



# **LED Display**

## **Product Data Sheet**

### **LTS-547AG**

Spec No.: DS-30-98-062

Effective Date: 04/07/2005

Revision: A

**LITE-ON DCC**

**RELEASE**

**BNS-OD-FC001/A4**

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**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
- \* **LEAD-FREE PACKAGE (ACCORDING TO ROHS)**

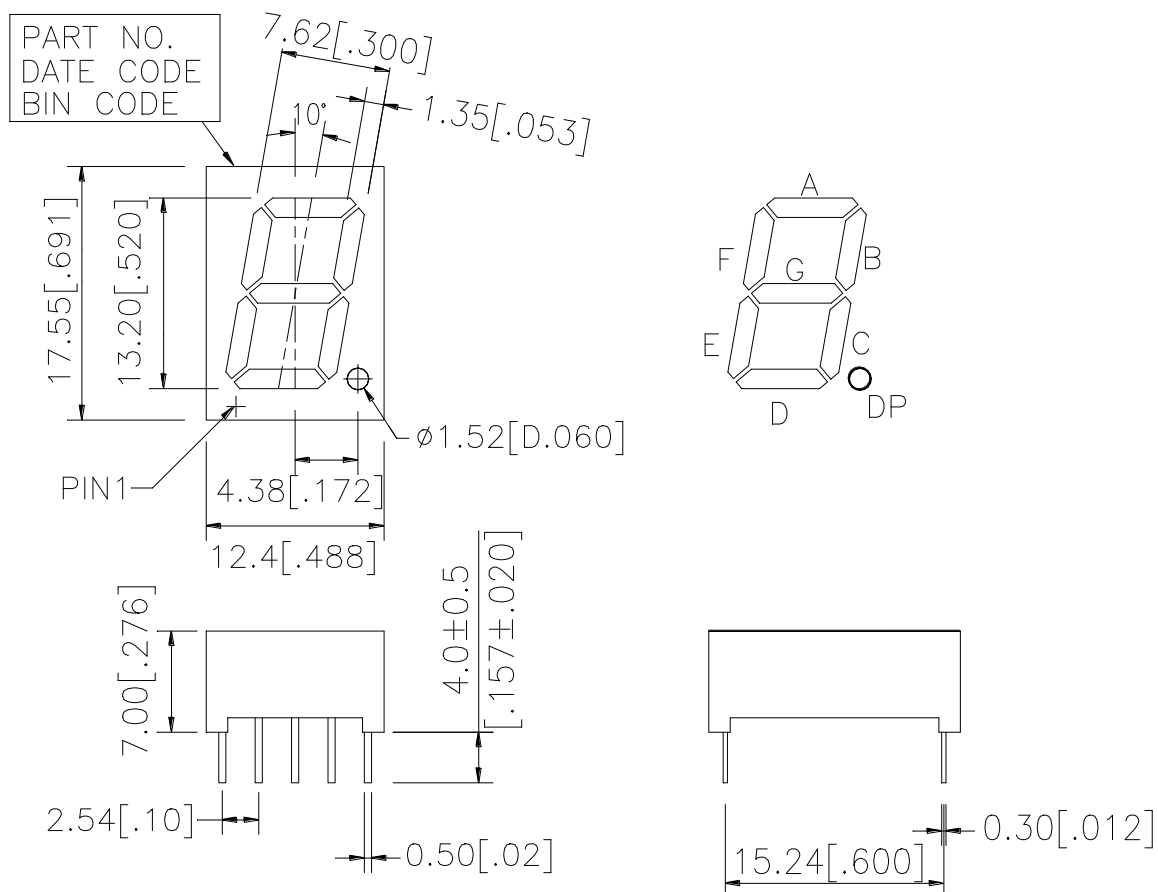
**DESCRIPTION**

The LTS-547AG is a 0.52 inch (13.2 mm) digit height single digit seven-segment display. This device uses green LED chips( GaP epi on GaP substrate).The display has gray face and green segments.

**DEVICE**

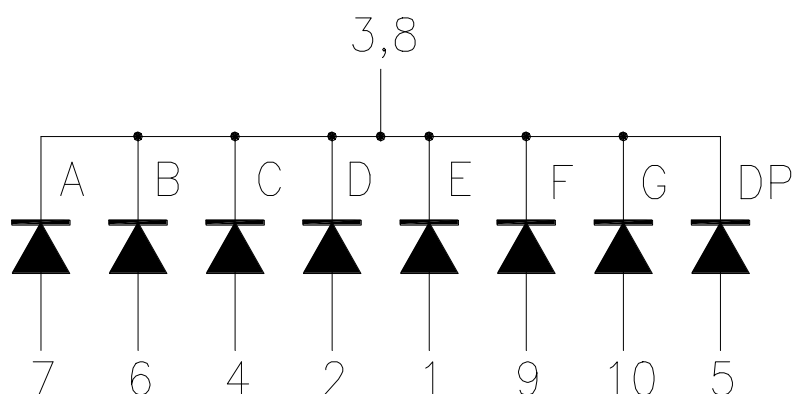
| PART NO.  | DESCRIPTION                        |
|-----------|------------------------------------|
| Green     | Common Cathode<br>Rt. Hand Decimal |
| LTS-547AG |                                    |

### PACKAGE DIMENSIONS



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

### INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

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

**ABSOLUTE MAXIMUM RATING**

| PARAMETER                                                                            | MAXIMUM RATING | UNIT  |
|--------------------------------------------------------------------------------------|----------------|-------|
| Power Dissipation Per Segment                                                        | 75             | mW    |
| Peak Forward Current Per Segment<br>(Frequency 1Khz, 10% duty cycle)                 | 100            | mA    |
| Continuous Forward Current Per Segment                                               | 25             | MA    |
| Forward Current Derating from 25 <sup>0</sup> C                                      | 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 1/16 inch below seating plane for 3 Seconds at 260 <sup>0</sup> C |                |       |

**ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25<sup>0</sup>C**

| PARAMETER                         | SYMBOL            | MIN. | TYP. | MAX. | UNIT | TEST CONDITION       |
|-----------------------------------|-------------------|------|------|------|------|----------------------|
| Average Luminous Intensity        | I <sub>v</sub>    | 800  | 2200 |      | μcd  | I <sub>F</sub> =10mA |
| Peak Emission Wavelength          | λ <sub>p</sub>    |      | 565  |      | nm   | I <sub>F</sub> =20mA |
| Spectral Line Half-Width          | Δλ                |      | 30   |      | nm   | I <sub>F</sub> =20mA |
| Dominant Wavelength               | λ <sub>d</sub>    |      | 569  |      | nm   | I <sub>F</sub> =20mA |
| Forward Voltage Per Segment       | V <sub>F</sub>    |      | 2.1  | 2.6  | V    | I <sub>F</sub> =20mA |
| Reverse Current Per Segment       | 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> =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.

### TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

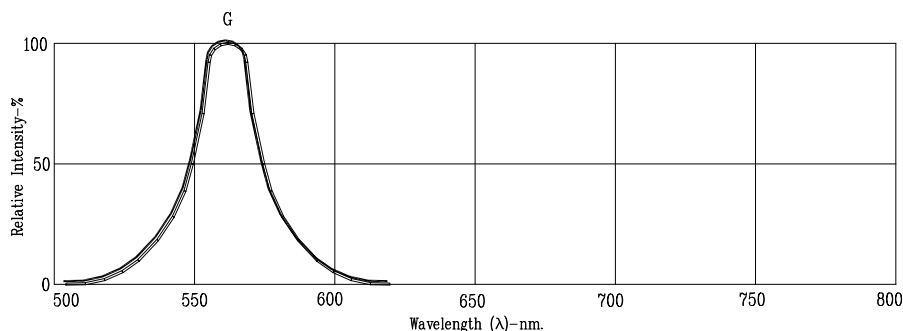


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

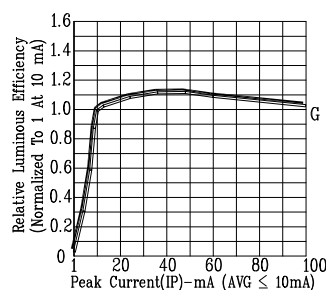


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

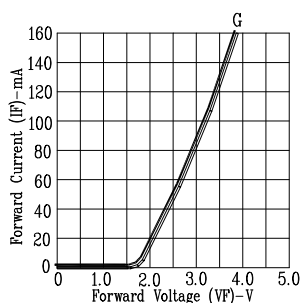


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

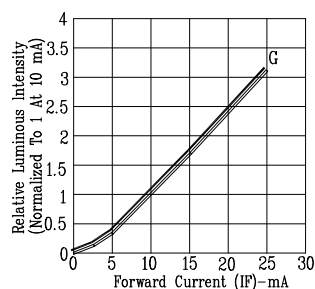


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

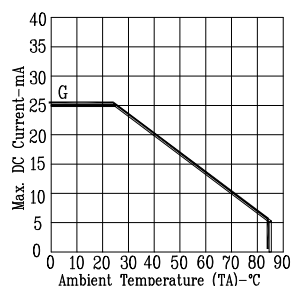


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

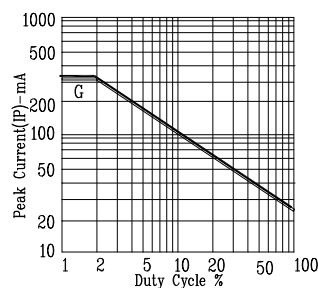


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN

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