



# LED Display

## Product Data Sheet

### LTS-50801KE

Spec No.: DS30-2008-0049

Effective Date: 03/21/2008

Revision: -

**LITE-ON DCC**

**RELEASE**

**LED DISPLAY****LTS-50801KE  
DATASHEET**

| <u>Rev</u>  | <u>Description</u>  | <u>By</u>   |
|---|---|---|
| <b>01</b>   | <b>ORIGINAL</b><br><b>(Refer to contour drawing Revision (-))</b> | <b><u>WARIN</u></b>                                 |
|   |   |   |
| <b>(Above data for PD and Customer tracking only)</b> |   |   |
| <b>-</b>  | <b>NPPR Received and Upload on OPNC</b>                           | <b><u>KITTISAK</u></b><br><b><u>Mar 08/2008</u></b> |
|   |   |   |
|   |   |   |
|   |   |   |
|   |   |   |

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## FEATURES

- \* 5-INCH (127.0 mm) 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.
- \* **LEAD-FREE PACKAGE (ACCORDING TO ROHS)**

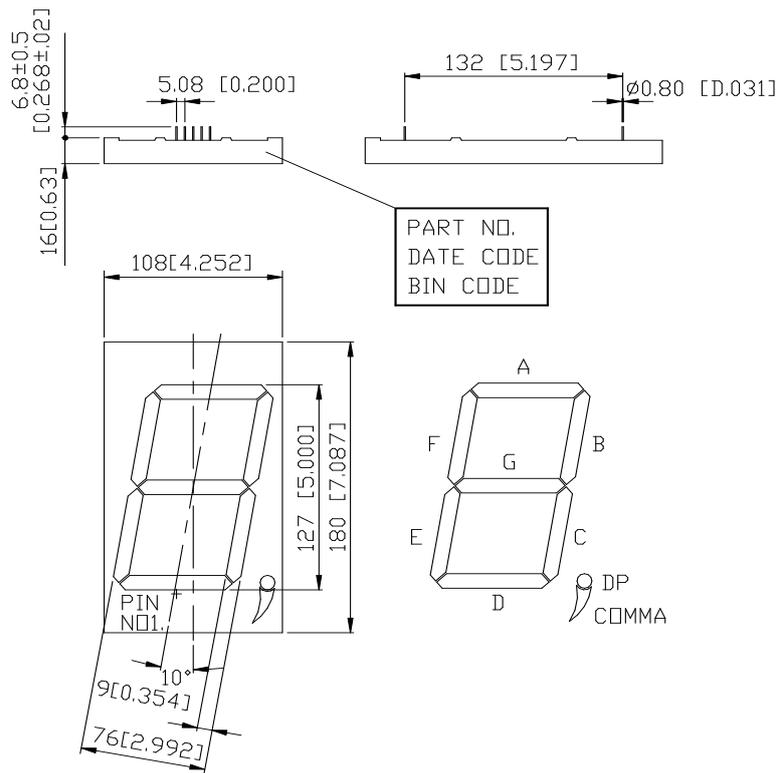
## DESCRIPTION

The LTS-50801KE is a 5-inch (127.0-mm) digit height single digit seven-segment display. This device uses AS-AlInGaP RED LED chips (AlInGaP epi on GaAs substrate). The display has a black face and white segments.

## DEVICE

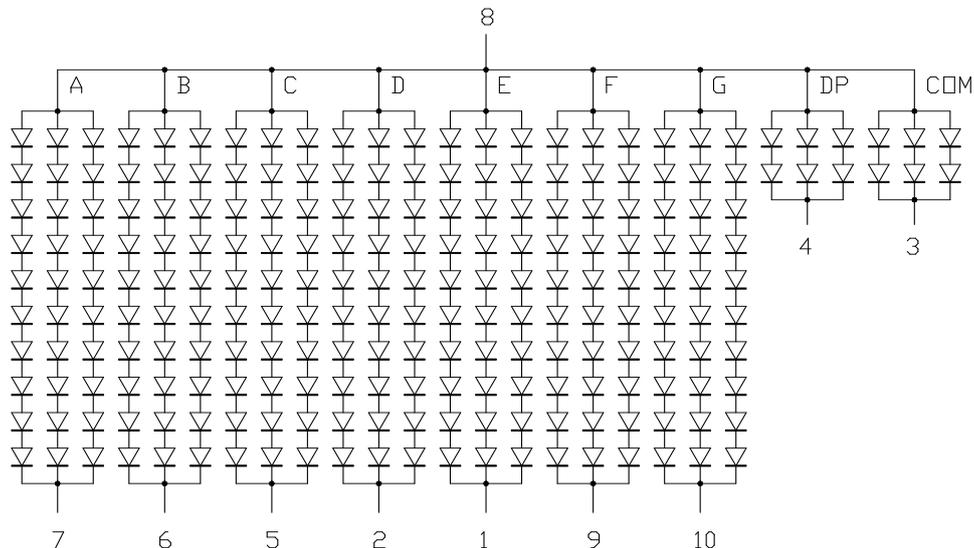
| PART NO.    | DESCRIPTION  |
|-------------|--------------|
| AlInGaP RED | Common Anode |
| LTS-50801KE |              |

### PACKAGE DIMENSIONS



- NOTES: 1.All dimensions are in millimeters. Tolerance is ± 0.25-mm (0.01“) unless otherwise noted.  
 2.Pin tip’s shift tolerance is ± 0.4 mm.

### INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

| <b>No.</b> | <b>CONNECTION</b> |
|------------|-------------------|
| 1          | SEGMENT E CATHODE |
| 2          | SEGMENT D CATHODE |
| 3          | COMMA CATHODE     |
| 4          | D.P. CATHODE      |
| 5          | SEGMENT C CATHODE |
| 6          | SEGMENT B CATHODE |
| 7          | SEGMENT A CATHODE |
| 8          | COMMON ANODE      |
| 9          | SEGMENT F CATHODE |
| 10         | SEGMENT G CATHODE |

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

| <b>PARAMETER</b>   | <b>MAXIMUM RATING</b>                     | <b>UNIT</b>              |
|--|---|--------------------------|
| Power Dissipation Per Segment  | 1400                                      | mW                       |
| Peak Forward Current Per Segment<br>( 1/10 Duty Cycle, 0.1ms Pulse Width )                   | 270                                       | mA                       |
| Continuous Forward Current Per Segment<br>Derating Linear From 25 <sup>0</sup> C Per Segment | 75  | mA<br>mA/ <sup>0</sup> C |
| Reverse Voltage Per Segment  | 50  | V                        |
| Operating Temperature Range  | -35 <sup>0</sup> C to +105 <sup>0</sup> C |                          |
| Storage Temperature Range  | -35 <sup>0</sup> C to +105 <sup>0</sup> C |                          |

Soldering Conditions : 1/16 inch below seating plane for 3 seconds at 260<sup>0</sup>C.,  
or temperature of unit (during assembly) not over max. temperature rating above

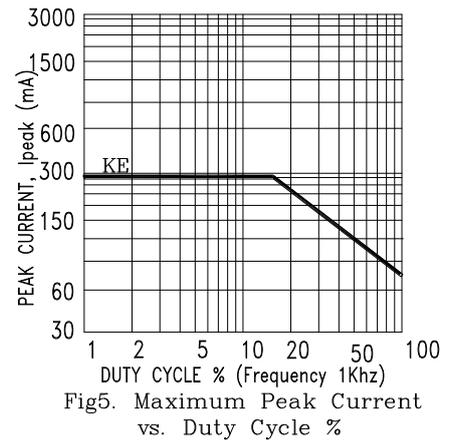
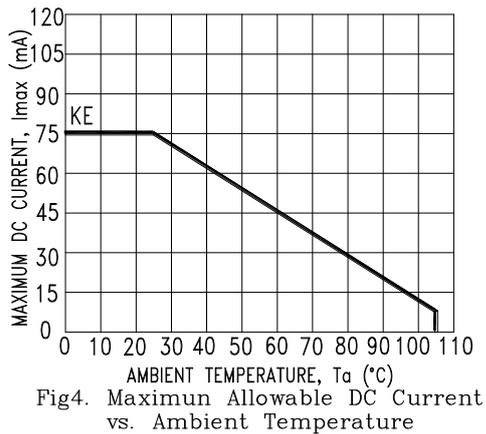
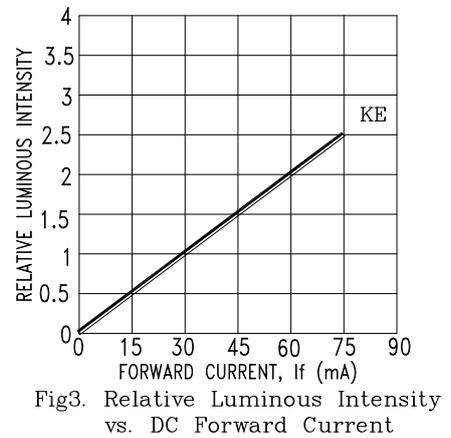
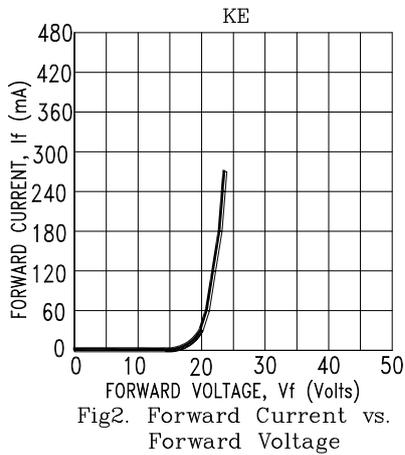
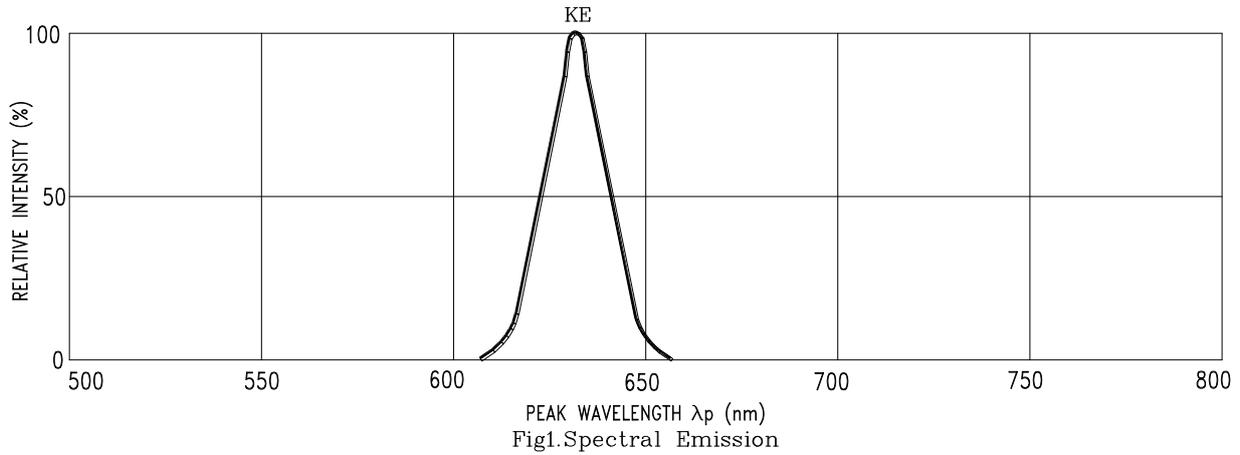
**ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C**

| <b>PARAMETER</b>  | <b>SYMBOL</b>     | <b>MIN.</b> | <b>TYP.</b> | <b>MAX.</b> | <b>UNIT</b> | <b>TEST CONDITION</b> |
|---|-------------------|-------------|-------------|-------------|-------------|-----------------------|
| Average Luminous Intensity                                | I <sub>v</sub>    |             | 242         |             | mcd         | I <sub>F</sub> =30mA  |
| Peak Emission Wavelength                                  | λ <sub>p</sub>    |             | 632         |             | nm          | I <sub>F</sub> =60mA  |
| Spectral Line Half-Width                                  | Δλ                |             | 20          |             | nm          | I <sub>F</sub> =60mA  |
| Dominant Wavelength                                       | λ <sub>d</sub>    |             | 624         |             | nm          | I <sub>F</sub> =60mA  |
| Forward Voltage Per Segment                               | V <sub>F</sub>    |             | 20<br>(4)   | 26<br>(5.2) | V           | I <sub>F</sub> =60mA  |
| Reverse Current Per Segment                               | I <sub>R</sub>    |             |             | 300         | μA          | V <sub>R</sub> =50V   |
| Luminous Intensity Matching Ratio<br>(Similar Light Area) | I <sub>v</sub> -m |             |             | 2:1         |             | I <sub>F</sub> =30mA  |

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 : KE= AlInGaP RED