# LED DISPLAY

# LTP-2557C
# DATA SHEET

| Rev | Description | By |
|---|---|---|
| - | Original Spec | Ruby Lee |
| A | Define F/M at 10mil (page 2). | PHANOMKORN J |
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SPEC. NO.: DS-30-98-476

D A T E : 08/NOV/06

REV. NO. : A

PAGE NO. : 0 OF 5

## 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.
* **LEAD-FREE PACKAGE(ACCORDING TO ROHS)**

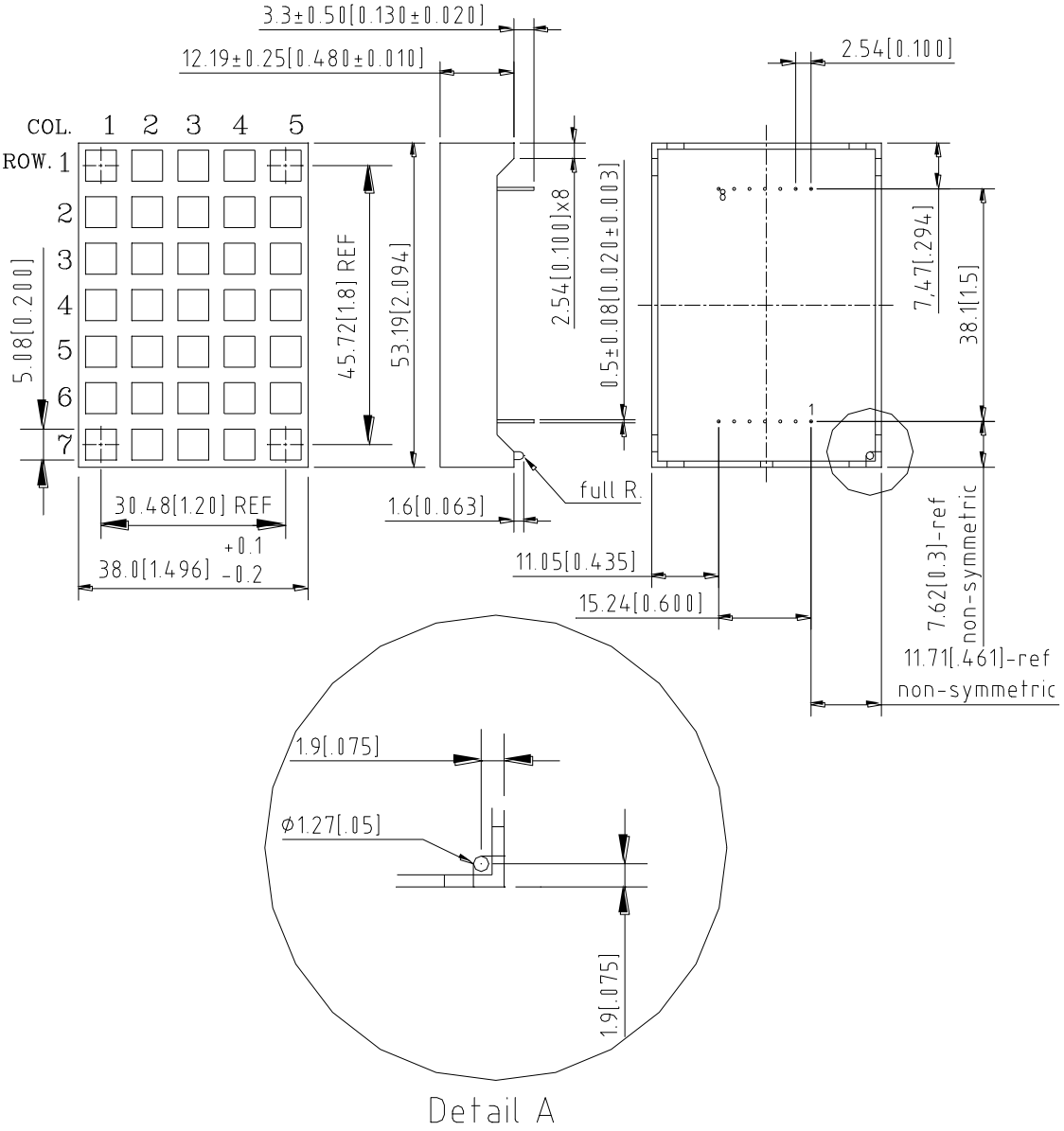
## DESCRIPTION

The LTP-2557C is a 2 inch (50.8 mm) matrix height 5x7 dot matrix display. This device utilizes AlGaAs red LED chips, which are made from AlGaAs on a non-transparent GaAs substrate, and has a gray face and white dot color.

## DEVICE

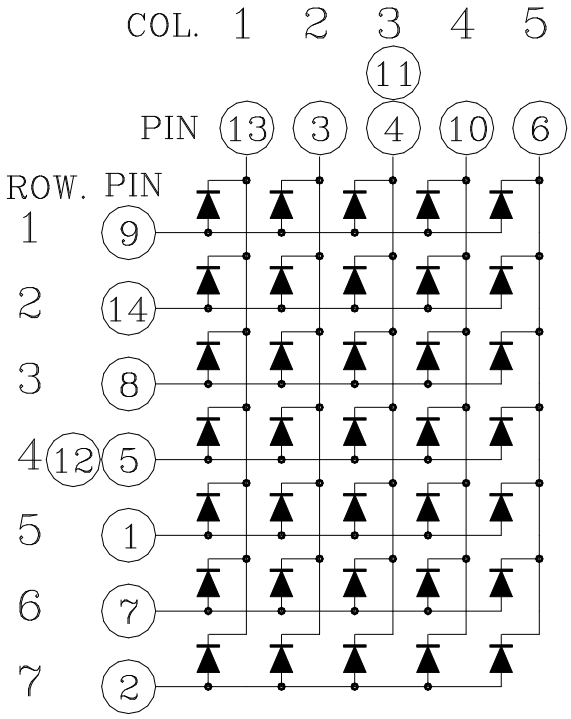
| PART NO. | DESCRIPTION |
|---|---|
| AlGaAs Red | Cathode Column |
| LTP-2557C | Anode Row |

## PACKAGE DIMENSIONS




NOTES: 1. All dimensions are in millimeters. Tolerances are ± 0.25 mm unless otherwise note.
2. Pin tip's shift tolerance is ± 0.4 mm.
3. Maximum foreign material size is 10 mils

## INTERNAL CIRCUIT DIAGRAM



## PIN CONNECTION

| No. | CONNECTION |
|---|---|
| 1 | ANODE ROW 5 |
| 2 | ANODE ROW 7 |
| 3 | CATHODE COLUMN 2 |
| 4 | CATHODE COLUMN 3 |
| 5 | ANODE ROW 4 |
| 6 | CATHODE COLUMN 5 |
| 7 | ANODE ROW 6 |
| 8 | ANODE ROW 3 |
| 9 | ANODE ROW 1 |
| 10 | CATHODE COLUMN 4 |
| 11 | CATHODE COLUMN 3 |
| 12 | ANODE ROW 4 |
| 13 | CATHODE COLUMN 1 |
| 14 | ANODE ROW 2 |

## 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 |
| Average Forward Current Per Dot | 15 | mA |
| Derating Linear From 25°C Per Dot | 0.20 | mA/°C |
| Reverse Voltage Per Dot | 5 | V |
| Operating Temperature Range | -35°C to +85°C | |
| Storage Temperature Range | -35°C to +85°C | |
| Soldering Conditions: 1/16 inch below seating plane for 3 seconds at 260°C or of temperature unit (during assembly) not over max. temperature rating above. | | |

## ELECTRICAL / OPTICAL CHARACTERISTICS AT $T_A$=25°C

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|---|---|---|---|---|---|---|
| Average Luminous Intensity | $I_V$ | 6200 | 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 any Dot | $V_F$ | | 1.8 | 2.4 | V | $I_F$=20mA |
| | | | 2 | 3.1 | V | $I_F$=80mA |
| Reverse Current any Dot | $I_R$ | | | 100 | μA | $V_R$=5V |
| Luminous Intensity Matching Ratio (Similar Light Area) | $I_V$-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)

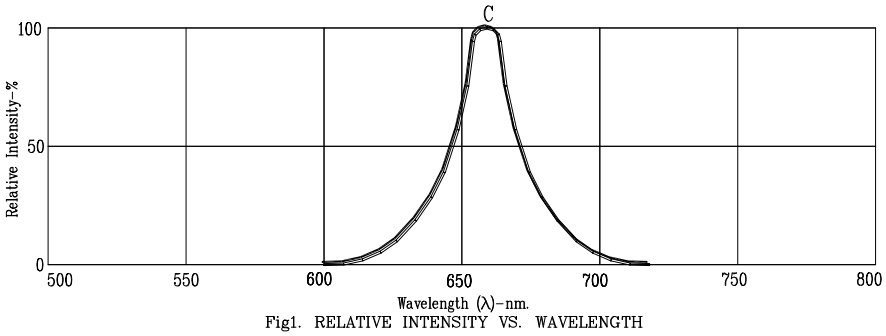



Fig1. RELATIVE INTENSITY VS. WAVELENGTH

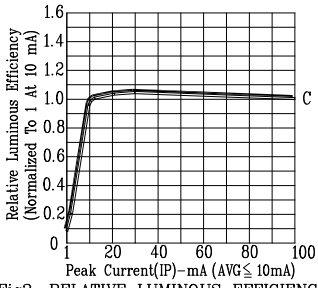



Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

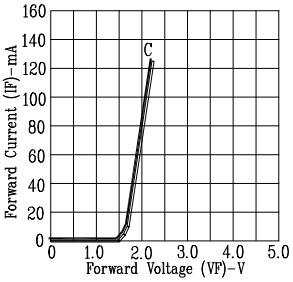



Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

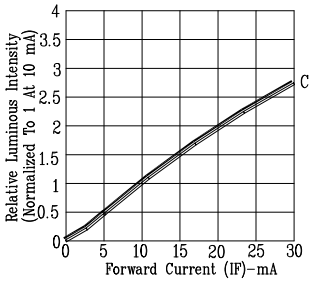



Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

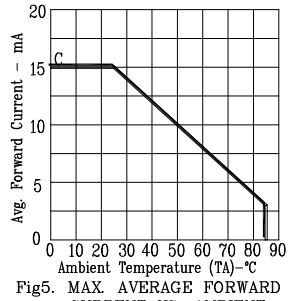



Fig5. MAX. AVERAGE FORWARD CURRENT VS. AMBIENT TEMPERATURE.

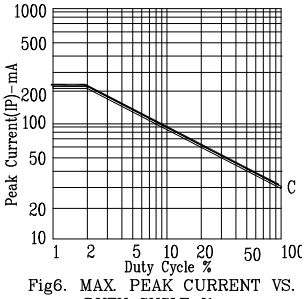



Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE : C=AlGaAs RED