### Property of Lite-On Only

#### **FEATURES**

- \*0.52 inch (13.2 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.

#### **DESCRIPTION**

The LTS-547AHR is a 0.52 inch (13.2 mm) digit height single digit seven-segment display. This device utilizes high efficiency red LED chips, which are made from GaAsP on a transparent GaP substrate, and has a red face and red segments.

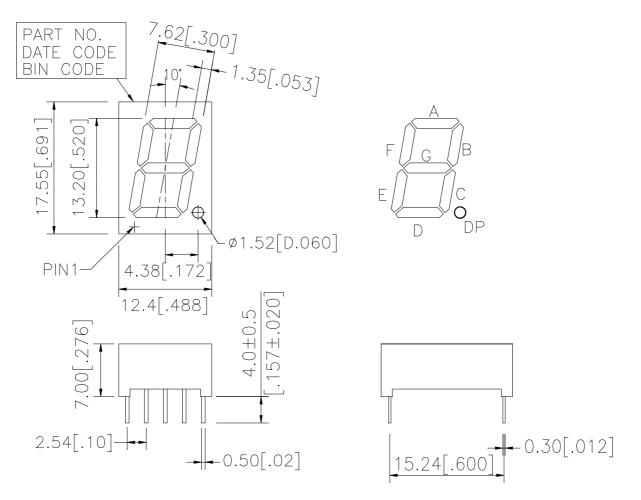
#### **DEVICE**

| PART NO.    | DESCRIPTION      |  |  |
|-------------|------------------|--|--|
| Hi-EFF. Red | Common Cathode   |  |  |
| LTS-547AHR  | Rt. Hand Decimal |  |  |

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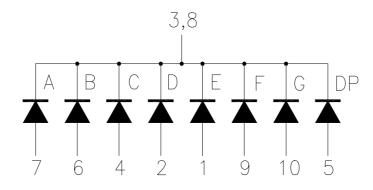
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#### **PACKAGE DIMENSIONS**



NOTES: All dimensions are in millimeters. Tolerances are ± 0.25 mm (0.01") unless otherwise noted.

#### INTERNAL CIRCUIT DIAGRAM



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### **PIN CONNECTION**

| No. | CONNECTION     |
|-----|----------------|
| 1   | ANODE E        |
| 2   | ANODE D        |
| 3   | COMMON CATHODE |
| 4   | ANODE C        |
| 5   | ANODE DP       |
| 6   | ANODE B        |
| 7   | ANODE A        |
| 8   | COMMON CATHODE |
| 9   | ANODE F        |
| 10  | ANODE G        |

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

| PARAMETER  | MAXIMUM RATING | UNIT  |  |  |  |
|--|----------------|-------|--|--|--|
| Power Dissipation Per Segment  | 75             | mW    |  |  |  |
| Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width)    | 100            | mA    |  |  |  |
| Continuous Forward Current Per Segment                                   | 25             | MA    |  |  |  |
| Derating Linear From 25°C Per Segment                                    | 0.33           | MA/°C |  |  |  |
| Reverse Voltage Per Segment  | 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 below seating plane. |                |       |  |  |  |

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

| PARAMETER                         | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION       |
|-----------------------------------|--------|------|------|------|------|----------------------|
| Average Luminous Intensity        | Iv     | 800  | 2200 |      | μcd  | I <sub>F</sub> =10mA |
| Peak Emission Wavelength          | λр     |      | 635  |      | nm   | I <sub>F</sub> =20mA |
| Spectral Line Half-Width          | Δλ     |      | 40   |      | nm   | I <sub>F</sub> =20mA |
| Dominant Wavelength               | λd     |      | 623  |      | nm   | I <sub>F</sub> =20mA |
| Forward Voltage Per Segment       | VF     |      | 2    | 2.6  | V    | I <sub>F</sub> =20mA |
| Reverse Current Per Segment       | Ir     |      |      | 100  | μΑ   | V <sub>R</sub> =5V   |
| Luminous Intensity Matching Ratio | Iv-m   |      |      | 2:1  |      | I <sub>F</sub> =10mA |

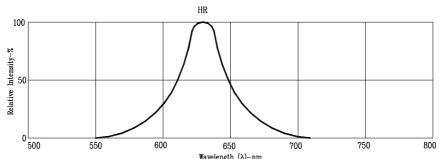
Note: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.

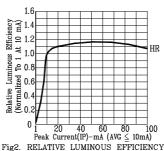
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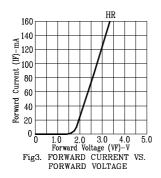
### TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

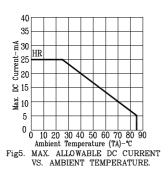
(25°C Ambient Temperature Unless Otherwise Noted)



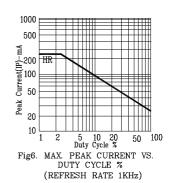


0 1 20 40 60 80 100
Peak Current(IP)-mA (AVG ≤ 10mA)
Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)





Relative Luminous Intensity (Normalized To 1 At 10 mA) C T T T C C C C C C HR Forward Current (IF)-mA Fig4. RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT



NOTE: HR=HI.-EFF.RED

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