

**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

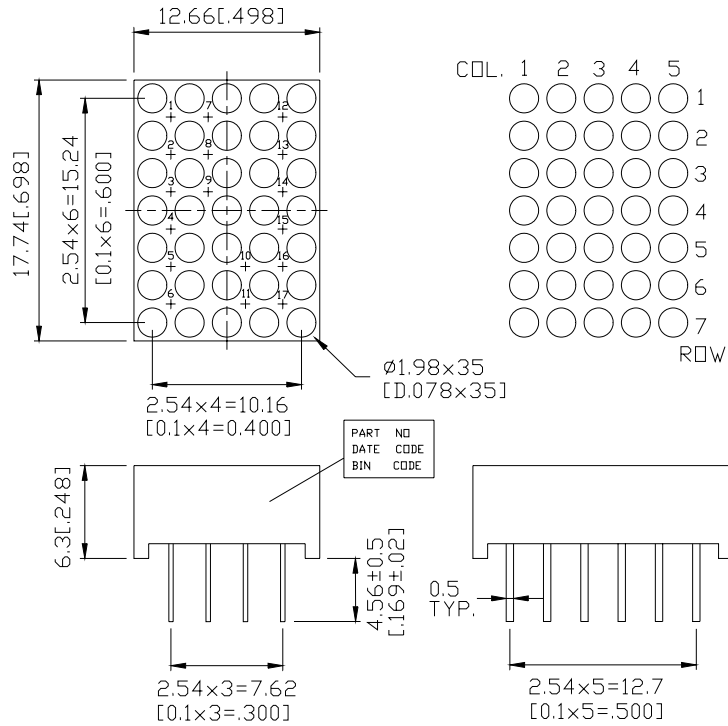
**DESCRIPTION**

The LTP-7157M-02J is a 0.7 inch (17.22 mm) matrix height 5x7 dot matrix display. This device is multi-color applicable display. This device uses Green LED chips ( GaP epi on GaP substrate) and Red Orange LED chips (GaAsP epi on GaP substrate). The diaplay has gray face and white dots.

**DEVICE**

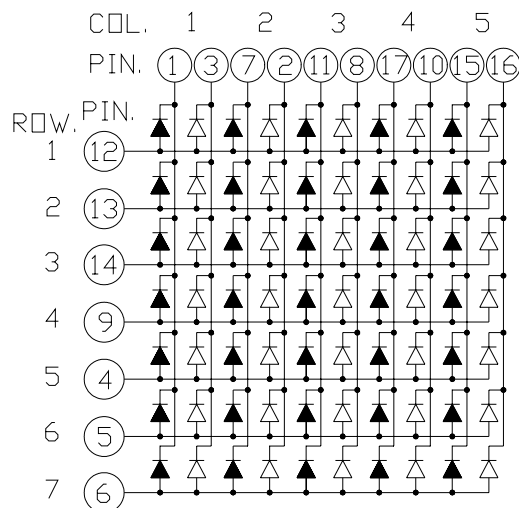
<b>PART NO.</b>	<b>DESCRIPTION</b>
MULTI-COLOR	Cathode Column
LTP-7157M-02J	Anode Row

## PACKAGE DIMENSIONS



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

## INTERNAL CIRCUIT DIAGRAM



THE " $\nabla$ " STANDS FOR GREEN CHIPS.  
THE " $\blacktriangle$ " STANDS FOR RED ORANGE CHIPS.

**PIN CONNECTION**

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

### ABSOLUTE MAXIMUM RATING

PARAMETER	RED ORANGE	GREEN	UNIT
Power Dissipation Per Segment	36	36	mW
Peak Forward Current Per Segment ( Frequency 1Khz, 10% duty cycle)	100*	100 *	mA
Continuous Forward Current Per Segment	13	13	mA
Forward Current Derating from 25 <sup>0</sup> C	0.17	0.17	mA/ <sup>0</sup> C
Reverse Voltage Per Segment	5	5	V
Operating Temperature Range	-35 <sup>0</sup> C to +105 <sup>0</sup> C		
Storage Temperature Range	-35 <sup>0</sup> C to +105 <sup>0</sup> C		
Soldering Conditions : 1/16 inch below seating plane for 3 seconds at 260 <sup>0</sup> C			

\*see figure 5 to establish pulsed condition

### ● ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25<sup>0</sup>C

#### GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	630	2000		Ucd	I <sub>p</sub> =80mA 1/16Duty
Peak Emission Wavelength	λ <sub>p</sub>		565		Nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		30		Nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		569		Nm	I <sub>F</sub> =20mA
Forward Voltage any Dot	V <sub>F</sub>		2.1	2.6	V	I <sub>F</sub> =20mA
			3.0	3.7	V	I <sub>F</sub> =80mA
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>p</sub> =80mA 1/16Duty

#### RED ORANGE

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	630	2000		ucd	I <sub>p</sub> =80mA 1/16Duty
Peak Emission Wavelength	λ <sub>p</sub>		630		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		40		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		621		nm	I <sub>F</sub> =20mA
Forward Voltage any Dot	V <sub>F</sub>		2.0	2.6	V	I <sub>F</sub> =20mA
			2.6	3.4	V	I <sub>F</sub> =80mA
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>p</sub> =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**

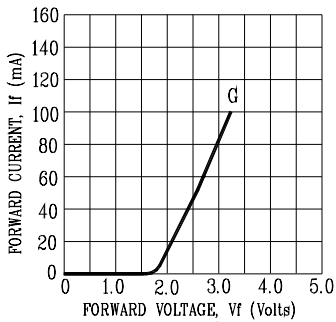
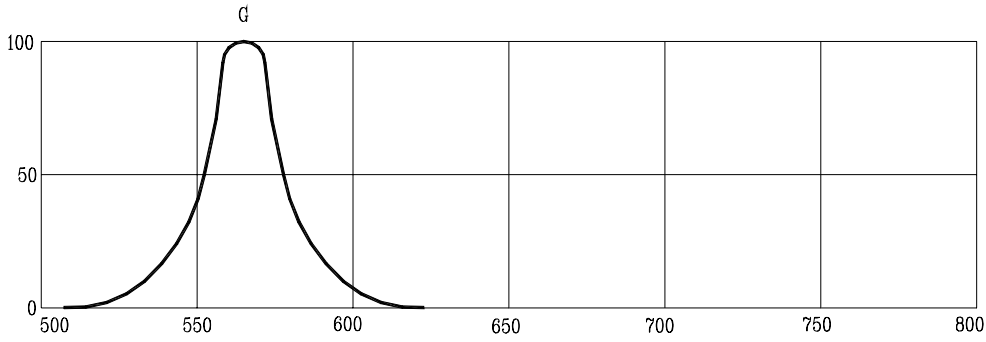


Fig2. Forward Current vs. Forward Voltage

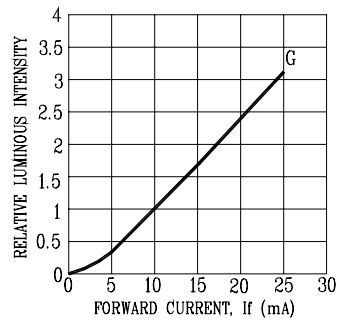


Fig3. Relative Luminous Intensity vs. DC Forward Current

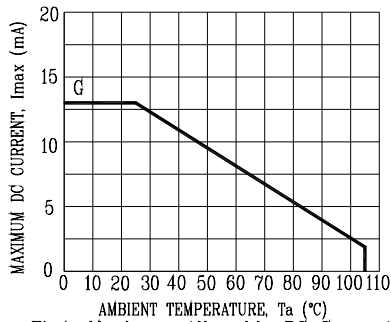


Fig4. Maximum Allowable DC Current vs. Ambient Temperature

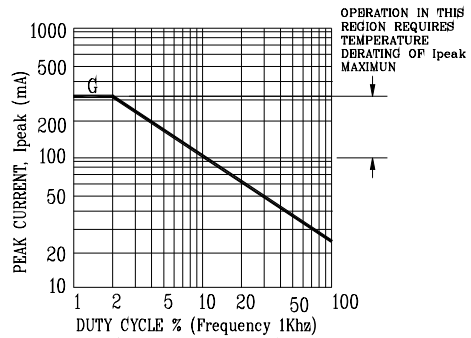
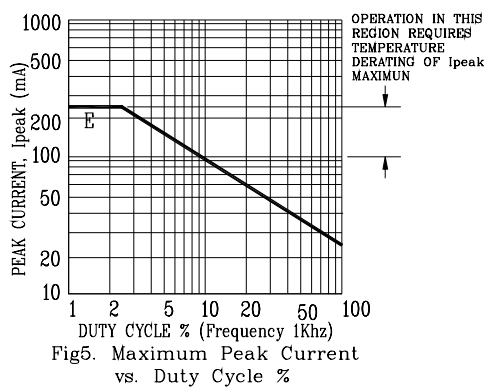
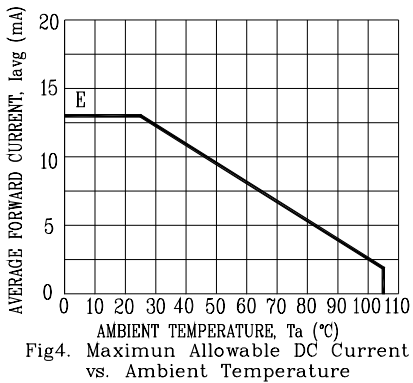
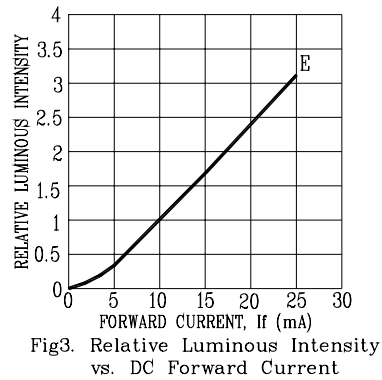
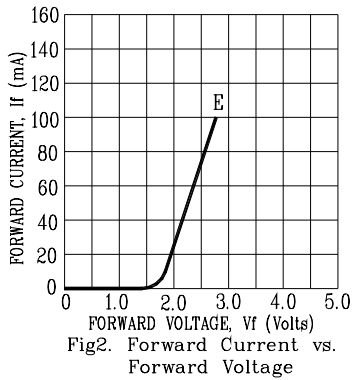
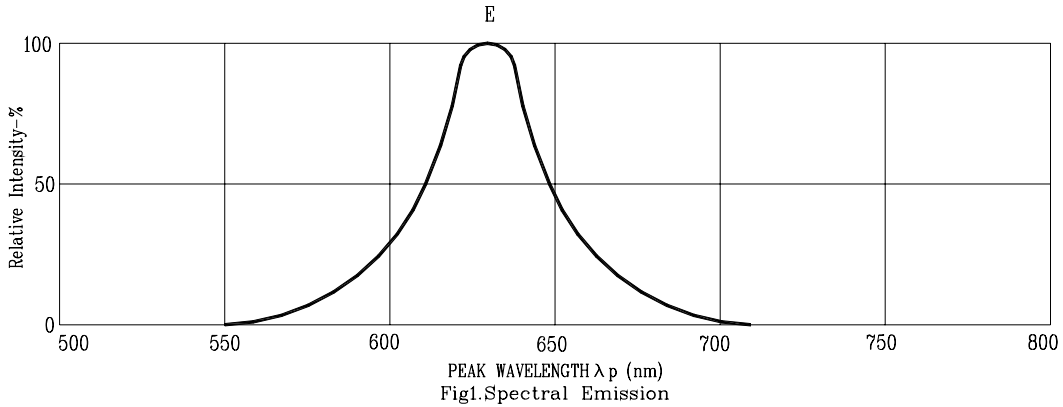


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE: G=GREEN

**Property of Lite-On Only**



NOTE: E=RED ORANGE