FEATURES

∗1.85 inch (47.0 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.
∗CATEGORIZED FOR LUMINOUS INTENSITY.

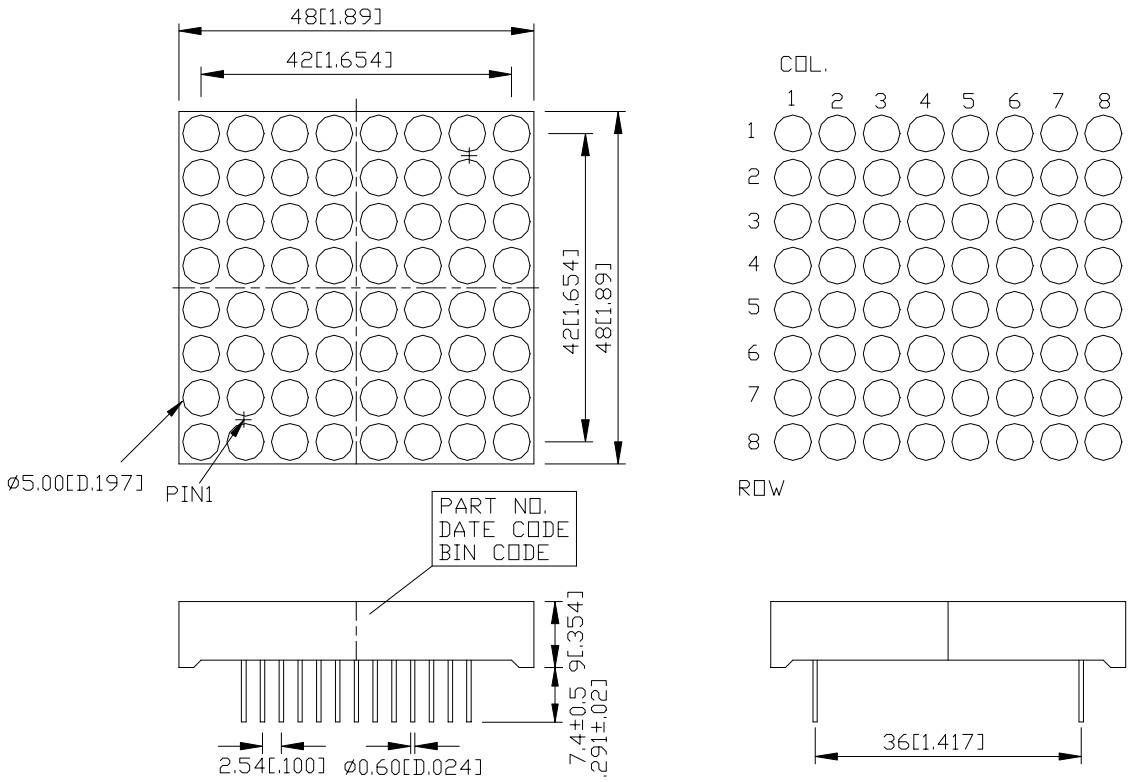
DESCRIPTION

The LTP-18088E is a 1.85 inch (47.0 mm) matrix height 8 x 8 dot matrix displays. This device utilizes Red Orange LED chips, which are made from GaAsP on GaP substrate, and has a black face and white dot color.

DEVICE

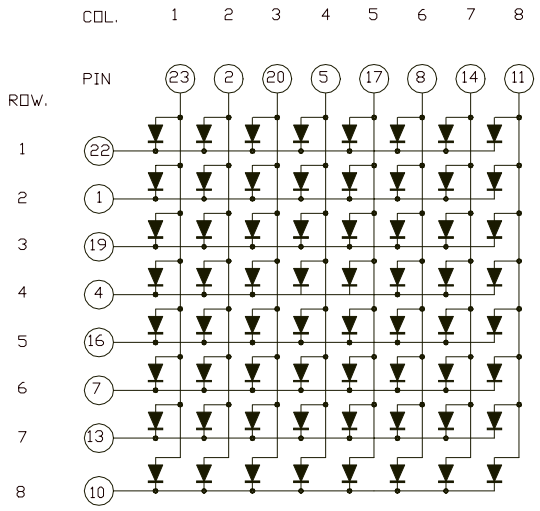
PART NO.	DESCRIPTION
Red Orange	ANODE COLUMN
LTP-18088E	CATHODE ROW

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

ABSOLUTE MAXIMUM RATING AT T_A=25°C

PARAMETER	MAXIMUM RATING	UNIT
Average Power Dissipation Per Dot	36	mW
Peak Forward Current Per Dot	125	mA
Continuous Forward Current Per Dot Derating Linear From 25°C Per Dot	15 0.20	mA 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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	6300	12000		μcd	I_P=80mA , 1/16Duty
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 Per Dot	V_F		1.8	2.4	V	I_F=20mA
			2.0	2.7	V	I_F=80mA
Reverse Current Per 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 Internationale DeL'Eclairage) eye-response curve.

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

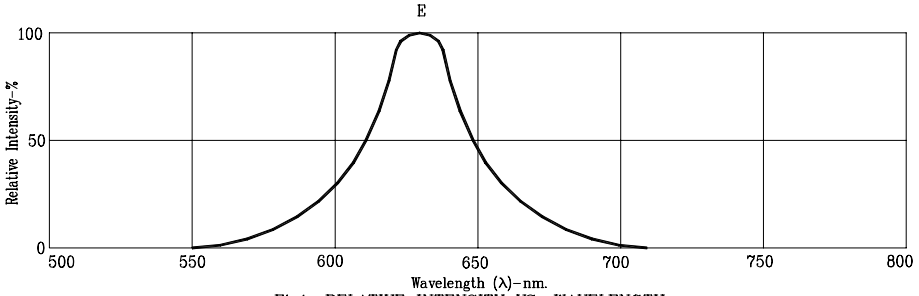


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

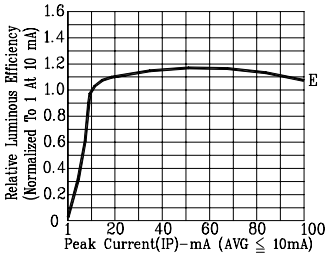


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

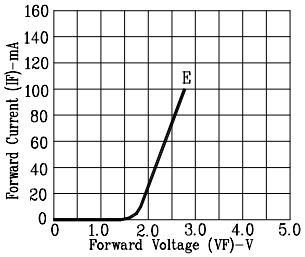


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

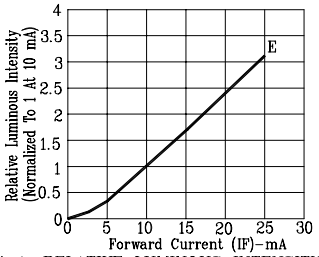


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

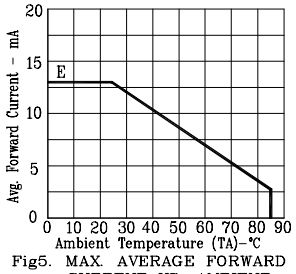


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

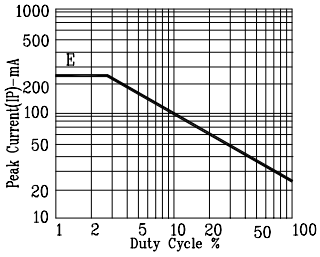


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: E=RED ORANGE