



T-1^{3/4} (5mm) Ultra Bright AlGaAs Red LED Lamps

- LTL-2E3URK 8degree
- LTL-2K3URK 20degree
- LTL-2M3URK 30degree
- LTL-2N3URK 40degree

Features

- High luminous intensity output.
- Low power consumption.
- High efficiency.
- Versatile mounting on P.C. board or panel.
- I.C. compatible/low current requirements.
- Popular T-1^{3/4} diameter.

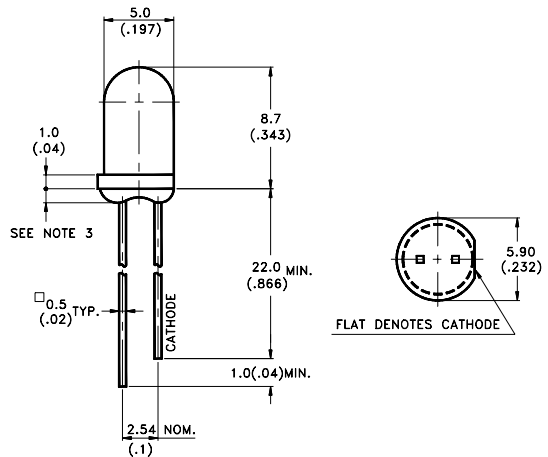
Description

The source color devices are made with high performance Aluminum Gallium Arsenide light emitting diode. The devices are made with water clear epoxy package, and with 8, 20, 30 and 40 degrees of viewing angle.

Application

- Message sign.
- CHMSL

Package Dimensions



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.

Devices

Part No. LTL-	Lens	Source Color
2E3URK	Water Clear	AlGaAs Red
2K3URK	Water Clear	AlGaAs Red
2M3URK	Water Clear	AlGaAs Red
2N3URK	Water Clear	AlGaAs Red

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)	200	mA
Continuous Forward Current	40	mA
Derating Linear From 50°C	0.5	mA/°C
Reverse Voltage	4	V
Operating Temperature Range	-40°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	

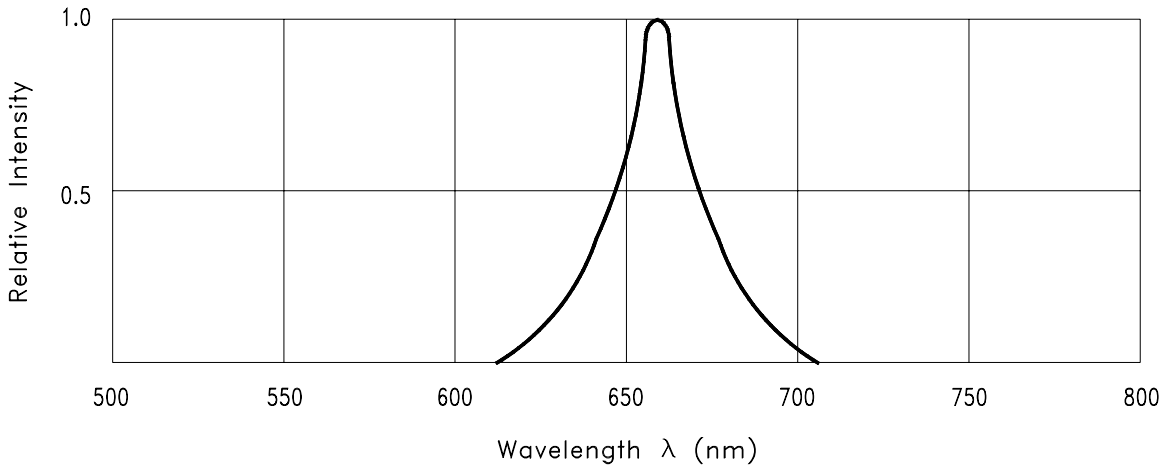


Fig.1 Relative Intensity vs. Wavelength

Electrical /Optical Characteristics and Curves at Ta=25°C

Parameter	Symbol	Part No. LTL-	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I _v	2E3URK 2K3URK 2M3URK 2N3URK	1000 560 320 180	3000 1500 1000 600		mcd	I _F =20mA Note 1,2
Viewing Angle	2θ _{1/2}	2E3URK 2K3URK 2M3URK 2N3URK		8 20 30 40		deg	Note 3 (Fig. 5)
Peak Emission Wavelength	λ _P			660		nm	Measurement @Peak (Fig.1)
Dominant Wavelength	λ _d			638		nm	Note 6
Spectral Line Half-Width	Δλ			20		nm	
Forward Voltage	V _F			1.8	2.4	V	I _F =20mA
Reverse Current	I _R				100	μA	V _R =4V
Capacitance	C			30		pF	V _F =0, f=1MHz

- Notes:1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. Luminous intensity rank classified products support two ranks.
3. θ_{1/2} is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
4. I_v classification code is marked on each packing bag.
5. The I_v guarantee should be added ± 15%.
6. The dominant wavelength, λ_d is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

Typical Electrical/Optical Characteristic Curves (25°C Ambient Temperature Unless Otherwise Noted)

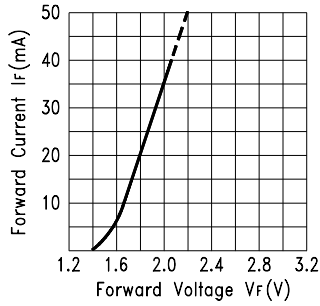


Fig.2 Forward Current vs. Forward Voltage

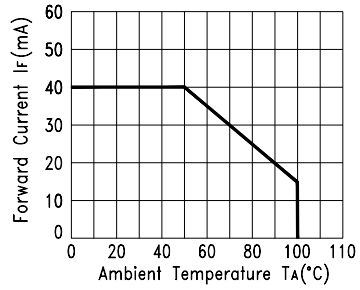


Fig.3 Forward Current Derating Curve

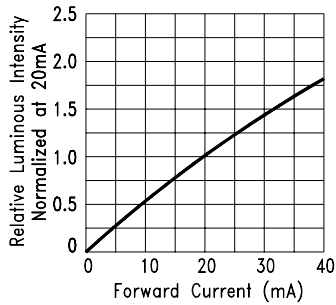


Fig.4 Relative Luminous Intensity vs. Forward Current

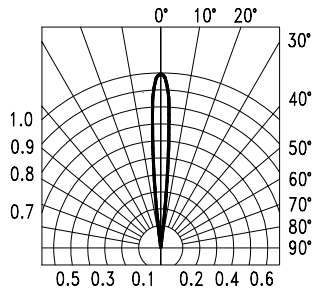


Fig.5-1 Spatial Distribution

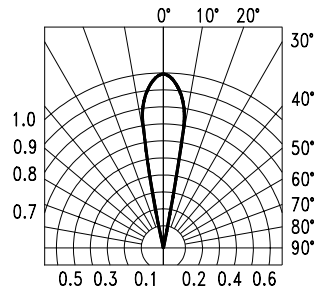


Fig.5-2 Spatial Distribution

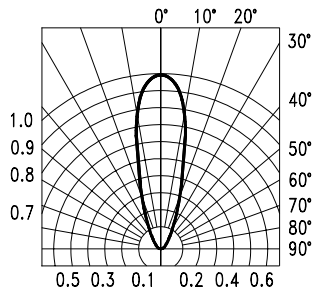


Fig.5-3 Spatial Distribution

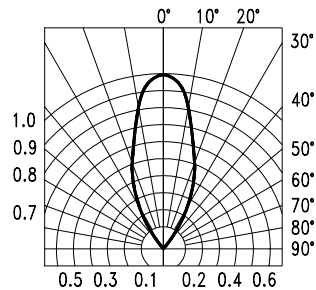


Fig.5-4 Spatial Distribution