



# Ultra Bright Red Solid State Lamps T-1<sup>3/4</sup> Standard 5 $\phi$ LED

LTL-307URK

LTL-307CK

## Features

- Ultra- brightness.
- New sturdy leads.
- I.C. Compatible/low current capability.
- Reliable and rugged.

## Description

The source color devices are made with Aluminum Gallium Arsenide Light emitting diode.

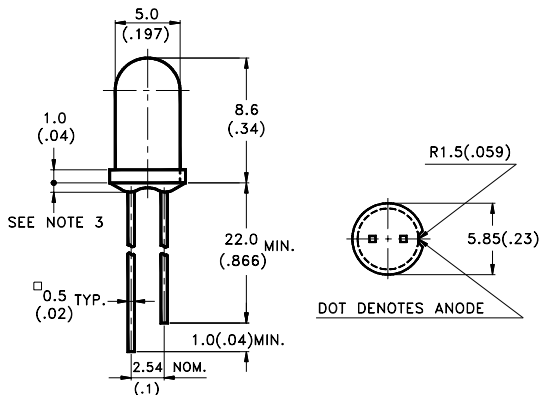
LTL-307URK is made with high performance AlGaAs dice.

LTL-307CK is made with DH AlGaAs dice.

The devices are made with water clear epoxy package. These ultra bright lamps out perform conventional LED lamps.

By utilizing new higher intensity material, we achieve superior product performance.

## 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
307URK	Water Clear	AlGaAs Red
307CK	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	

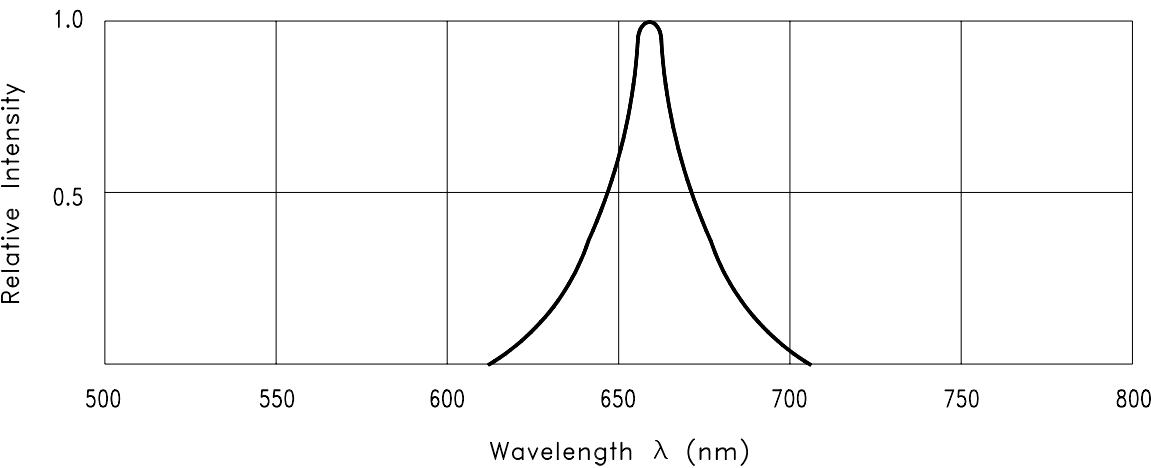


Fig.1 Relative Intensity vs. Wavelength

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

Parameter	Symbol	Part No. LTL-	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	$I_v$	307URK 307CK	200 100	1200 500		mcd	$I_F=20\text{mA}$ Note 1,2
Viewing Angle	$2\theta_{1/2}$			35		deg	Note 3 (Fig. 5)
Peak Emission Wavelength	$\lambda_P$			660		nm	Measurement @Peak (Fig.1)
Dominant Wavelength	$\lambda_d$			638		nm	Note 6
Spectral Line Half-Width	$\Delta\lambda$			20		nm	
Forward Voltage	$V_F$			1.8	2.4	V	$I_F=20\text{mA}$
Reverse Current	$I_R$				100	$\mu\text{A}$	$V_R=4\text{V}$
Capacitance	C			30		pF	$V_F=0$ , $f=1\text{MHz}$

- 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.  $\theta_{1/2}$  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  $\pm 15\%$ .  
6. The dominant wavelength,  $\lambda_d$  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)

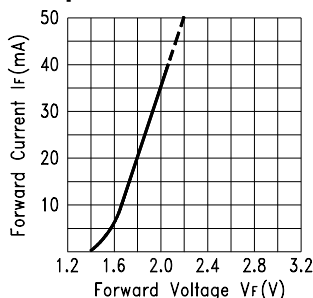


Fig.2 Forward Current vs.  
Forward Voltage

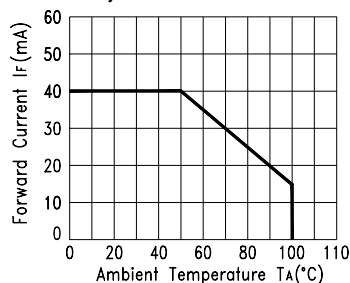


Fig.3 Forward Current  
Derating Curve

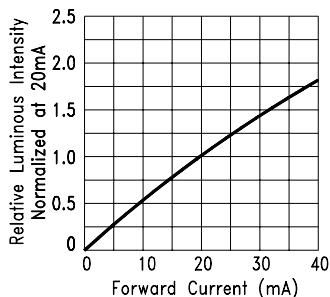


Fig.4 Relative Luminous Intensity  
vs. Forward Current

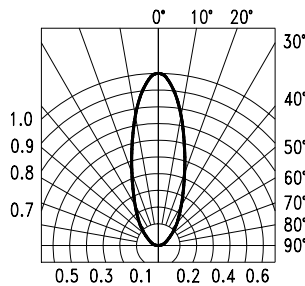


Fig.5 Spatial Distribution