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LITEON®
OPTOELECTRONICS

LED Display

Product Data Sheet

LTP-2458AA

Spec No.: DS-30-98-284

Effective Date: 04/03/2002

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

LITE-ON Technology Corp. / Optoelectronics
No.90,Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C.
Tel: 886-2-2222-6181 Fax: 886-2-2221-1948 / 886-2-2221-0660
http://www.liteon.com/opto

FEATURES

* 2.3 inch (58.42 mm) MATRIX HEIGHT.
* LOW POWER REQUIREMENT.
* SINGLE PLANE, WIDE VIEWING ANGLE
* SOLID STATE RELIABILITY.
* 5x8 ARRAY WITH X-Y SELECT.
* COMPATIBLE WITH USASCLL AND EBCDIC CODES.
* STACKABLE HORIZONTALLY.
* CATEGORIZED FOR LUMINOUS INTENSITY.

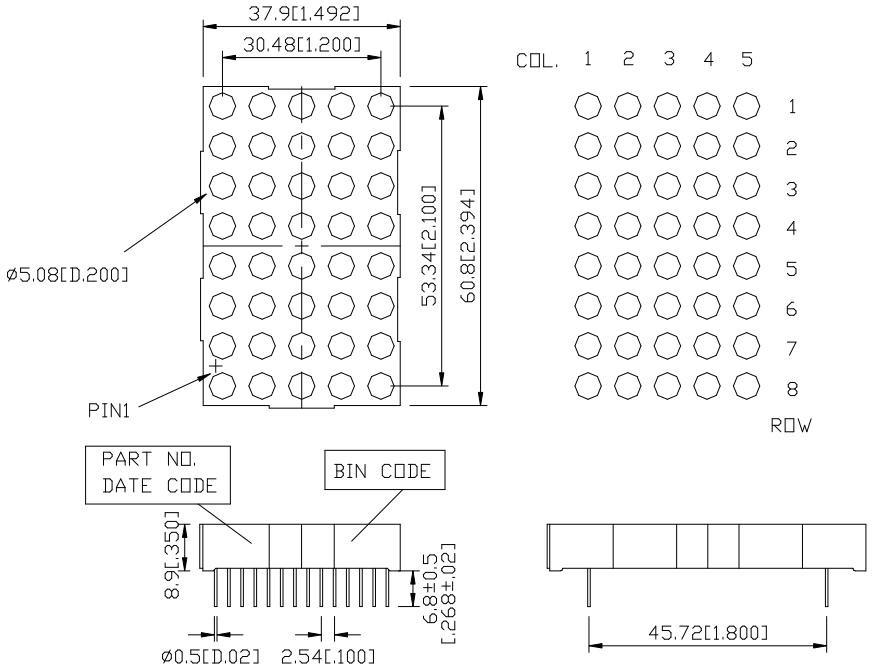
DESCRIPTION

The LTP-2458AA is a 2.3 inch (58.42 mm) matrix height 5x8 dot matrix display. This device is multicolor applicable display, which has gray face and white dot color. The red orange LED chips are made from GaAsP on a transparent GaP substrate. The green LED chips are made from GaP on a transparent GaP substrate.

DEVICE

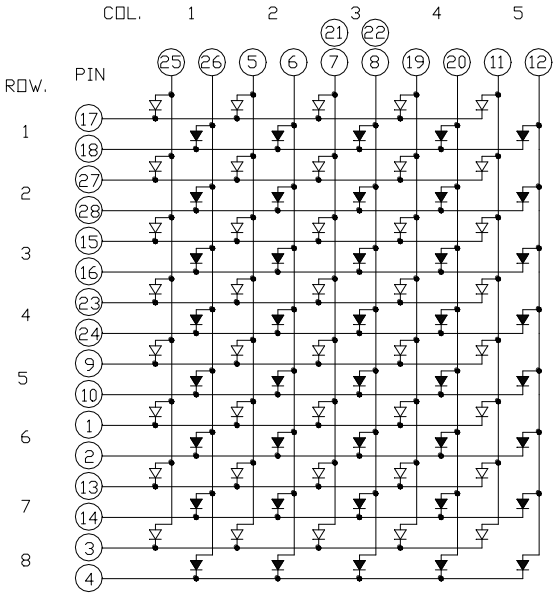
PART NO.	DESCRIPTION
Red Orange & Green	Anode Column
LTP-2458AA	Cathode Row

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 Green color chips.

The Sign " ⧖ " stands for Red Orange color chips.

PIN CONNECTION

No.	CONNECTION	No.	CONNECTION
1	CATHODE ROW 6 (GREEN)	15	CATHODE ROW 3 (GREEN)
2	CATHODE ROW 6 (RED ORANGE)	16	CATHODE ROW 3 (RED ORANGE)
3	CATHODE ROW 8 (GREEN)	17	CATHODE ROW 1 (GREEN)
4	CATHODE ROW 8 (RED ORANGE)	18	CATHODE ROW 1 (RED ORANGE)
5	ANODE COLUMN 2 (GREEN)	19	ANODE COLUMN 4 (GREEN)
6	ANODE COLUMN 2 (RED ORANGE)	20	ANODE COLUMN 4 (RED ORANGE)
7	ANODE COLUMN 3 (GREEN)	21	ANODE COLUMN 3 (GREEN)
8	ANODE COLUMN 3 (RED ORANGE)	22	ANODE COLUMN 3 (RED ORANGE)
9	CATHODE ROW 5 (GREEN)	23	CATHODE ROW 4 (GREEN)
10	CATHODE ROW 5 (RED ORANGE)	24	CATHODE ROW 4 (RED ORANGE)
11	ANODE COLUMN 5 (GREEN)	25	ANODE COLUMN 1 (GREEN)
12	ANODE COLUMN 5 (RED ORANGE)	26	ANODE COLUMN 1 (RED ORANGE)
13	CATHODE ROW 7 (GREEN)	27	CATHODE ROW 2 (GREEN)
14	CATHODE ROWW 7 (RED ORANGE)	28	CATHODE ROW 2 (RED ORANGE)

ABSOLUTE MAXIMUM RATING AT T_A=25°C

PARAMETER	GREEN	RED ORANGE	UNIT
Average Power Dissipation Per Dot	36		mW
Peak Forward Current Per Dot	100		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_A=25°C

GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	Iv	1780	4800		μcd	I_p=80mA 1/16DUTY
Peak Emission Wavelength	λp		565		nm	I_F=20mA
Spectral Line Half-Width	Δλ		30		nm	I_F=20mA
Dominant Wavelength	λd		569		nm	I_F=20mA
Forward Voltage any Dot	V_F		2.1	2.6	V	I_F=20mA
			3	3.7	V	I_F=80mA
Reverse Current any Dot	I_R			100	μA	V_R=5V
Luminous Intensity Matching Ratio	Iv-m			2:1		I_p=80mA 1/16DUTY

RED ORANGE

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	Iv	1780	4800		μcd	I_p=80mA 1/16DUTY
Peak Emission Wavelength	λp		630		nm	I_F=20mA
Spectral Line Half-Width	Δλ		40		nm	I_F=20mA
Dominant Wavelength	λd		621		nm	I_F=20mA
Forward Voltage any Dot	V_F		2	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	Iv-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 Internationale De L'Eclairage) eye-response curve.

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

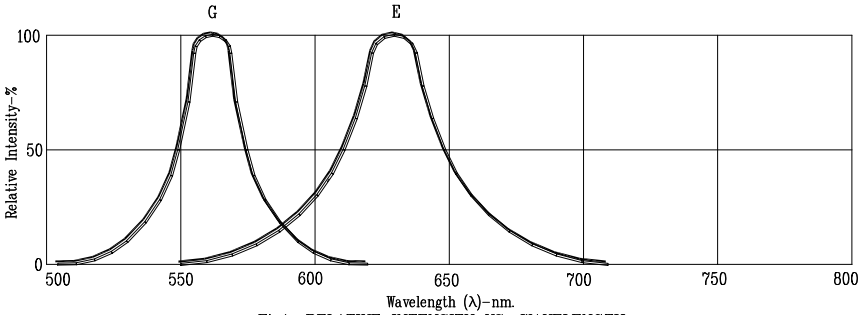


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

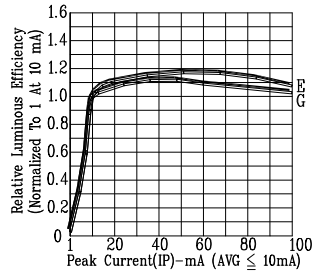


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

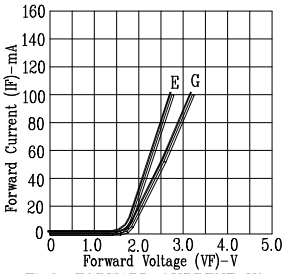


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

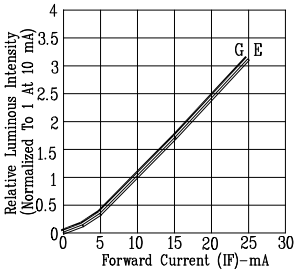


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

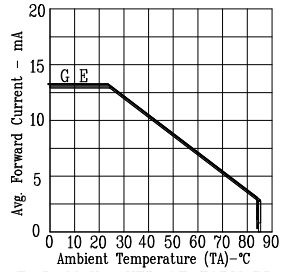


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

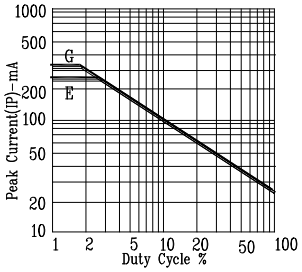


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN & E=RED ORANGE