

FEATURES

- * 2 inch (50.8 mm) MATRIX HEIGHT.
- * LOW POWER REQUIREMENT.
- * SINGLE PLANE, WIDE VIEWING ANGLE
- * SOLID STATE RELIABILITY.
- * 5x7 ARRAY WITH X-Y SELECT.
- * COMPATIBLE WITH USASCLL AND EBCDIC CODES.
- * STACKABLE HORIZONTALLY.
- * CATEGORIZED FOR LUMINOUS INTENSITY.

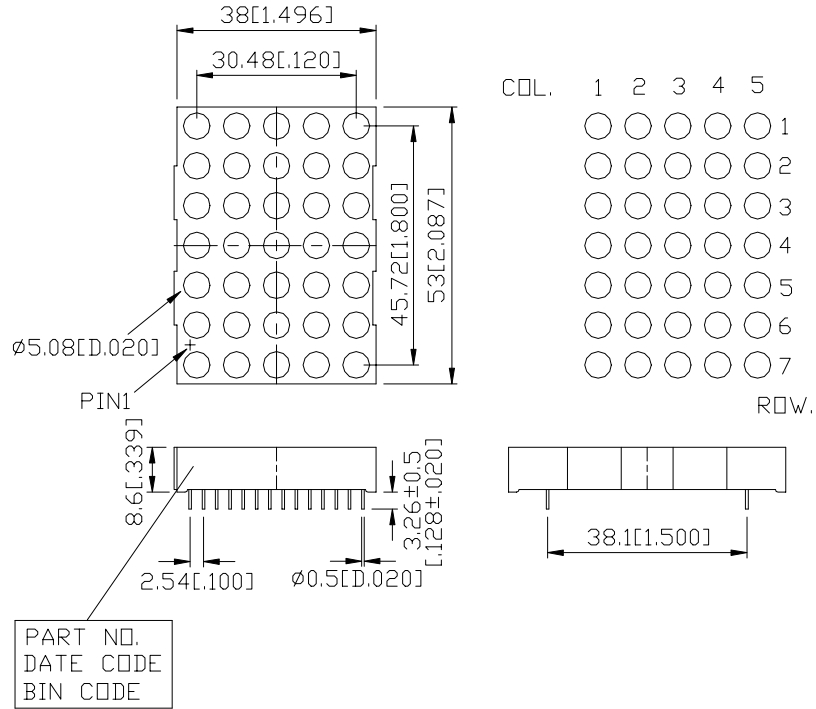
DESCRIPTION

The LTP-2657AA is a 2 inch (50.8 mm) matrix height 5x7 dot matrix display. This device is multicolor applicable display, which has gray face and white dot color. The red orange LED chips are made from GaAsP on a transparent GaP substrate. The green LED chips are made from GaP on a transparent GaP substrate.

DEVICE

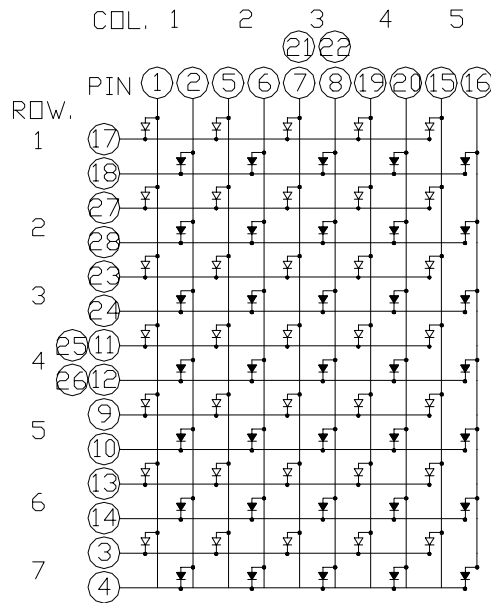
| PART NO. | DESCRIPTION |
|--------------------|--------------------|
| Red Orange & Green | Anode Column |
| LTP-2657AA | Cathode Row |

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 | ANODE COLUMN 1 (GREEN) | 15 | ANODE COLUMN 5 (GREEN) |
| 2 | ANODE COLUMN 1 (RED ORANGE) | 16 | ANODE COLUMN 5 (RED ORANGE) |
| 3 | CATHODE ROW 7 (GREEN) | 17 | CATHODE ROW 1 (GREEN) |
| 4 | CATHODE ROW 7 (RED ORANGE) | 18 | CATHODE ROW 1 (RED ORANGE) |
| 5 | ANODE COLUMN 2 (GREEN) | 19 | ANODE COLUMN 4 (GREEN) |
| 6 | ANODE COLUMN 2 (RED ORANGE) | 20 | ANODE COLUMN 4 (RED ORANGE) |
| 7 | ANODE COLUMN 3 (GREEN) | 21 | ANODE COLUMN 3 (GREEN) |
| 8 | ANODE COLUMN 3 (RED ORANGE) | 22 | ANODE COLUMN 3 (RED ORANGE) |
| 9 | CATHODE ROW 5 (GREEN) | 23 | CATHODE ROW 3 (GREEN) |
| 10 | CATHODE ROW 5 (RED ORANGE) | 24 | CATHODE ROW 3 (RED ORANGE) |
| 11 | CATHODE ROW 4 (GREEN) | 25 | CATHODE ROW 4 (GREEN) |
| 12 | CATHODE ROW 4 (RED ORANGE) | 26 | CATHODE ROW 4 (RED ORANGE) |
| 13 | CATHODE ROW 6 (GREEN) | 27 | CATHODE ROW 2 (GREEN) |
| 14 | CATHODE ROW 6 (RED ORANGE) | 28 | CATHODE ROW 2 (RED ORANGE) |



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ABSOLUTE MAXIMUM RATING AT T_A=25°C

| PARAMETER | GREEN | RED ORANGE | UNIT |
|---|----------------|------------|-------|
| Average Power Dissipation Per Dot | 36 | | mW |
| Peak Forward Current Per Dot | 100 | | mA |
| Average Forward Current Per Dot | 13 | | mA |
| Derating Linear From 25°C Per Dot | 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 1/16 inch Below Seating Plane for 3 Seconds at 260°C | | | |

ELECTRICAL / OPTICAL CHARACTERISTICS AT T_A=25°C

GREEN

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|-----------------------------------|-------------------|------|------|------|------|----------------------------------|
| Average Luminous Intensity | I _v | 1500 | 4800 | | 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 | 3.7 | V | 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 =80mA 1/16DUTY |

RED ORANGE

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|-----------------------------------|-------------------|------|------|------|------|----------------------------------|
| Average Luminous Intensity | I _v | 1500 | 4800 | | 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 | 2.6 | V | I _F =20mA |
| | | | 2.6 | 3.4 | V | 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 =80mA 1/16DUTY |

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)

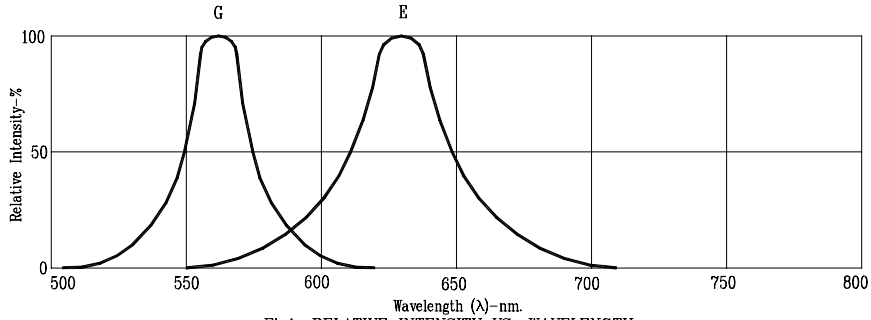


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

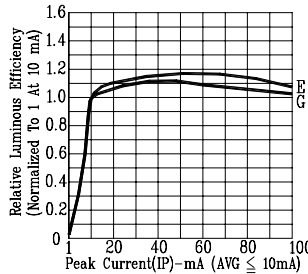


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

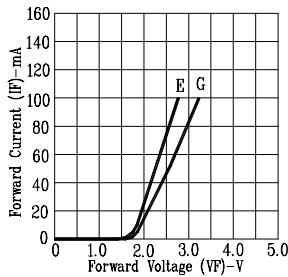


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

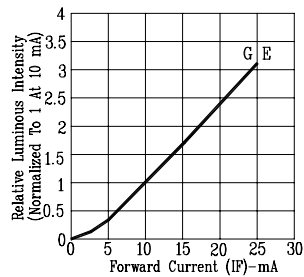


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

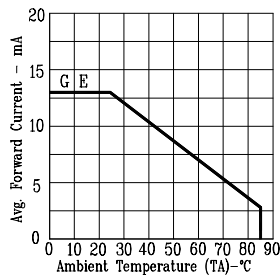


Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

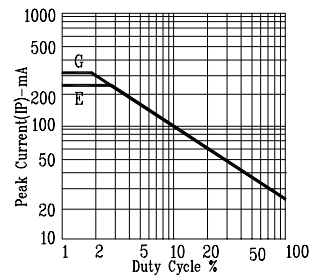


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN & E=RED ORANGE