FEATURES

＊1.22 inch (31.0 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.

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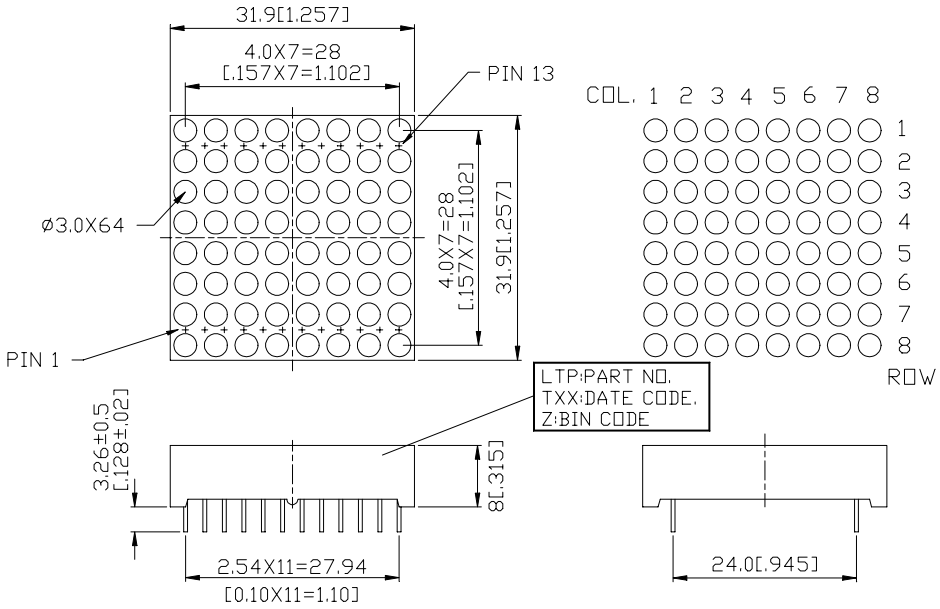
DESCRIPTION

The LTP-12188M-03 is a 1.22 inch (31.0 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 a transparent GaP substrate. The AlGaAs Red LED chips, which are made from AlGaAs on a non-transparent GaAs substrate. The device has black face and transparent dots.

DEVICE

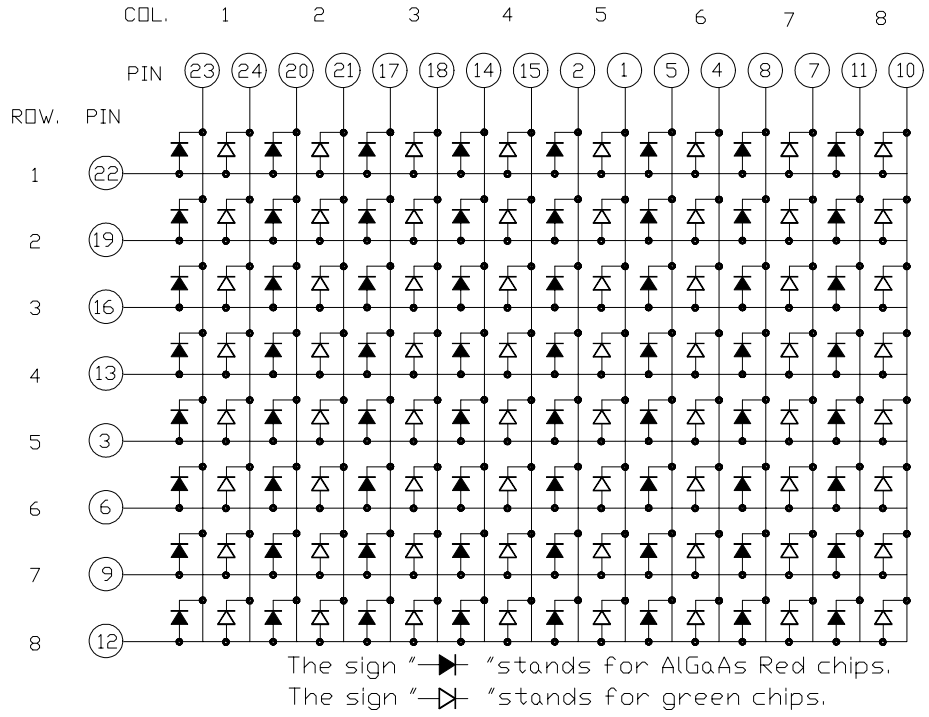
PART NO.	DESCRIPTION
MULTI-COLOR	ANODE ROW
LTP-12188M-03	CATHODE COLUMN

PACKAGE DIMENSIONS



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

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

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

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	GREEN	AlGaAs Red	UNIT
Average Power Dissipation Per Dot	36	36	mW
Peak Forward Current Per Dot	100	125	mA
Average Forward Current Per Dot	13	15	mA
Derating Linear From 25℃ Per Dot	0.17	0.2	mA/℃
Reverse Voltage Per Dot	5	5	V
Operating Temperature Range	-35℃ to +85℃		
Storage Temperature Range	-35℃ to +85℃		
Solder Temperature: max 260℃ 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	2600	5700		μcd	I_p=80mA1/16Duty
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
			3.0	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_p=80mA1/16Duty

AlGaAs RED

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	4400	10140		μcd	I_p=80mA1/16Duty
Peak Emission Wavelength	λp		660		nm	I_F=20mA
Spectral Line Half-Width	Δλ		35		nm	I_F=20mA
Dominant Wavelength	λd		638		nm	I_F=20mA
Forward Voltage any Dot	V_F		1.8	2.4	V	I_F=20mA
			2.0	3.1		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=80mA1/16Duty

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)

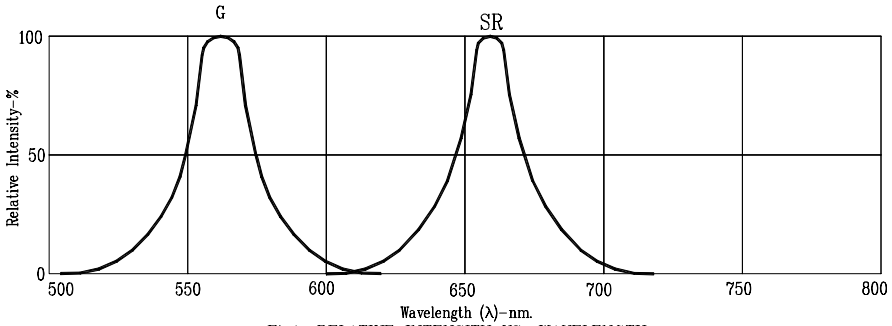


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

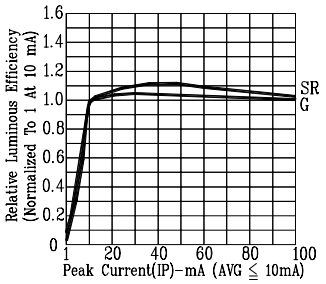


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

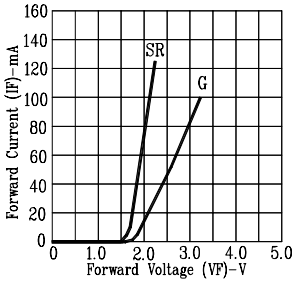


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

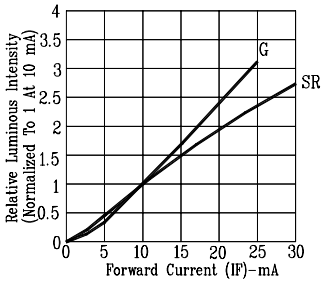


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

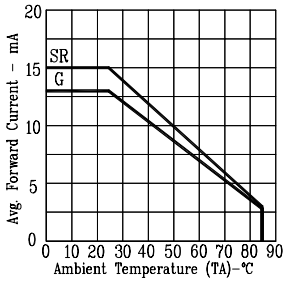


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

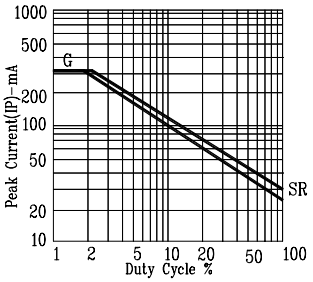


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN SR=AlGaAs RED