



# LED Display Product Data Sheet LTP-747JD-01

Spec No.: DS30-2000-410

Effective Date: 01/09/2001

Revision: -

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

**FEATURES**

- \* 0.7INCH (17.22mm) DIGIT HEIGHT.
- \* CONTINUOUS UNIFORM SEGMENTS.
- \* LOW POWER REQUIREMENT.
- \* EXCELLENT CHARACTERS APPEARANCE.
- \* HIGH BRIGHTNESS & HIGH CONTRAST.
- \* WIDE VIEWING ANGLE.
- \* SOLID STATE RELIABILITY.
- \* CATEGORIZED FOR LUMINOUS INTENSITY.

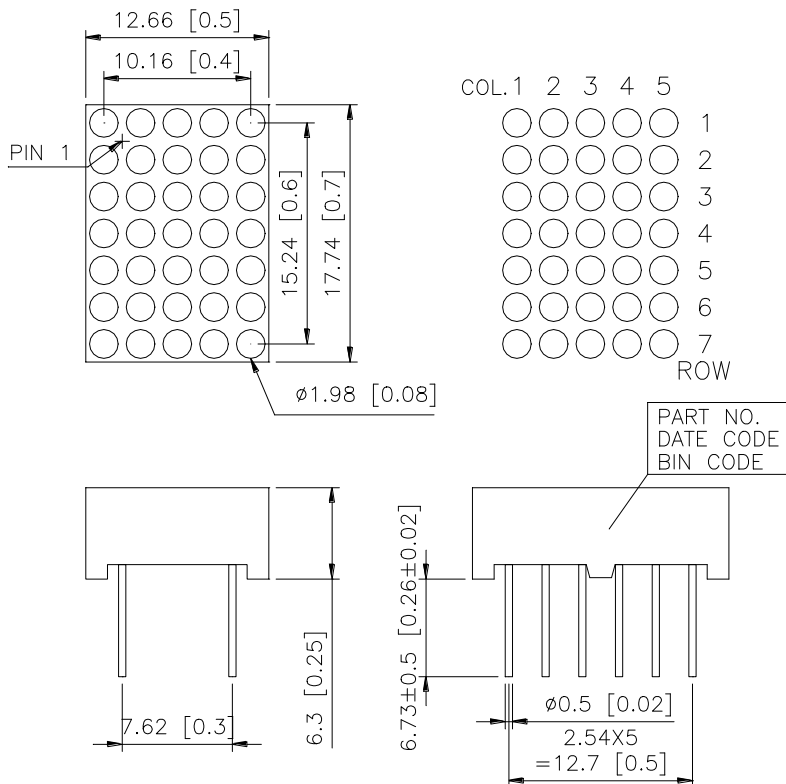
**DESCRIPTION**

The LTP-747JD-01 is a 0.7inch (17.22mm) matrix height 5 x 7 dot matrix display. This device utilizes AllnGap Hi.-Eff. Red LED chips, which are made from AllnGaP on a non-transparent GaAs substrate, and has a gray face and white dots.

**DEVICE**

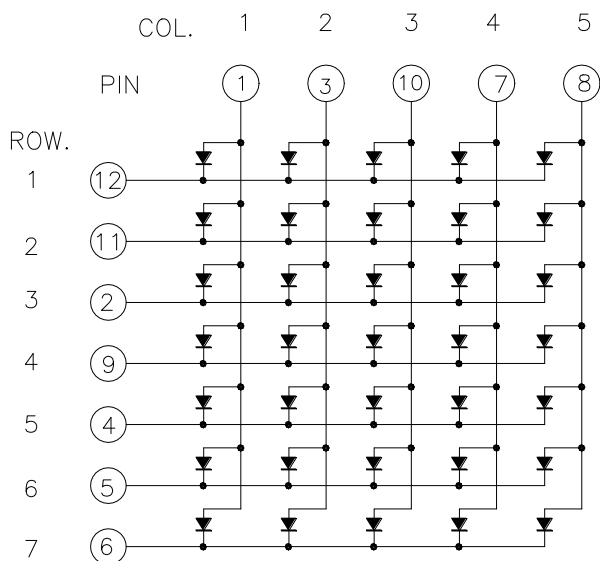
<b>PART NO.</b>	<b>DESCRIPTION</b>
AllnGaP HI.-EFF. RED	ANODE COLUMN
LTP-747JD-01	CATHODE ROW

## PACKAGE DIMENSIONS



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

## INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

<b>No.</b>	<b>CONNECTION</b>
1	ANODE COLUMN 1
2	CATHODE ROW 3
3	ANODE COLUMN 2
4	CATHODE ROW 5
5	CATHODE ROW 6
6	CATHODE ROW 7
7	ANODE COLUMN 4
8	ANODE COLUMN 5
9	CATHODE ROW 4
10	ANODE COLUMN 3
11	CATHODE ROW 2
12	CATHODE ROW 1

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

PARAMETER	MAXIMUM RATING	UNIT
Average Power Dissipation Per dot	33	mW
Peak Forward Current Per dot	90	mA
Average Forward Current Per dot	13	mA
Derating Linear From 25°C Per dot	0.17	mA/°C
Reverse Voltage Per dot	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>	500	1200		μcd	I <sub>F</sub> =32mA , 1/16Duty
Peak Emission Wavelength	λ <sub>p</sub>		656		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		22		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		640		nm	I <sub>F</sub> =20mA
Forward Voltage Per dot	V <sub>F</sub>		2.1	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	I <sub>v</sub> -m			2:1		I <sub>F</sub> =32mA , 1/16Duty

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)

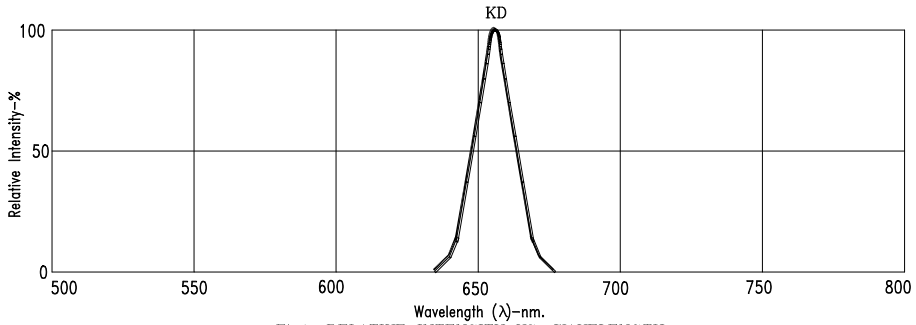


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

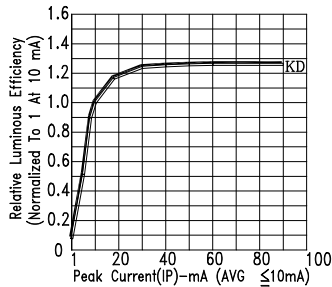


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

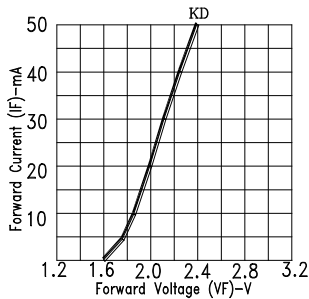


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

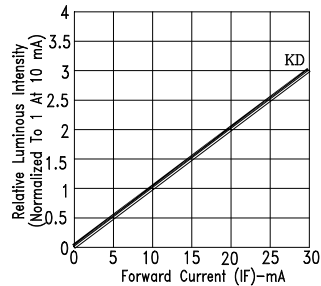


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

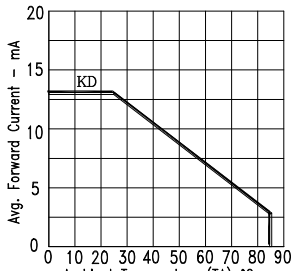


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

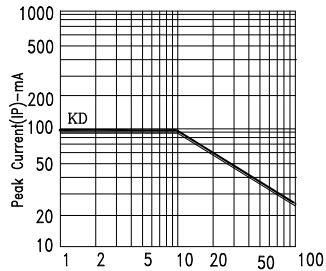


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE : KD=AlInGaP HL.-EFF. RED