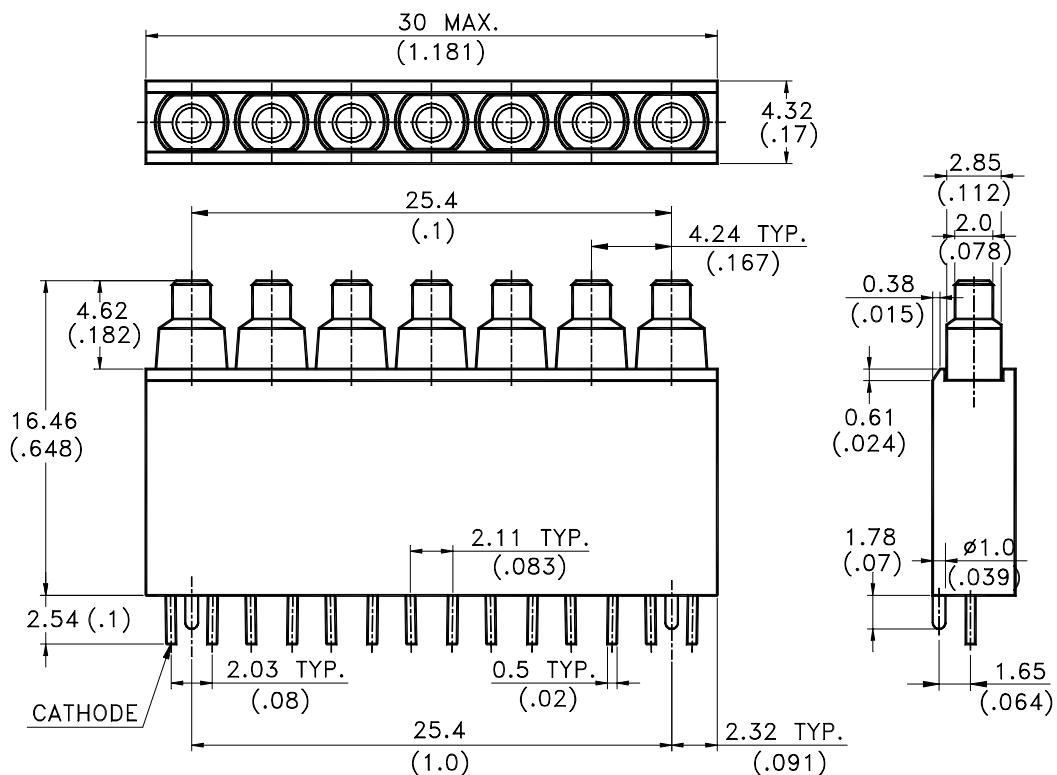


**Features**

- \* Designed for ease in circuit board assembly.
- \* Black case enhance contrast ratio.
- \* Designed to allow for high density packaging.
- \* Solid state light source.
- \* Reliable and rugged.

**Package Dimensions**

Part No.	Lens	Source
LTL-		Color
1232AL	Green Diffused	Green

**Notes:**

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm} (.010")$  unless otherwise noted.
3. The holder color is black.
4. The holder raw material is PBT.
5. The LED lamps are LTL-1232AL.



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**Absolute Maximum Ratings at Ta=25°C**

Parameter	Maximum Rating	Unit
Power Dissipation	100	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	120	mA
Continuous Forward Current	30	mA
Derating Linear From 50°C	0.4	mA/°C
Reverse Voltage	5	V
Operating Temperature Range	-55°C to + 100°C	
Storage Temperature Range	-55°C to + 100°C	
Lead Soldering Temperature [1.6mm(.063") From Body]	260°C for 5 Seconds	



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**Electrical Optical Characteristics at Ta=25°C**

Parameter	Symbol	Part No. LTL-	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I <sub>V</sub>	1232ALHA	1.1	3.7		mcd	I <sub>F</sub> = 10mA Note 1,4
Viewing Angle	2θ <sub>1/2</sub>	1232ALHA		140		deg	Note 2 (Fig.6)
Peak Emission Wavelength	λ <sub>P</sub>	1232ALHA		565		nm	Measurement @Peak (Fig.1)
Dominant Wavelength	λ <sub>d</sub>	1232ALHA		569		nm	Note 3
Spectral Line Half-Width	Δλ	1232ALHA		30		nm	
Forward Voltage	V <sub>F</sub>	1232ALHA		2.1	2.6	V	I <sub>F</sub> = 20mA
Reverse Current	I <sub>R</sub>	1232ALHA			100	μA	V <sub>R</sub> = 5V
Capacitance	C	1232ALHA		35		PF	V <sub>F</sub> = 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<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. I<sub>V</sub> needs ± 15% additional for guaranteed limits.

**Typical Electrical / Optical Characteristics Curves**

(25°C Ambient Temperature Unless Otherwise Noted)

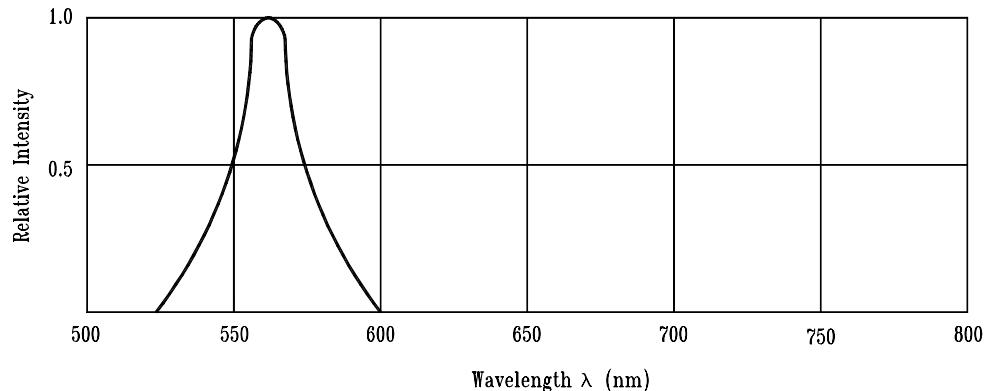


Fig.1 Relative Intensity vs. Wavelength

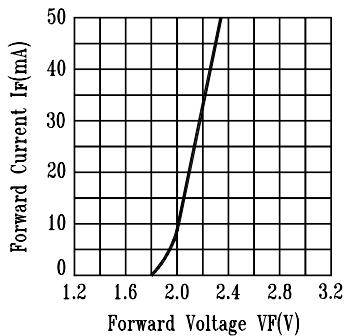


Fig.2 Forward Current vs. Forward Voltage

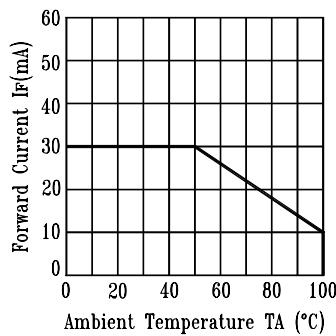


Fig.3 Forward Current Derating Curve

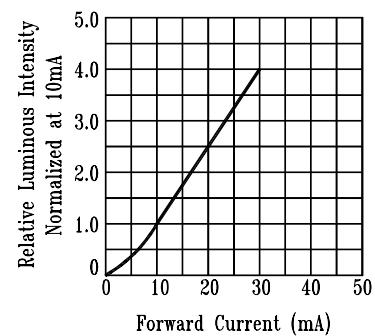


Fig.4 Relative Luminous Intensity vs. Forward Current

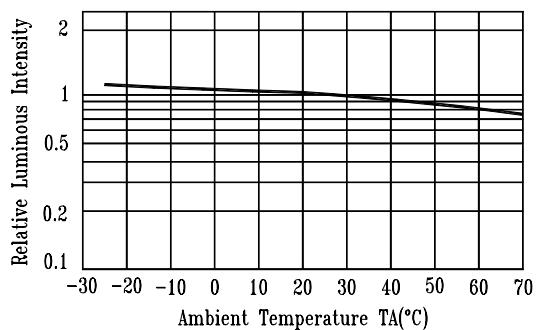


Fig.5 Luminous Intensity vs. Ambient Temperature

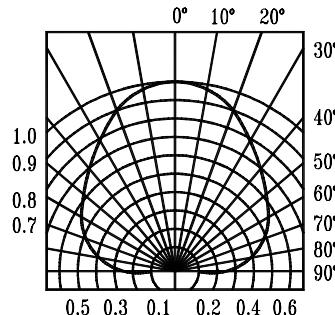


Fig.6 Spatial Distribution