



# LED Display Product Data Sheet LTL-2300HR

Spec No.: DS-30-98-389

Effective Date: 05/08/2001

Revision: -

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

## **FEATURES**

- \* LARGE, BRIGHT, UNIFORM LIGHT EMITTING AREAS.
- \* LOW POWER REQUIREMENT.
- \* EXCELLENT ON-OFF CONTRAST.
- \* CAN BE USED WITH PANEL AND LEGEND MOUNT.
- \* WIDE VIEWING ANGLE.
- \* SOLID STATE RELIABILITY.
- \* CATEGORIZED FOR LIGHT OUTPUT.

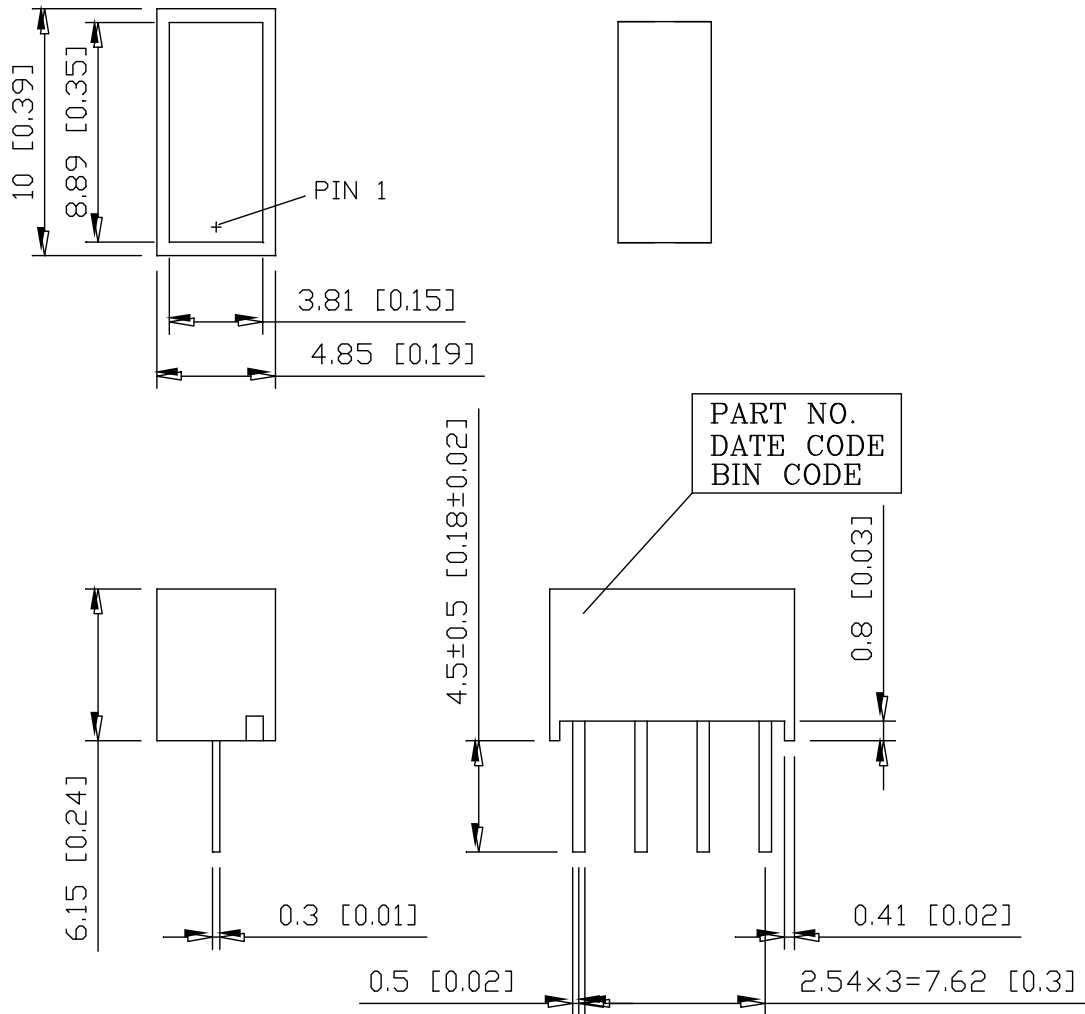
## **DESCRIPTION**

The LTL-2300HR is a rectangular light source display that is designed for a variety of applications where a large bright source of light is required. This device utilizes high efficiency red LED chips that are made from GaAsP on a transparent GaP substrate, and has white bar color.

## **DEVICE**

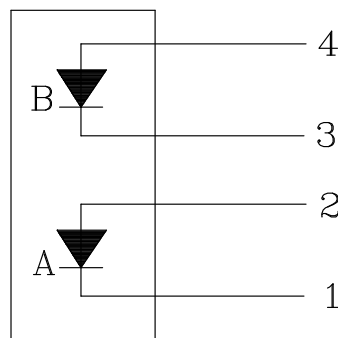
<b>PART NO.</b>	<b>DESCRIPTION</b>
Hi.-Eff. Red	Universal
LTL-2300HR	Rectangular Bar

## PACKAGE DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerances are ± 0.25-mm (0.01") unless otherwise noted.

## INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

<b>No.</b>	<b>CONNECTION</b>
1	CATHODE A
2	ANODE A
3	CATHODE B
4	ANODE B

**ABSOLUTE MAXIMUM RATING AT T<sub>A</sub>=25°C**

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Bar	75	mW
Peak Forward Current Per Bar ( 1/10 Duty Cycle, 0.1ms Pulse Width )	100	mA
Continuous Forward Current Per Bar	25	mA
Derating Linear From 25°C Per Bar	0.33	mA/°C
Reverse Voltage Per Bar	5	V
Operating Temperature Range	-35°C to +85°C	
Storage Temperature Range	-35°C to +85°C	
Solder Temperature 1/16 inch Below Seating Plane for 3 Seconds at 260°C		

**ELECTRICAL / OPTICAL CHARACTERISTICS AT T<sub>A</sub>=25°C**

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	1.4	4.2		mcd	I <sub>F</sub> =10mA
Peak Emission Wavelength	λ <sub>p</sub>		635		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		40		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		623		nm	I <sub>F</sub> =20mA
Forward Voltage. Per Bar	V <sub>F</sub>		2	2.6	V	I <sub>F</sub> =20mA
Reverse Current, Per Bar	I <sub>R</sub>			100	μA	V <sub>R</sub> =5V

Note: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclariage) eye-response curve.

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

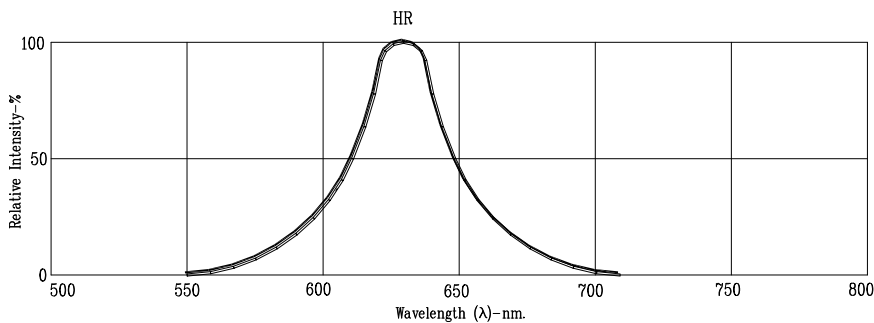


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

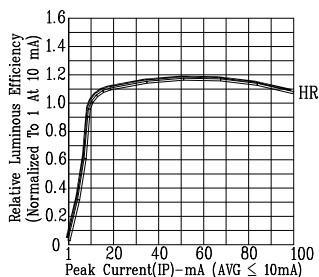


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

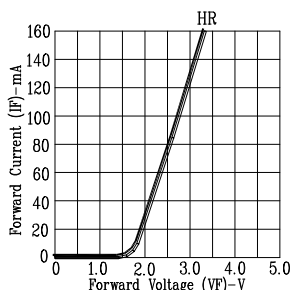


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

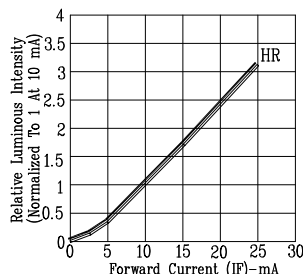


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

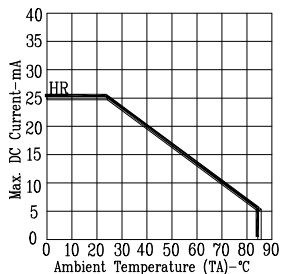


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

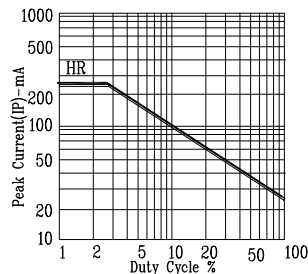


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: HR=HI.-EFF.RED