

FEATURES

- * 1.22 inch (31.0 mm) MATRIX HEIGHT.
- * LOW POWER REQUIREMENT.
- * SINGLE PLANE, WIDE VIEWING ANGLE.
- * SOLID STATE RELIABILITY.
- * 8x8 ARRAY WITH X-Y SELECT.
- * COMPATIBLE WITH USASCII AND EBCDIC CODES.
- * STACKABLE HORIZONTALLY.

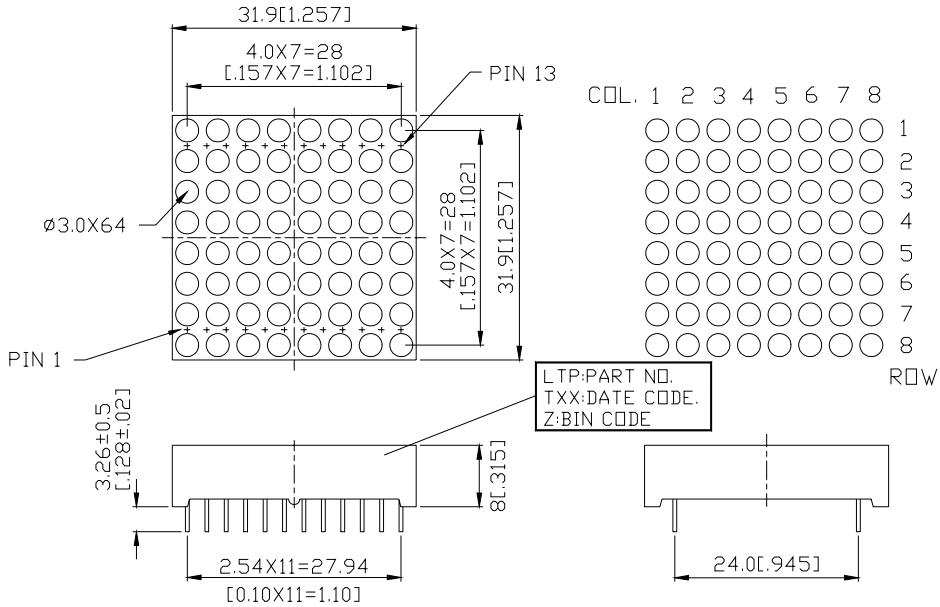
DESCRIPTION

The LTP-12188M-07 is a 1.22 inch (31.0 mm) matrix height 8x8 dot matrix display. This device uses AS-AlInGap GREEN LED chips (AlInGap epi on GaP substrate), and AS-AlInGap HYPER RED LED chips (AlInGap epi on a GaAs substrate). The display has black face and water clear dots.

DEVICE

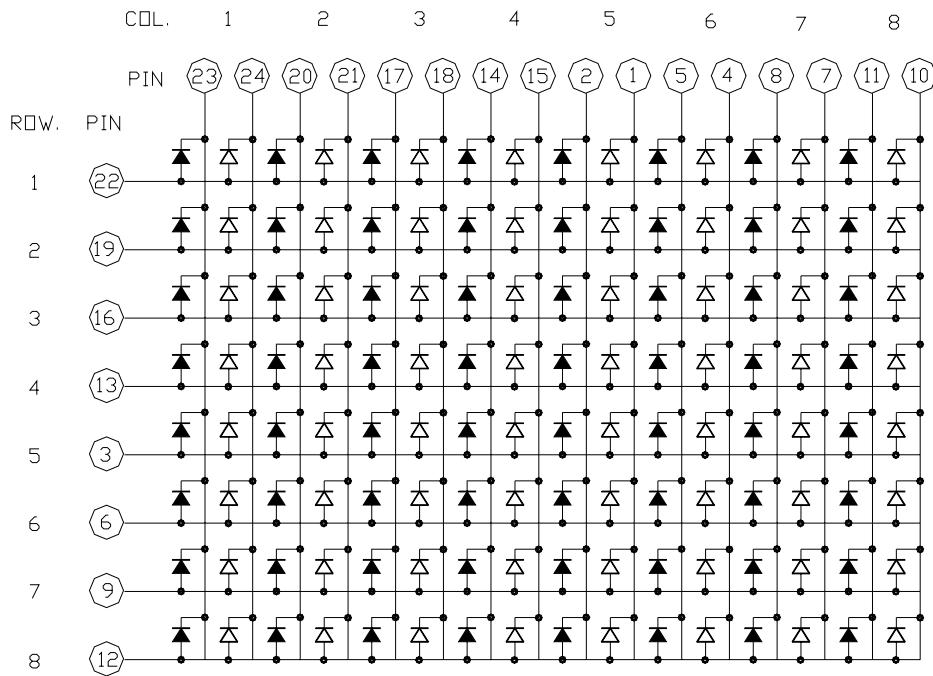
PART NO.	DESCRIPTION
MULTI-COLOR	ANODE ROW
LTP-12188M-07	CATHODE COLUMN

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 RED ORANGE	14	CATHODE COL. 4 RED ORANGE
3	ANODE ROW. 5	15	CATHODE COL. 4 GREEN
4	CATHODE COL. 6 GREEN	16	ANODE ROW. 3
5	CATHODE COL. 6 RED ORANGE	17	CATHODE COL. 3 RED ORANGE
6	ANODE ROW. 6	18	CATHODE COL. 3 GREEN
7	CATHODE COL. 7 GREEN	19	ANODE ROW. 2
8	CATHODE COL. 7 RED ORANGE	20	CATHODE COL. 2 RED ORANGE
9	ANODE ROW. 7	21	CATHODE COL. 2 GREEN
10	CATHODE COL. 8 GREEN	22	ANODE ROW. 1
11	CATHODE COL. 8 RED ORANGE	23	CATHODE COL. 1 RED ORANGE
12	ANODE ROW 8	24	CATHODE COL. 1 GREEN

ABSOLUTE MAXIMUM RATING

PARAMETER	AllnGaP GREEN	AllnGaP HYPER RED	UNIT
Average Power Dissipation Per Dot	70	70	mW
Peak Forward Current Per Dot	60	90	mA
Average Forward Current Per Dot	25	25	mA
Derating Linear From 25°C Per Dot	0.33	0.33	mA/°C
Reverse Voltage Per Dot	5	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**AllnGaP GREEN**

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v	5400	9360		μcd	I _p =40mA 1/8Duty
Peak Emission Wavelength	λ _p		571		nm	I _F =20mA
Spectral Line Half-Width	Δλ		15		nm	I _F =20mA
Dominant Wavelength	λ _d		572		nm	I _F =20mA
Forward Voltage any Dot	V _F		2.05	2.6	V	I _F =20mA
Reverse Current any Dot	I _R			100	μA	V _R =5V
Luminous Intensity Matching Ratio	I _{v-m}			2:1		I _p =40mA 1/8Duty

AllnGaP HYPER RED

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v	4300	7020		μcd	I _p =40mA 1/8Duty
Peak Emission Wavelength	λ _p		656		nm	I _F =20mA
Spectral Line Half-Width	Δλ		22		nm	I _F =20mA
Dominant Wavelength	λ _d		640		nm	I _F =20mA
Forward Voltage any Dot	V _F		2.1	2.6	V	I _F =20mA
Reverse Current any Dot	I _R			100	μA	V _R =5V
Luminous Intensity Matching Ratio	I _{v-m}			2:1		I _p =40mA 1/8Duty

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)

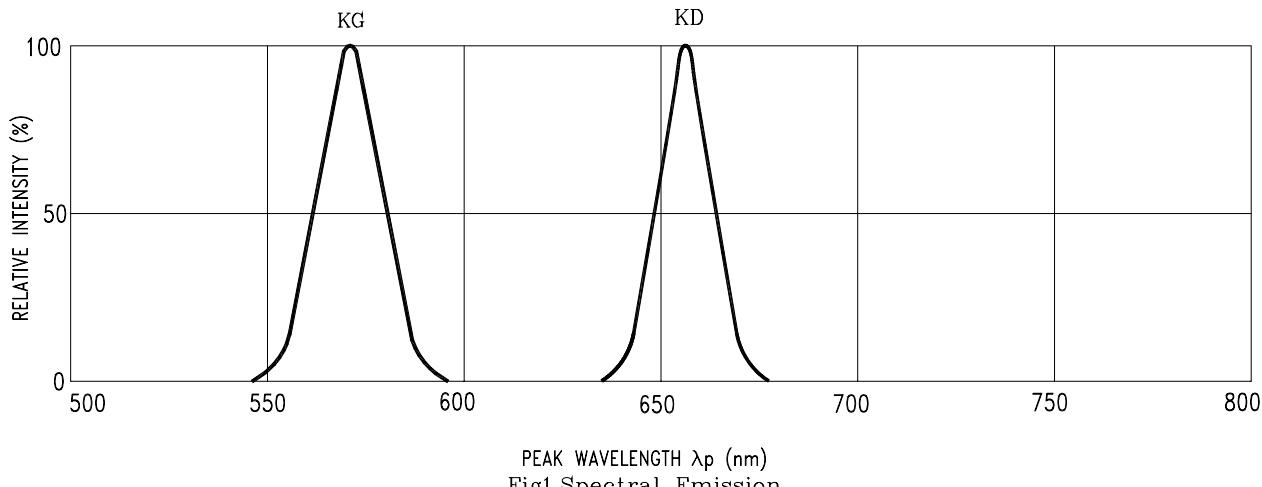


Fig1. Spectral Emission

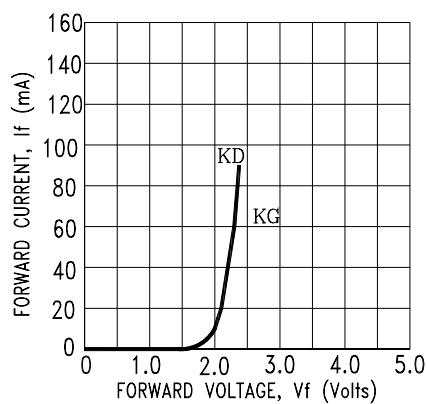


Fig2. Forward Current vs. Forward Voltage

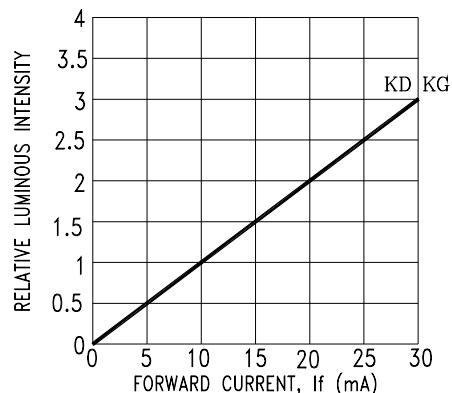


Fig3. Relative Luminous Intensity vs. DC Forward Current

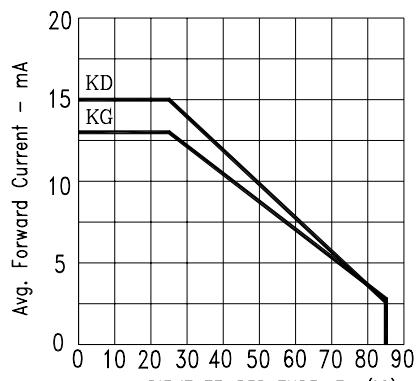


Fig4. Max. Average Forward Current vs. Ambient Temperature

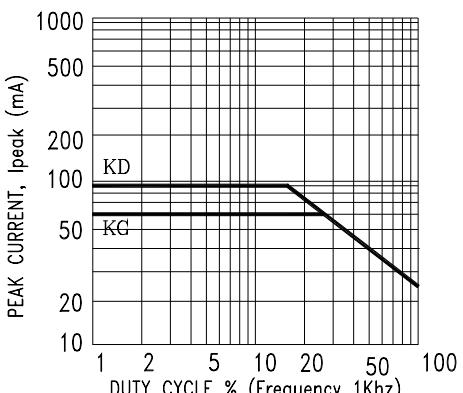


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE : KD=AlInGaP HYPER RED
KG=AlInGaP GREEN