



# **LED Display**

## **Product Data Sheet**

### **LTP-747KA**

Spec No.: DS30-2000-065

Effective Date: 01/09/2001

Revision: -

**LITE-ON DCC**

**RELEASE**

## FEATURES

- \* 0.7INCH (17.22mm) DIGIT HEIGHT.
- \* CONTINUOUS UNIFORM SEGMENTS.
- \* LOW POWER REQUIREMENT.
- \* EXCELLENT CHARACTERS APPEARANCE.
- \* HIGH BRIGHTNESS & HIGH CONTRAST.
- \* WIDE VIEWING ANGLE.
- \* SOLID STATE RELIABILITY.
- \* CATEGORIZED FOR LUMINOUS INTENSITY.

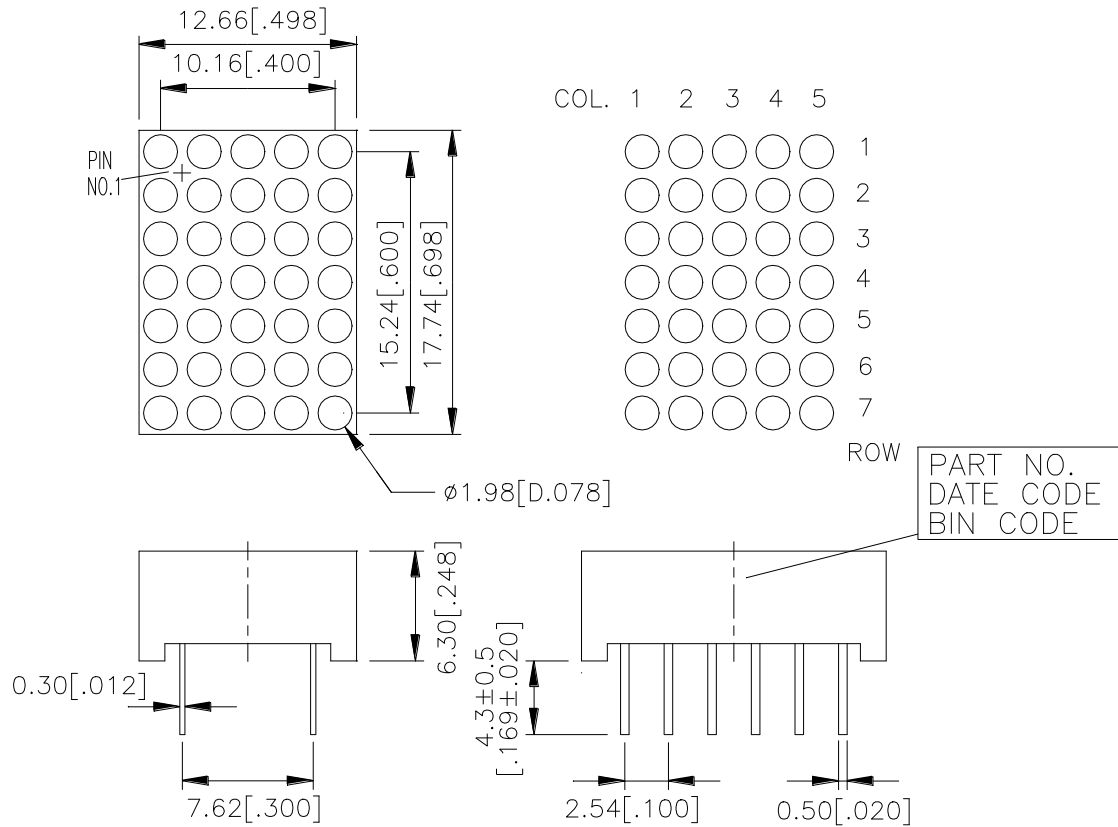
## DESCRIPTION

The LTP-747KA is a 0.7inch (17.22mm) matrix height 5 x 7 dot matrix display. This device utilizes AlInGap Red Orange LED chips, which are made from AlInGaP on a non-transparent GaAs substrate, and has a gray face and white dots.

## DEVICE

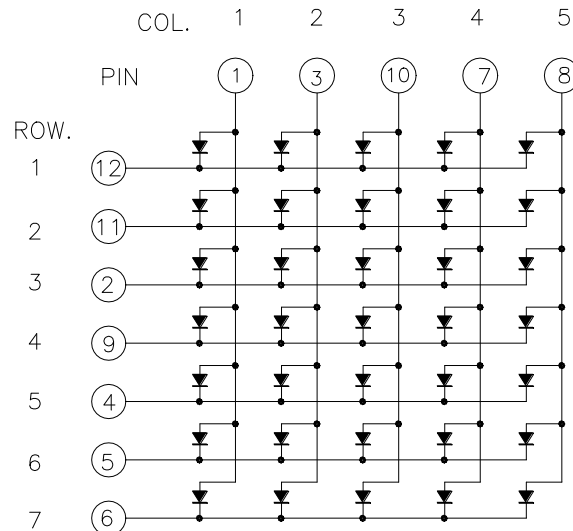
| PART NO.           | DESCRIPTION  |
|--------------------|--------------|
| AlInGaP RED ORANGE | Anode Column |
| LTP-747KA          | Cathode Row  |

## PACKAGE DIMENSIONS



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

## INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

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

**ABSOLUTE MAXIMUM RATING AT T<sub>A</sub>=25°C**

| PARAMETER                                                                            | MAXIMUM RATING                           | UNIT               |
|--------------------------------------------------------------------------------------|------------------------------------------|--------------------|
| Average Power Dissipation Per dot                                                    | 33                                       | mW                 |
| Peak Forward Current Per dot                                                         | 90                                       | mA                 |
| Average Forward Current Per dot                                                      | 13                                       | mA                 |
| Derating Linear From 25 <sup>0</sup> C Per dot                                       | 0.17                                     | mA/ <sup>0</sup> C |
| Reverse Voltage Per dot                                                              | 5                                        | V                  |
| Operating Temperature Range                                                          | -35 <sup>0</sup> C to +85 <sup>0</sup> C |                    |
| Storage Temperature Range                                                            | -35 <sup>0</sup> C to +85 <sup>0</sup> C |                    |
| Solder Temperature 1/16 inch Below Seating Plane for 3 Seconds at 260 <sup>0</sup> C |                                          |                    |

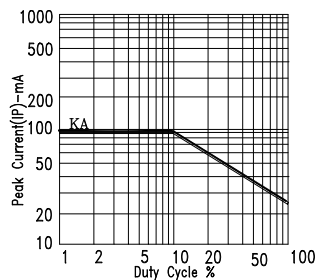
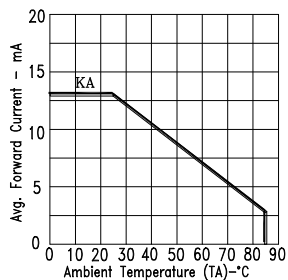
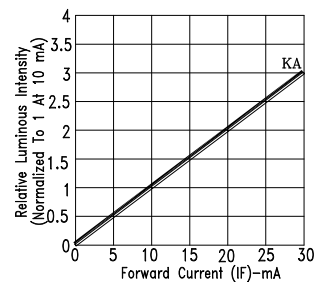
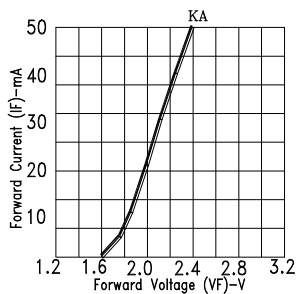
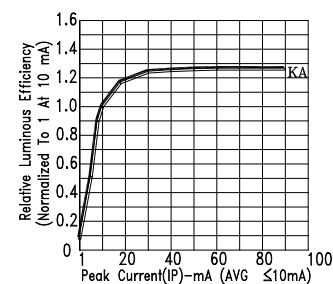
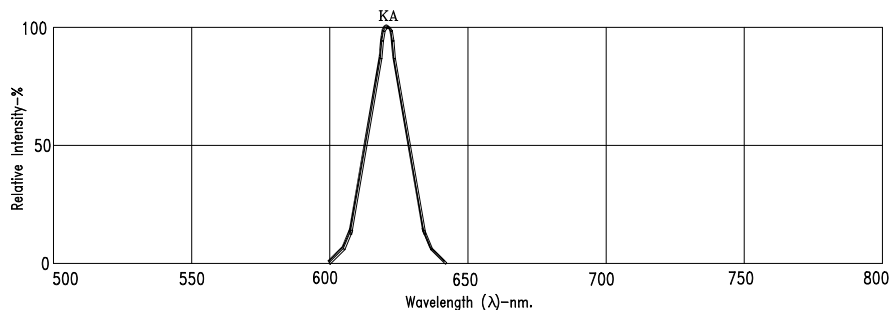
**ELECTRICAL / OPTICAL CHARACTERISTICS AT T<sub>A</sub>=25°C**

| PARAMETER                         | SYMBOL            | MIN. | TYP. | MAX. | UNIT | TEST CONDITION                  |
|-----------------------------------|-------------------|------|------|------|------|---------------------------------|
| Average Luminous Intensity        | I <sub>v</sub>    | 1650 | 3400 |      | μcd  | I <sub>F</sub> =32mA , 1/16Duty |
| 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 Per dot           | V <sub>F</sub>    |      | 2.05 | 2.6  | V    | I <sub>F</sub> =20mA            |
| Reverse Current Per dot           | I <sub>R</sub>    |      |      | 100  | μA   | V <sub>R</sub> =5V              |
| Luminous Intensity Matching Ratio | I <sub>v</sub> -m |      |      | 2:1  |      | I <sub>F</sub> =32mA , 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)



NOTE: KA=AlInGaP Red Orange