



LED Display

Product Data Sheet

LTP-7057M

Spec No.: DS30-2002-062

Effective Date: 03/23/2002

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

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FEATURES

- * 0.7 inch (17.22 mm) MATRIX HEIGHT.
- * LOW POWER REQUIREMENT.
- * SINGLE PLANE, WIDE VIEWING ANGLE.
- * SOLID STATE RELIABILITY.
- * 5x7 ARRAY WITH X-Y SELECT.
- * COMPATIBLE WITH USASCII AND EBCDIC CODES.
- * STACKABLE HORIZONTALLY.
- * CATEGORIZED FOR LUMINOUS INTENSITY.

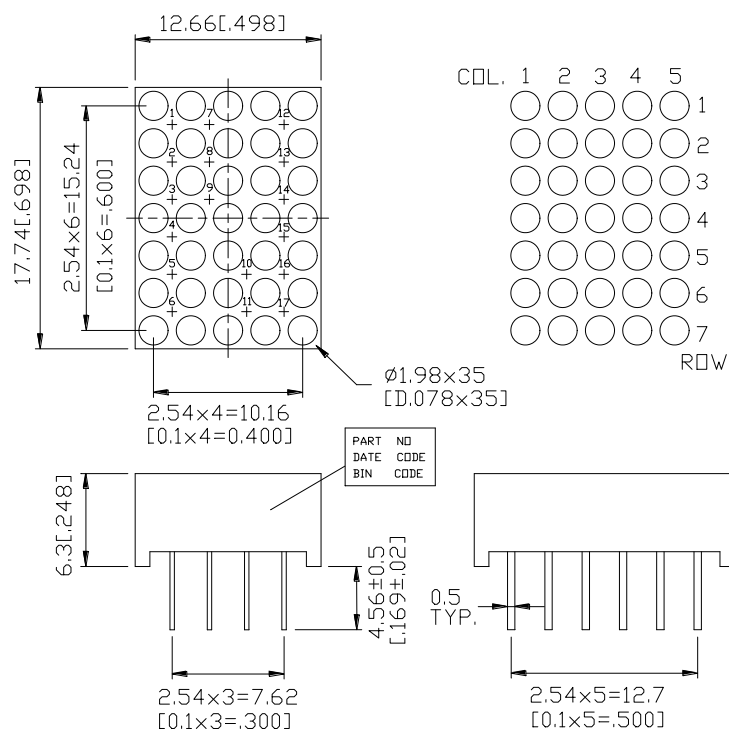
DESCRIPTION

The LTP-7057M is a 0.7 inch (17.22 mm) matrix height 5x7 dot matrix display. This device is multi-color applicable display. The green LED chips, which are made from GaP on a transparent GaP substrate. The red orange LED chips, which are made from GaAsP on a transparent GaP substrate. The device has gray face and white dots.

DEVICE

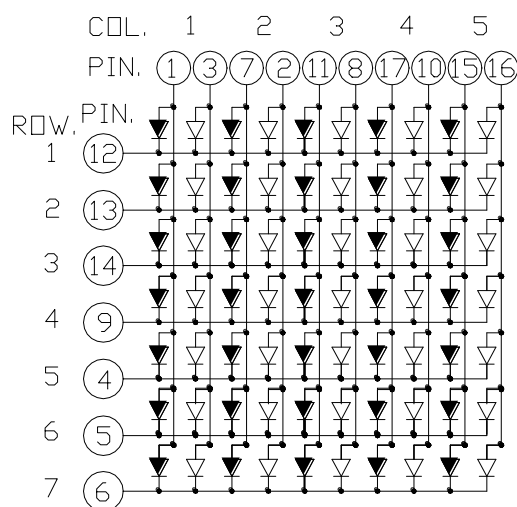
PART NO.	DESCRIPTION
MULTI-COLOR	Anode Column
LTP-7057M	Cathode Row

PACKAGE DIMENSIONS



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

INTERNAL CIRCUIT DIAGRAM



NOTES: THE "  " STANDS FOR GREEN CHIPS.
THE "  " STANDS FOR RED ORANGE CHIPS.

PIN CONNECTION

No.	CONNECTION
1	ANODE COLUMN 1 RED ORANGE
2	ANODE COLUMN 2 GREEN
3	ANODE COLUMN 1 GREEN
4	CATHODE ROW 5
5	CATHODE ROW 6
6	CATHODE ROW 7
7	ANODE COLUMN 2 RED ORANGE
8	ANODE COLUMN 3 GREEN
9	CATHODE ROW 4
10	ANODE COLUMN 4 GREEN
11	ANODE COLUMN 3 RED ORANGE
12	CATHODE ROW 1
13	CATHODE ROW 2
14	CATHODE ROW 3
15	ANODE COLUMN 5 RED ORANGE
16	ANODE COLUMN 5 GREEN
17	ANODE COLUMN 4 RED ORANGE

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	GREEN	UNIT
Average Power Dissipation Per Dot	64	mW
Peak Forward Current Per Dot	90	mA
Average Forward Current Per Dot	11	mA
Derating Linear From 25°C Per Dot	0.15	mA/°C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35°C to +85°C	
Storage Temperature Range	-35°C to +85°C	
Solder Temperature: max 260°C for max 3sec at 1.6mm[1/16inch] below seating plane.		

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C
GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v	630	2000		ucd	I _p =80mA 1/16Duty
Peak Emission Wavelength	λ _p		565		nm	I _F =20mA
Spectral Line Half-Width	Δλ		30		nm	I _F =20mA
Dominant Wavelength	λ _d		569		nm	I _F =20mA
Forward Voltage any Dot	V _F		2.1	2.6	V	I _F =20mA
			3.0	3.7	V	I _F =80mA
Reverse Current any Dot	I _R			100	μA	V _R =5V
Luminous Intensity Matching Ratio	I _{v-m}			2:1		I _p =80mA 1/16Duty

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

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	RED ORANGE	UNIT
Average Power Dissipation Per Dot	64	mW
Peak Forward Current Per Dot	90	mA
Average Forward Current Per Dot	11	mA
Derating Linear From 25°C Per Dot	0.15	mA/°C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35°C to +85°C	
Storage Temperature Range	-35°C to +85°C	
Solder Temperature: max 260°C for max 3sec at 1.6mm[1/16inch] below seating plane.		

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C
RED ORANGE

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v	630	2000		ucd	I _p =80mA 1/16Duty
Peak Emission Wavelength	λ _p		630		nm	I _F =20mA
Spectral Line Half-Width	Δλ		40		nm	I _F =20mA
Dominant Wavelength	λ _d		621		nm	I _F =20mA
Forward Voltage any Dot	V _F		2.0	2.6	V	I _F =20mA
			2.6	3.4	V	I _F =80mA
Reverse Current any Dot	I _R			100	μA	V _R =5V
Luminous Intensity Matching Ratio	I _v -m			2:1		I _p =80mA 1/16Duty

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

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

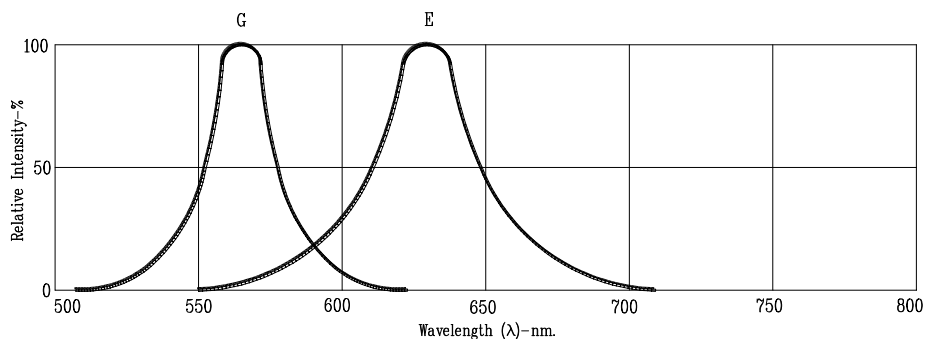


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

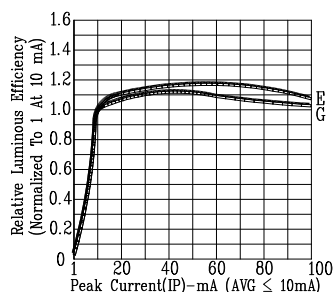


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

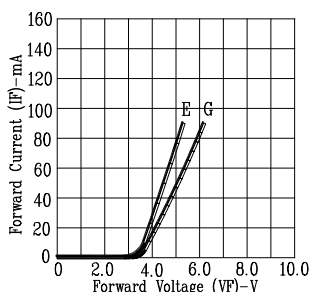


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

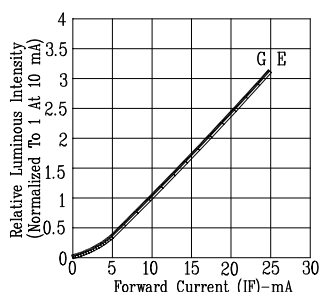


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

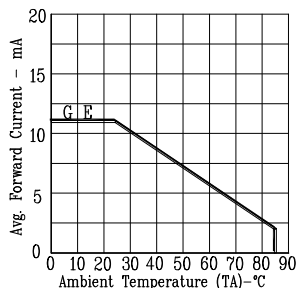


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

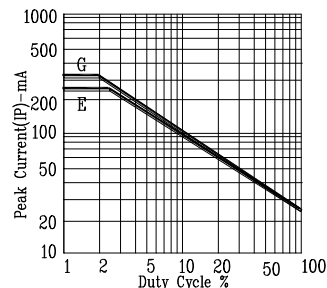


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN E=RED ORANGE