



# **LED Display**

## **Product Data Sheet**

### **LTP-11057KA**

Spec No.: DS-30-99-085

Effective Date: 03/29/2000

Revision: -

**LITE-ON DCC**

**RELEASE**

**BNS-OD-FC001/A4**

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**FEATURES**

- \* 1.11 inch (28.11 mm) MATRIX HEIGHT.
- \* LOW POWER REQUIREMENT.
- \* SINGLE PLANE, WIDE VIEWING ANGLE.
- \* SOLID STATE RELIABILITY.
- \* 5x7 ARRAY WITH X-Y SELECT.
- \* COMPATIBLE WITH USASCII AND EBCDIC CODES.
- \* STACKABLE HORIZONTALLY.
- \* CATEGORIZED FOR LUMINOUS INTENSITY.

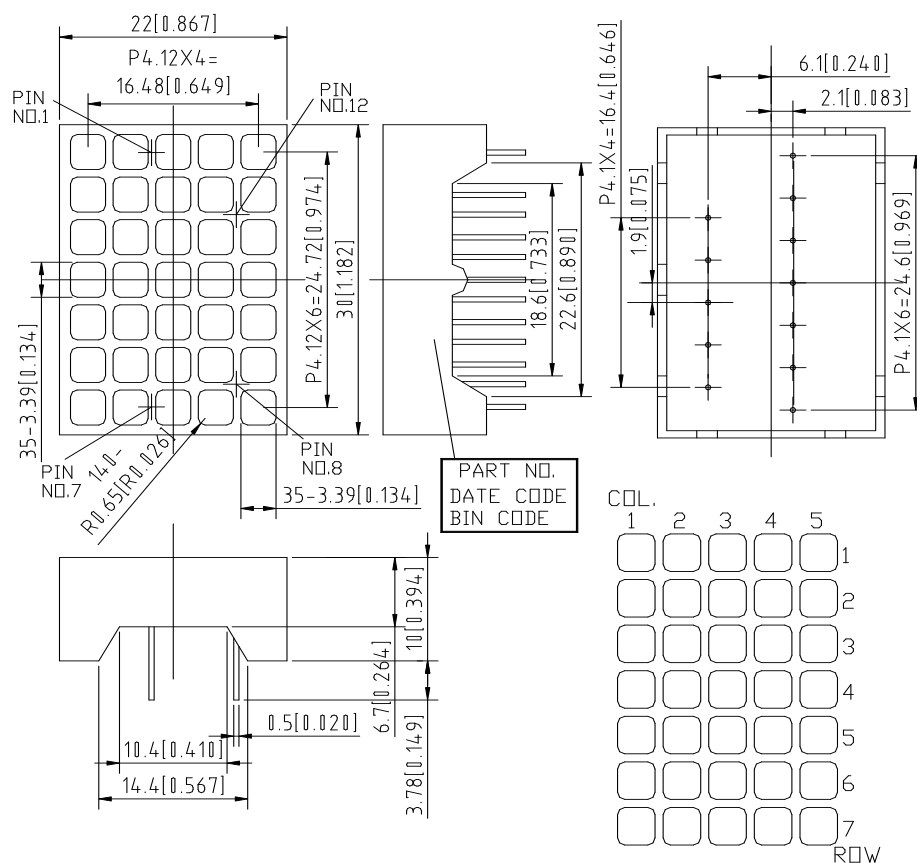
**DESCRIPTION**

The LTP-11057KA is a 1.11 inch (28.11mm) matrix height 5x7 dot matrix display. This device utilizes AlInGaP Red-Orange LED chips, which are made from AlInGaP on GaAs substrate, and has a black face and white dots.

**DEVICE**

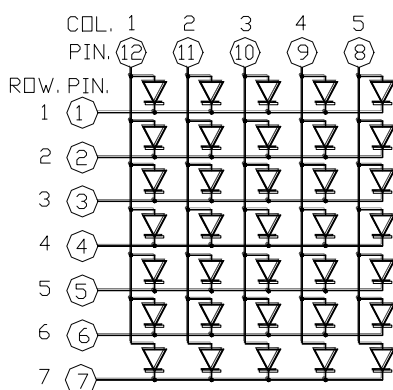
| PART NO.           | DESCRIPTION  |
|--------------------|--------------|
| AlInGaP RED ORANGE | ANODE COLUMN |
| LTP-11057KA        | CATHODE ROW  |

## PACKAGE DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerance is  $\pm 0.25$  mm (0.01") unless otherwise noted.

## INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

| <b>No.</b> | <b>CONNECTION</b> |
|------------|-------------------|
| 1          | CATHODE ROW 1     |
| 2          | CATHODE ROW 2     |
| 3          | CATHODE ROW 3     |
| 4          | CATHODE ROW 4     |
| 5          | CATHODE ROW 5     |
| 6          | CATHODE ROW 6     |
| 7          | CATHODE ROW 7     |
| 8          | ANODE COLUMN 5    |
| 9          | ANODE COLUMN 4    |
| 10         | ANODE COLUMN 3    |
| 11         | ANODE COLUMN 2    |
| 12         | ANODE COLUMN 1    |

**ABSOLUTE MAXIMUM RATING AT Ta=25°C**

| PARAMETER                                                                          | MAXIMUM RATING | 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: max 260°C for max 3sec at 1.6mm[1/16inch] below seating plane. |                |       |

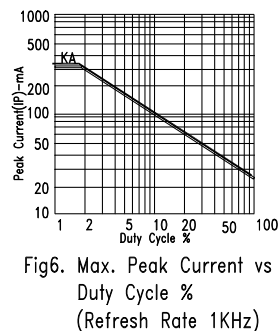
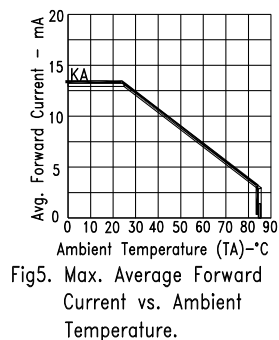
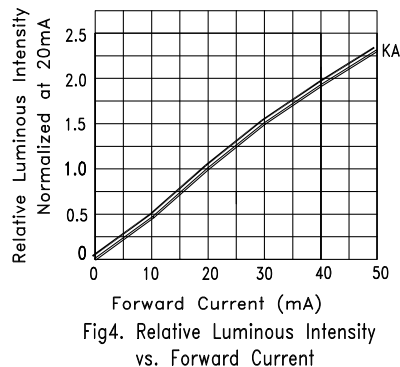
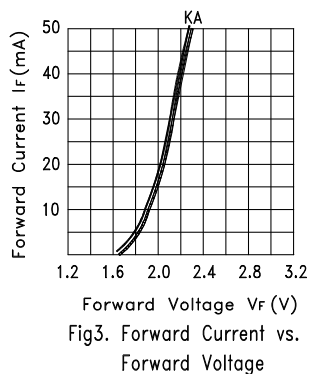
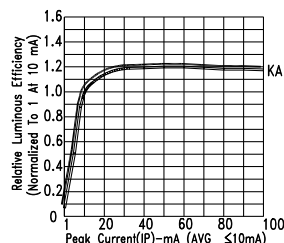
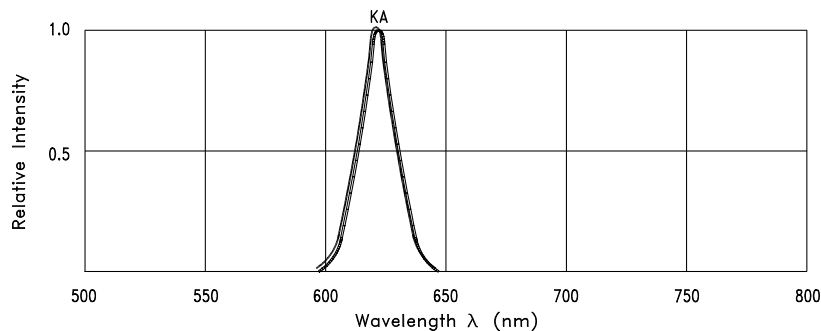
**ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C**

| PARAMETER                         | SYMBOL            | MIN. | TYP. | MAX. | UNIT | TEST CONDITION                    |
|-----------------------------------|-------------------|------|------|------|------|-----------------------------------|
| Average Luminous Intensity        | I <sub>v</sub>    | 2100 | 3800 |      | μcd  | I <sub>p</sub> =32mA<br>1/16 duty |
| Peak Emission Wavelength          | λ <sub>p</sub>    |      | 621  |      | nm   | I <sub>F</sub> =20mA              |
| Spectral Line Half-Width          | Δλ                |      | 18   |      | nm   | I <sub>F</sub> =20mA              |
| Dominant Wavelength               | λ <sub>d</sub>    |      | 615  |      | nm   | I <sub>F</sub> =20mA              |
| Forward Voltage any Dot           | V <sub>F</sub>    |      | 2.05 | 2.6  | V    | I <sub>F</sub> =20mA              |
| Reverse Current any Dot           | I <sub>R</sub>    |      |      | 100  | μA   | V <sub>R</sub> =15V               |
| Luminous Intensity Matching Ratio | I <sub>v</sub> -m |      |      | 2:1  |      | I <sub>p</sub> =32mA<br>1/16 Duty |

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)



NOTE : AlInGaP Red Orange