



# LED Display Product Data Sheet LTP-7388M

Spec No.: DS30-2000-046

Effective Date: 03/08/2003

Revision: -

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

## **FEATURES**

- \* 0.764 inch (19.4 mm) MATRIX HEIGHT
- \* LOW POWER REQUIREMENT
- \* SINGLE PLANE, WIDE VIEWING ANGLE
- \* SOLID STATE RELIABILITY
- \* 8x8 ARRAY WITH X-Y SELECT
- \* COMPATIBLE WITH USASCII AND EBCDIC CODES
- \* STACKABLE HORIZONTALLY
- \* CATEGORIZED FOR LUMINOUS INTENSITY

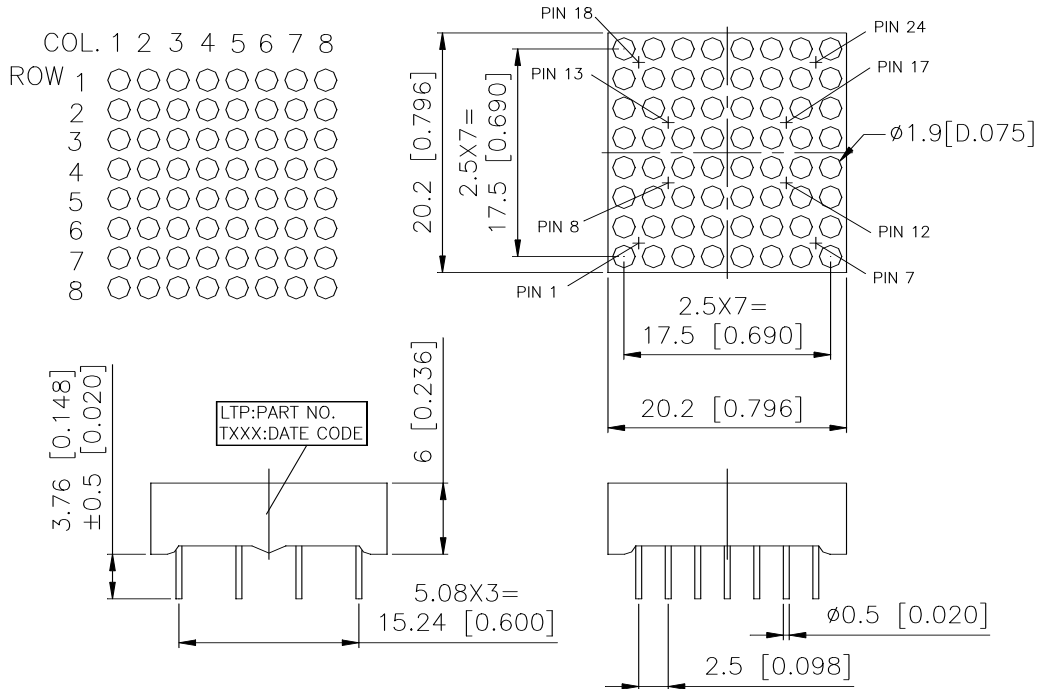
## **DESCRIPTION**

The LTP-7388M is a 0.764 inch (19.4 mm) matrix height 8x8 dot matrix display. This device uses AS-AlInGaP green and AS-AlInGaP super red LED chips (AlInGaP epi on a GaAs substrate). The display has black face and white dots.

## **DEVICE**

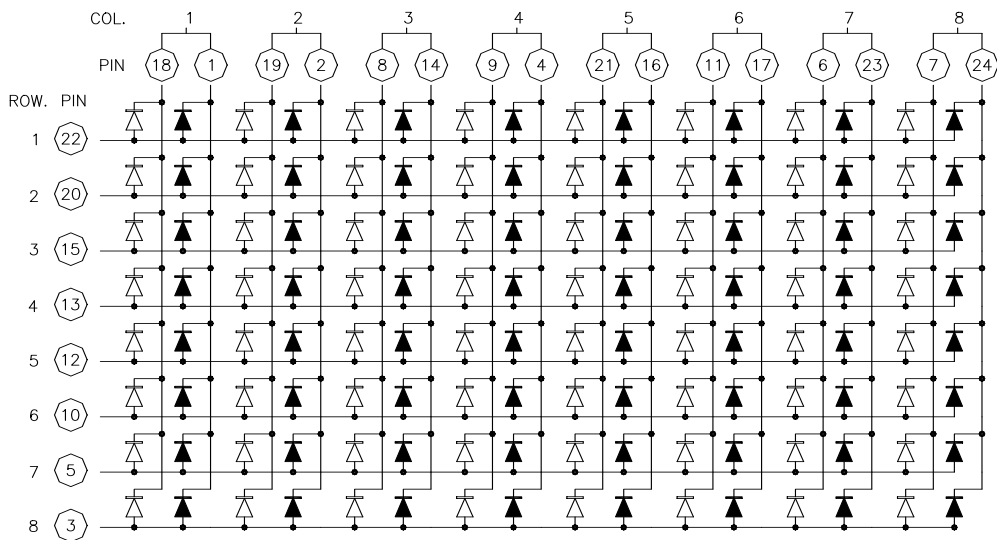
<b>PART NO.</b>	<b>DESCRIPTION</b>
MULTI-COLOR	Cathode Column
LTP-7388M	Anode Row

## PACKAGE DIMENSIONS



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

## INTERNAL CIRCUIT DIAGRAM



THE SIGN "▲" STANDS FOR RED COLOR.

THE SIGN "△" STANDS FOR GREEN COLOR.

**PIN CONNECTION**

No.	CONNECTION	No.	CONNECTION
1	CATHODE COLUMN 1 RED	13	ANODE ROW 4
2	CATHODE COLUMN 2 RED	14	CATHODE COLUMN 3 RED
3	ANODE ROW 8	15	ANODE ROW 3
4	CATHODE COLUMN 4 RED	16	CATHODE COLUMN 5 RED
5	ANODE ROW 7	17	CATHODE COLUMN 6 RED
6	CATHODE COLUMN 7 GREEN	18	CATHODE COLUMN 1 GREEN
7	CATHODE COLUMN 8 GREEN	19	CATHODE COLUMN 2 GREEN
8	CATHODE COLUMN 3 GREEN	20	ANODE ROW 2
9	CATHODE COLUMN 4 GREEN	21	CATHODE COLUMN 5 GREEN
10	ANODE ROW 6	22	ANODE ROW 1
11	CATHODE COLUMN 6 GREEN	23	CATHODE COLUMN 7 RED
12	ANODE ROW 5	24	CATHODE COLUMN 8 RED

**ABSOLUTE MAXIMUM RATING**

<b>PARAMETER</b>	<b>AlInGaP GREEN</b>	<b>AlInGaP SUPER RED</b>	<b>UNIT</b>
Average Power Dissipation Per Dot	70	70	mW
Peak Forward Current Per Dot ( Frequency 1Khz, 10% duty cycle)	60	90	mA
Average Forward Current Per Dot	25	25	mA
Forward Current Derating from 25 <sup>0</sup> C	0.33		mA/ <sup>0</sup> C
Reverse Voltage Per Segment	5		V
Operating Temperature Range	-35 <sup>0</sup> C to +85 <sup>0</sup> C		
Storage Temperature Range	-35 <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			

**ELECTRICAL / OPTICAL CHARACTERISTICS**

## AlInGaP GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity per Dot	I <sub>v</sub>	4300	6200		ucd	I <sub>p</sub> =48mA
Average Luminous Intensity		674	972		cd/m <sup>2</sup>	1/16Duty
Peak Emission Wavelength	λ <sub>p</sub>		571		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		15		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		572		nm	I <sub>F</sub> =20mA
Forward Voltage any Dot	V <sub>F</sub>		2.1	2.6	V	I <sub>F</sub> =20mA
Reverse Current any 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> =3mA

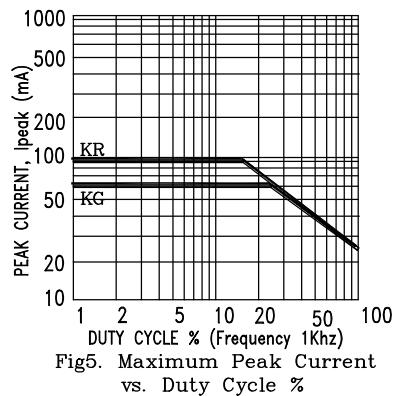
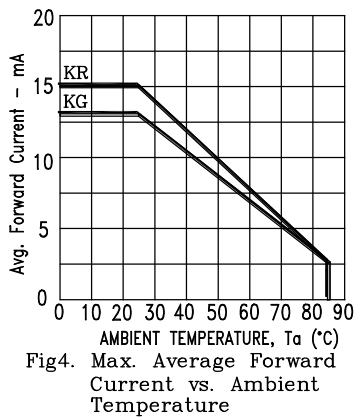
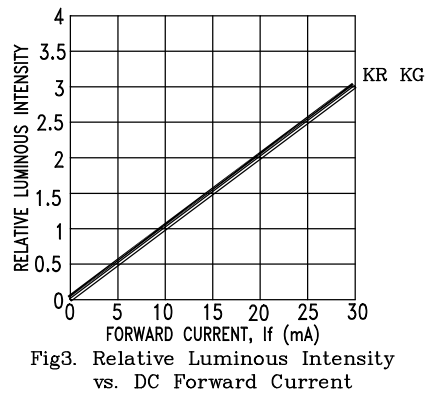
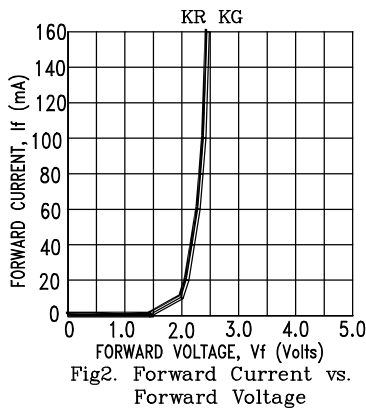
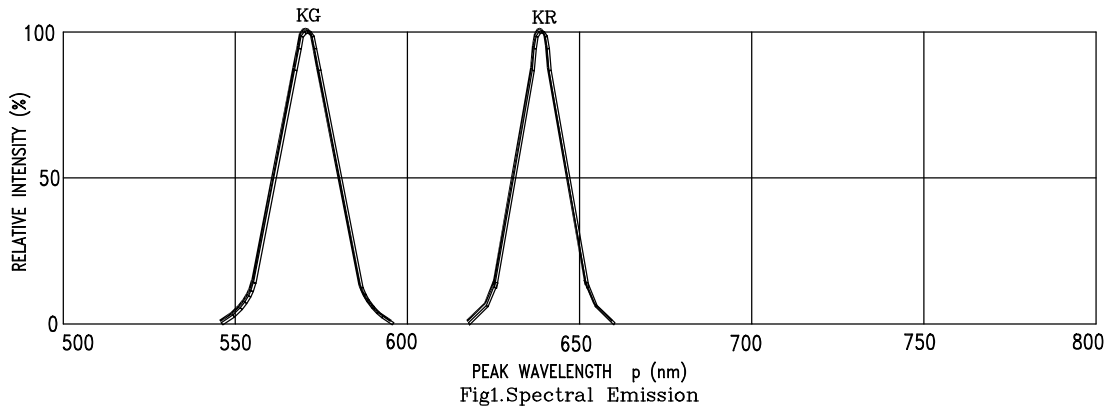
**ELECTRICAL / OPTICAL CHARACTERISTICS**

## AlInGaP SUPER RED

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity per Dot	I <sub>v</sub>	2100	4000		ucd	I <sub>p</sub> =48mA
Average Luminous Intensity		329	627		cd/m <sup>2</sup>	1/16Duty
Peak Emission Wavelength	λ <sub>p</sub>		639		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		20		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		631		nm	I <sub>F</sub> =20mA
Forward Voltage any Dot	V <sub>F</sub>		2.0	2.6	V	I <sub>F</sub> =20mA
Reverse Current any 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> =3mA

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

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES



NOTE: KR=AlInGaP SUPER RED KG=AlInGaP GREEN