

FEATURES

- * 1.4 inch (37.02 mm) MATRIX HEIGHT.
- * LOW POWER REQUIREMENT.
- * SINGLE PLANE, WIDE VIEWING ANGLE.
- * SOLID STATE RELIABILITY.
- * 8× 8 ARRAY WITH X-Y SELECT.
- * COMPATIBLE WITH USASCII AND EBCDIC CODES.
- * STACKABLE HORIZONTALLY.
- * CATEGORIZED FOR LUMINOUS INTENSITY.

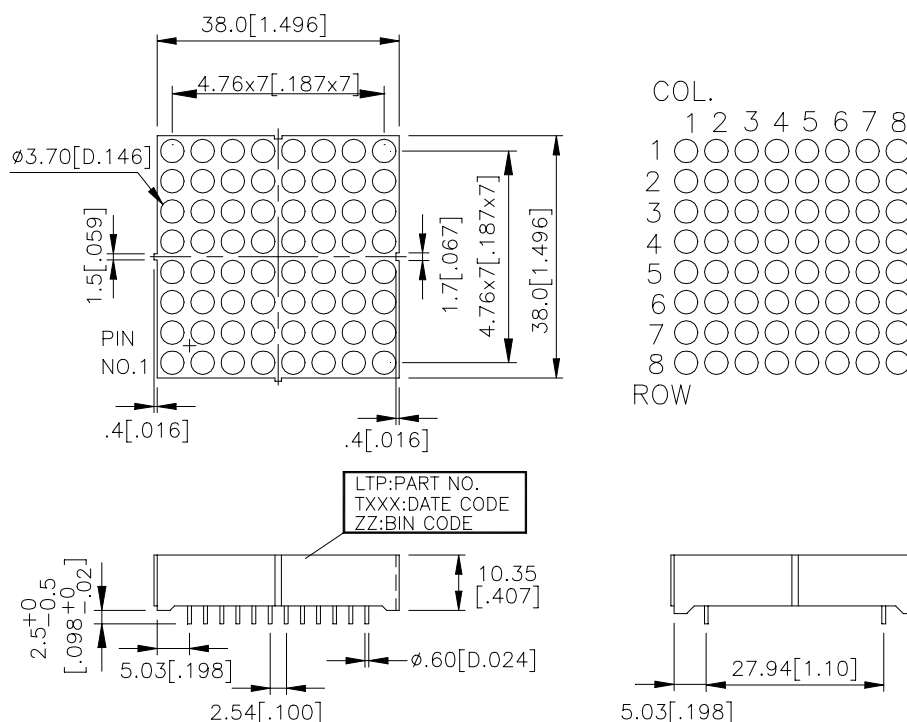
DESCRIPTION

The LTP-14188A-02 is a 1.4 inch (37.02 mm) matrix height 8× 8 dot matrix display. This device is multi-color applicable display. The green LED chips, which are made from GaP on GaP substrate. The red orange LED chips, which are made from GaAsP on GaP substrate. The device has black face and white dots.

DEVICE

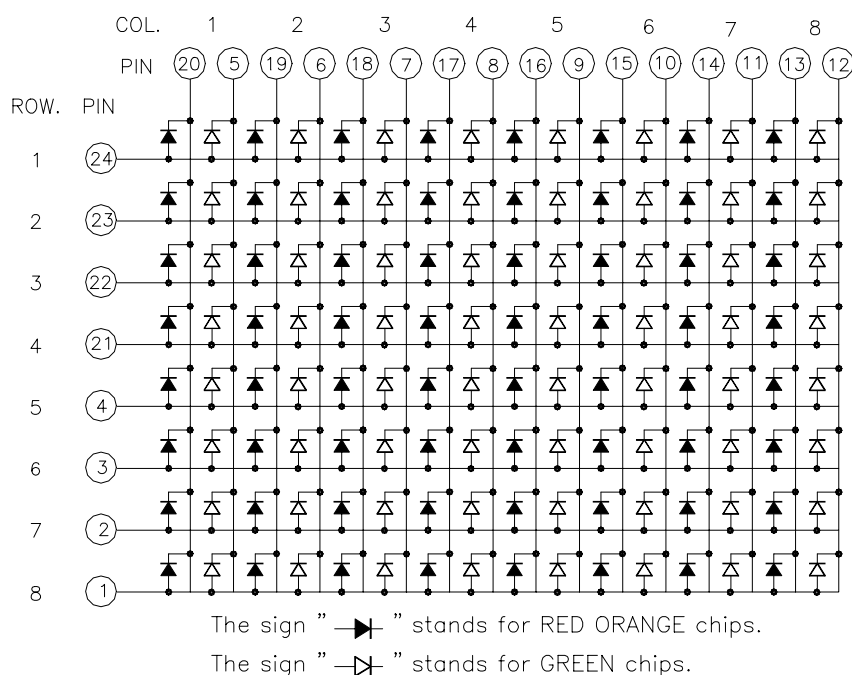
PART NO.	DESCRIPTION
MULTI-COLOR	CATHODE COLUMN
LTP-14188A-02	ANODE ROW

PACKAGE DIMENSIONS



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

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

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

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	GREEN	RED ORANGE	UNIT
Average Power Dissipation Per Dot	36	36	mW
Peak Forward Current Per Dot	100	100	mA
Average Forward Current Per Dot	13	13	mA
Derating Linear From 25°C Per Dot	0.17	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: 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	1780	4000		μcd	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		I _F =80mA
Reverse Current any Dot	I _R			100	μA	V _R =5V
Luminous Intensity Matching Ratio	I _v -m			2:1		I _F =10mA

GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v	1780	4000		μcd	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		I _F =80mA
Reverse Current any Dot	I _R			100	μA	V _R =5V
Luminous Intensity Matching Ratio	I _v -m			2:1		I _F =10mA

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

(25°C Ambient Temperature Unless Otherwise Noted)

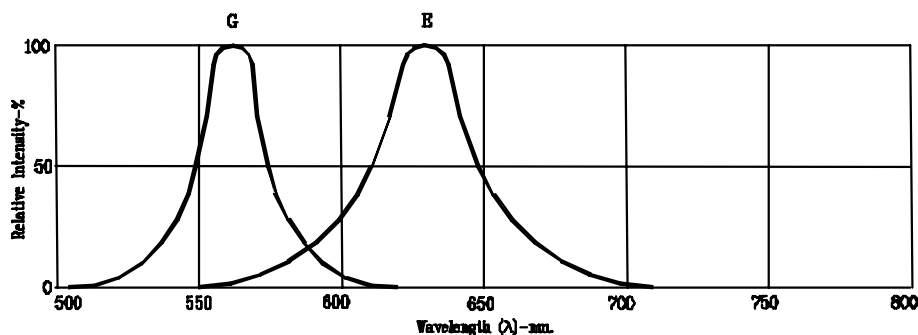


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

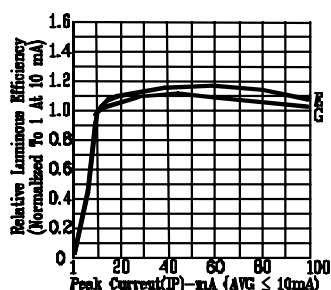


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

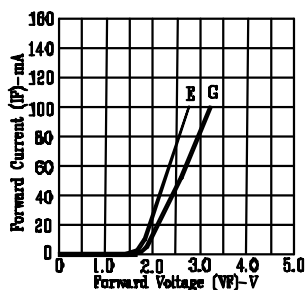


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

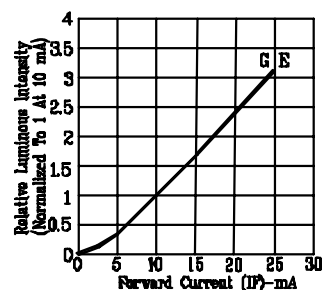


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

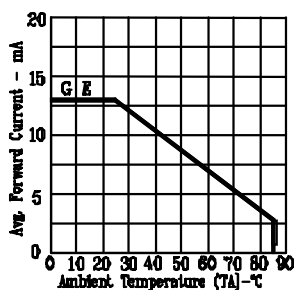


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE

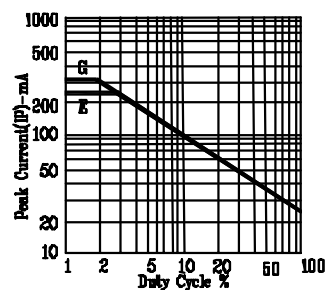


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN E=RED ORANGE