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# LED Display Product Data Sheet LTP-305HR

Spec No.: DS-30-97-087

Effective Date: 02/23/2012

Revision: B

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

# **LITEON** LITE-ON TECHNOLOGY CORPORATION

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## **LED DISPLAY**

### **LTP-305HR** **DATA SHEET**

<b>Rev</b>	<b>Description</b>	<b>By</b>
-	NPPR Original Spec	Ruby Lee 12/21/2000
A	Change Operating Temperature Range	Erin Cheng 07/08/2004
B	Revise height of package from 3.05 ±0.5mm to 3.50 ±0.5mm Add more the product's spec	Phanomkorn J 02/15/2012

<b>Spec No.</b>	DS-30-97-087
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<b>Customer Approval</b>	
<b>Date</b>	

# **LITEON** LITE-ON TECHNOLOGY CORPORATION

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## **FEATURES**

- \* 0.3 inch (7.62 mm) MATRIX HEIGHT
- \* LOW POWER REQUIREMENT
- \* SINGLE PLANE, WIDE VIEWING ANGLE
- \* SOLID STATE RELIABILITY
- \* 5X7 ARRAY WITH X-Y SELECT
- \* COMPATIBLE WITH USASCLL AND EBCDIC CODES
- \* STACKABLE HORIZONTALLY
- \* CATEGORIZED FOR LUMINOUS INTENSITY
- \* LEAD-FREE PACKAGE (ACCORDING TO ROHS)

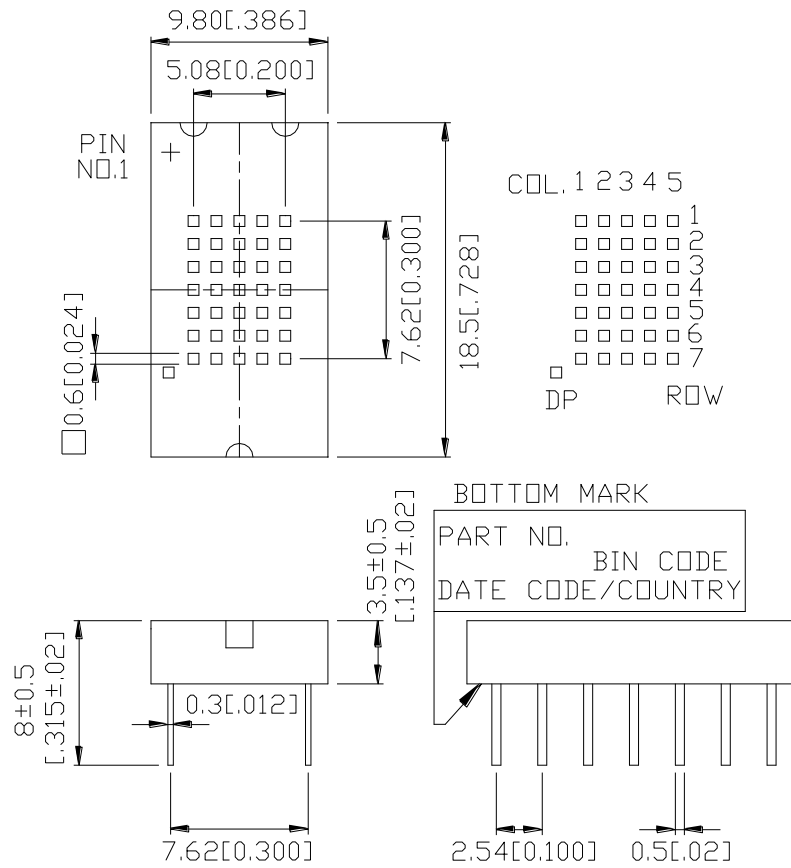
## **DESCRIPTION**

The LTP-305HR is a 0.3 inch (7.62 mm) matrix height 5x7 dot matrix display. This device uses Hi-Eff. RED LED chips (GaAsP epi on GaP substrate).The display has red package.

## **DEVICE**

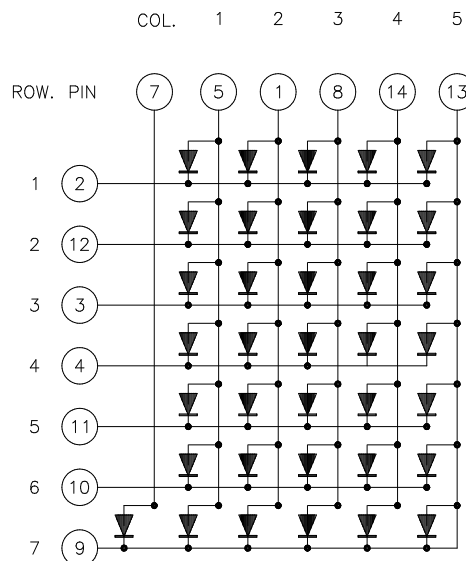
<b>PART NO.</b>	<b>DESCRIPTION</b>
Hi-Eff. Red	ANODE COLUMN
LTP-305HR	CATHODE ROW

## 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	ANODE COLUMN 2
2	CATHODE ROW 1
3	CATHODE ROW 3
4	CATHODE ROW 4
5	ANODE COLUMN 1
6	NO PIN
7	ANODE DECIMAL POINT
8	ANODE COLUMN 3
9	CATHODE ROW 7
10	CATHODE ROW 6
11	CATHODE ROW 5
12	CATHODE ROW 2
13	ANODE COLUMN 5
14	ANODE COLUMN 4

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## ABSOLUTE MAXIMUM RATING

PARAMETER	MAXIMUM RATING	UNIT
Average Power Dissipation Per Dot	36	mW
Peak Forward Current Per Dot ( Frequency 1Khz, 10% duty cycle)	75*	mA
Average Forward Current Per Dot	10	mA
Forward Current Derating From 25 <sup>0</sup> C	0.14	mA/ <sup>0</sup> C
Reverse Voltage Per Dot	5	V
Operating Temperature Range	-40 <sup>0</sup> C to +85 <sup>0</sup> C	
Storage Temperature Range	-40 <sup>0</sup> C to +85 <sup>0</sup> C	
Soldering Conditions : 1/16 inch below seating plane for 3 seconds at 260 <sup>0</sup> C or of temperature unit (during assembly) not over max. temperature rating.		

\* see figure 5 to establish pulsed condition

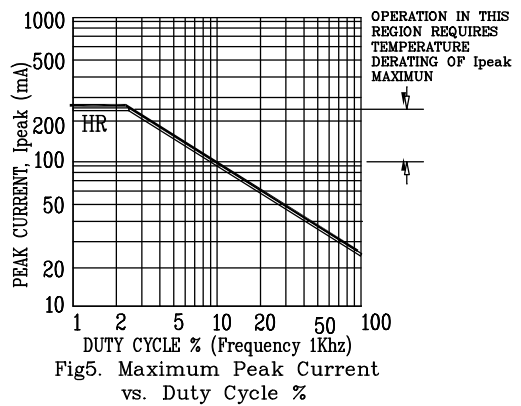
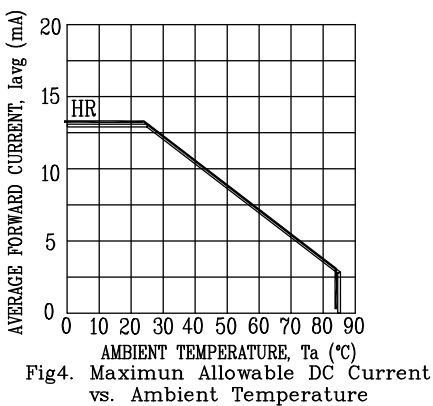
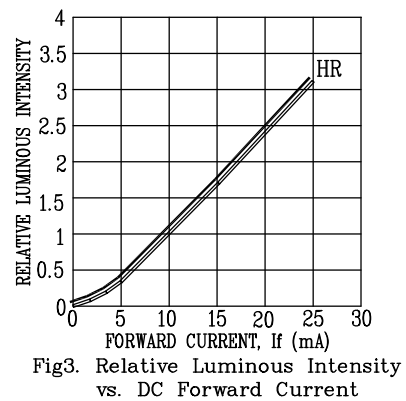
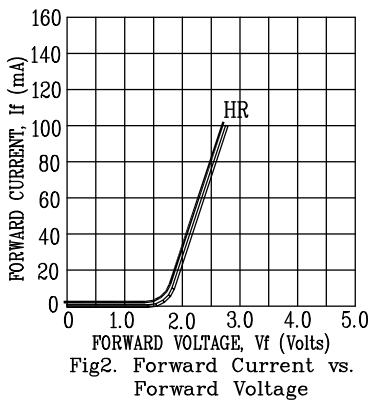
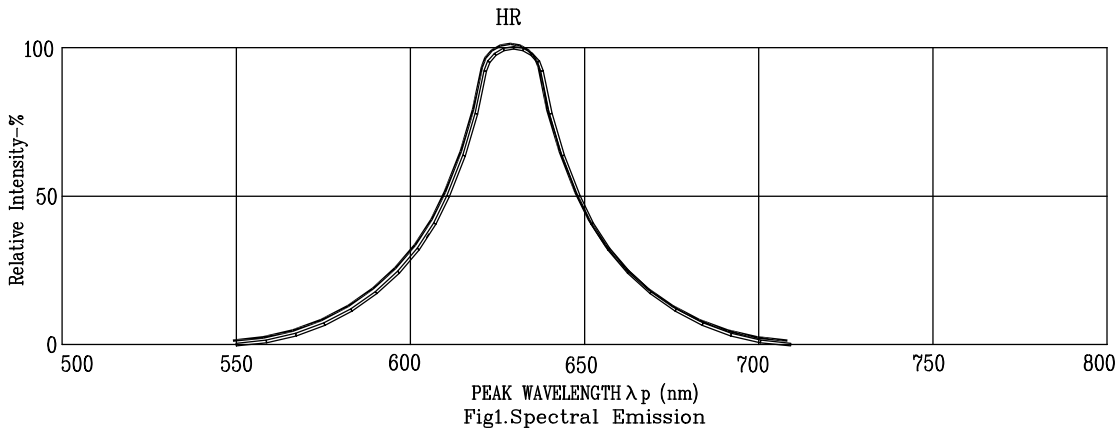
## ELECTRICAL / OPTICAL CHARACTERISTICS AT T<sub>A</sub> = 25<sup>0</sup>C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity Per Dot	I <sub>v</sub>	630	1600		μcd	I <sub>P</sub> = 80mA , 1/16Duty
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 Dot	V <sub>F</sub>		2	2.6	V	I <sub>F</sub> = 20mA
Reverse Current Per Dot	I <sub>R</sub>			100	μA	V <sub>R</sub> = 5V
Luminous Intensity Matching Ratio (Similar Light Area)	I <sub>v</sub> -m			2 : 1		I <sub>P</sub> = 80mA , 1/16 Duty

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

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)



NOTE: HR= HI-EFF RED