## FEATURES

∗1.2 inch (30.42 mm) MATRIX HEIGHT.
∗LOW POWER REQUIREMENT.
∗SINGLE PLANE, WIDE VIEWING ANGLE.
∗SOLID STATE RELIABILITY.
∗5×7 ARRAY WITH X-Y SELECT.
∗COMPATIBLE WITH USASCII AND EBCDIC CODES.
∗STACKABLE HORIZONTALLY.
∗CATEGORIZED FOR LUMINOUS INTENSITY.

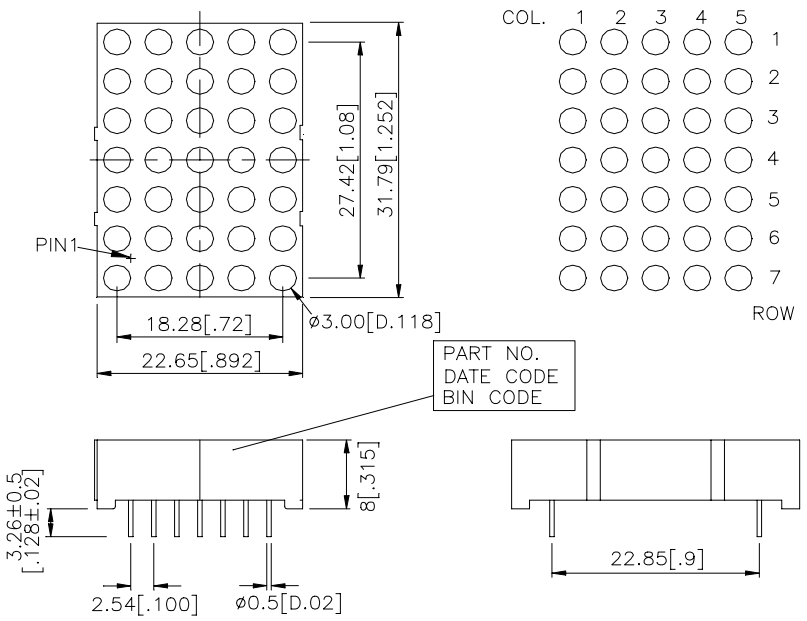
## DESCRIPTION

The LTP-1457AC is a 1.2 inch (30.42 mm) matrix height 5×7 dot matrix display. This device utilizes AlGaAs Red LED chips, which are made from GaAsP on a non-transparent GaAs substrate, and has a gray face and white dot color.

## DEVICE

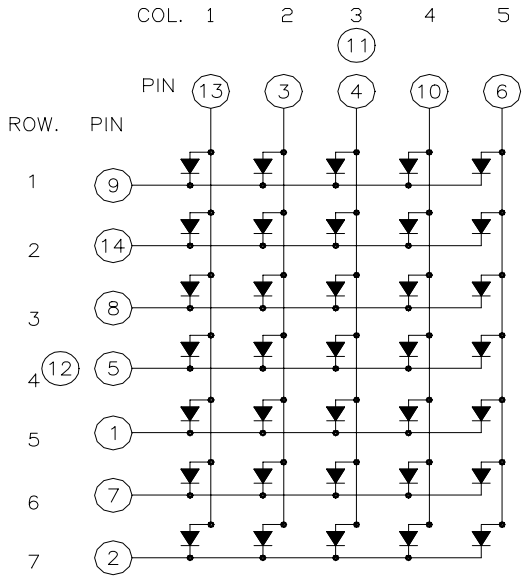
| PART NO. | DESCRIPTION |
|---|---|
| AlGaAs Red | ANODE COLUMN |
| LTP-1457AC | CATHODE ROW |

## 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 |
|---|---|
| 1 | CATHODE ROW 5 |
| 2 | CATHODE ROW 7 |
| 3 | ANODE COLUMN 2 |
| 4 | ANODE COLUMN 3*1 |
| 5 | CATHODE ROW 4*2 |
| 6 | ANODE COLUMN 5 |
| 7 | CATHODE ROW 6 |
| 8 | CATHODE ROW 3 |
| 9 | CATHODE ROW 1 |
| 10 | ANODE COLUMN 4 |
| 11 | ANODE COLUMN 3*1 |
| 12 | CATHODE ROW 4*2 |
| 13 | ANODE COLUMN 1 |
| 14 | CATHODE ROW 2 |

NOTES : 1. Pin 4 & 11 are internally connected.
2. Pin 5 & 12 are internally connected.

## ABSOLUTE MAXIMUM RATING AT Ta=25°C

| PARAMETER | MAXIMUM RATING | UNIT |
|---|---|---|
| Average Power Dissipation Per Dot | 36 | mW |
| Peak Forward Current Per Dot | 125 | mA |
| Average Forward Current Per Dot<br>Derating Linear From 25℃ Per Dot | 15<br>0.20 | mA<br>mA/℃ |
| Reverse Voltage Per Dot | 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

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|---|---|---|---|---|---|---|
| Average Luminous Intensity | $I_V$ | 6300 | 12000 | | μcd | $I_p$=80mA<br>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 any Dot | $V_F$ | | 1.8 | 2.4 | V | $I_F$=20mA |
| | | | 2.0 | 2.7 | | $I_F$=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 (Commision Internationale De L'Eclairage) eye-response curve.

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

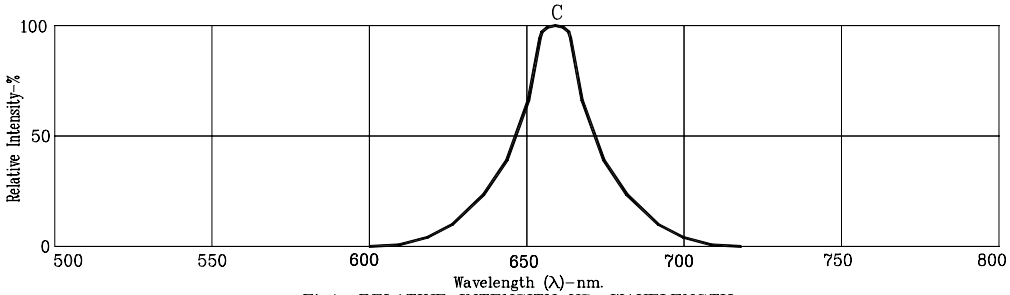


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

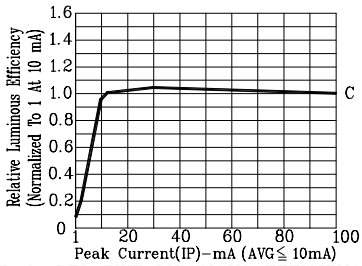


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

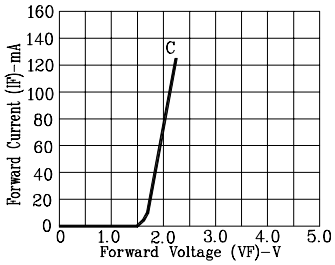


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

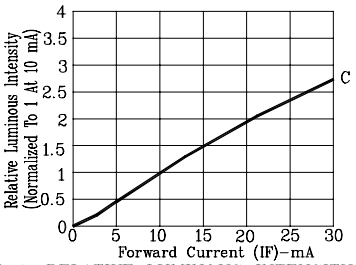


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

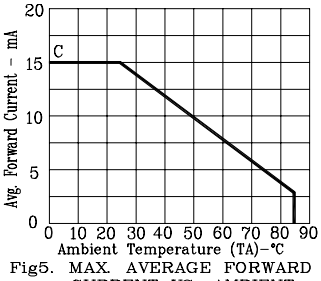


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

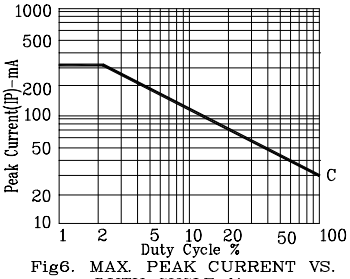


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE : C=AlGaAs RED