



# **LED Display**

## **Product Data Sheet**

### **LTC-5854G**

Spec No.: DS-30-98-366

Effective Date: 02/21/2002

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.

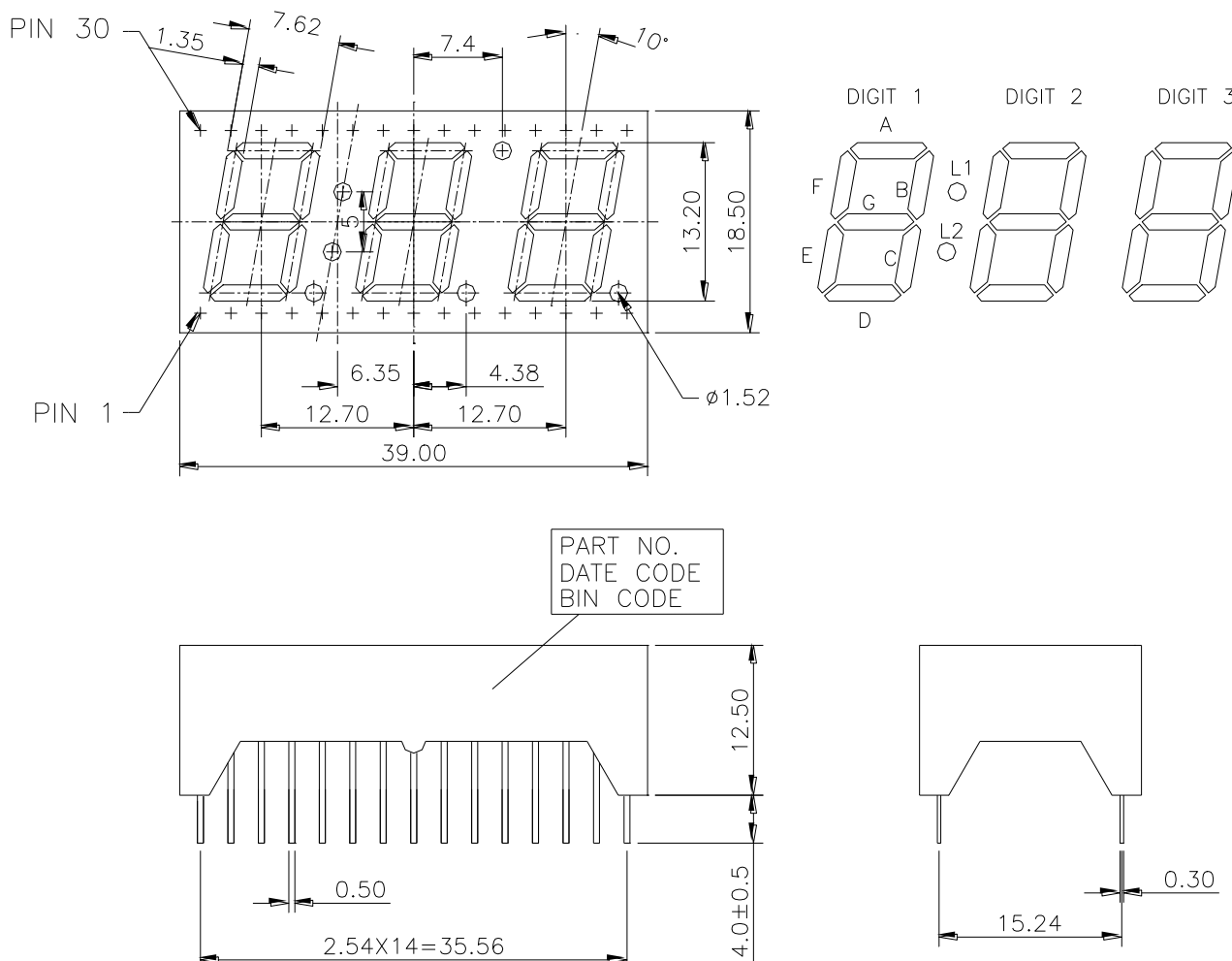
**DESCRIPTION**

The LTC-5854G is a 0.52 inch (13.2 mm) digit height LED display. This device utilizes green LED chips, which are made from GaP on a transparent GaP substrate, and has a gray face and green segments.

**DEVICE**

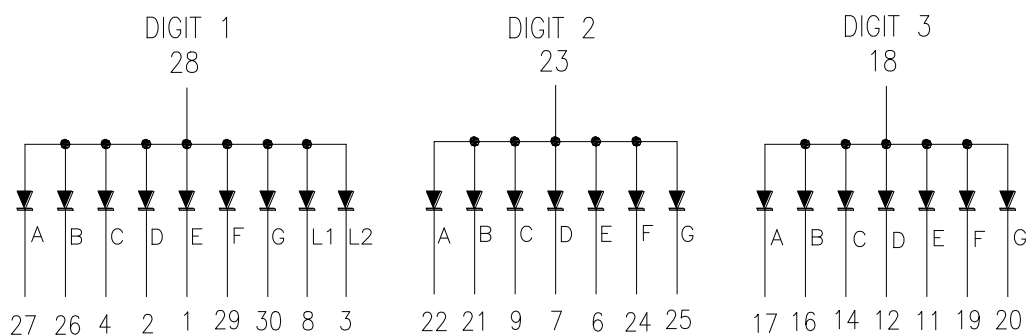
| PART NO.  | DESCRIPTION  |
|-----------|--------------|
| Green     | Common Anode |
| LTC-5854G |              |

## 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>    | <b>NO</b> | <b>CONNECTION</b>      |
|-----------|----------------------|-----------|------------------------|
| 1         | CATHODE E (DIGIT 1)  | 16        | CATHODE B (DIGIT 3)    |
| 2         | CATHODE D (DIGIT 1)  | 17        | CATHODE A (DIGIT 3)    |
| 3         | CATHODE L2 (DIGIT 1) | 18        | COMMON ANODE (DIGIT 3) |
| 4         | CATHODE C (DIGIT 1)  | 19        | CATHODE F (DIGIT 3)    |
| 5         | NO CONNECTION        | 20        | CATHODE G (DIGIT 3)    |
| 6         | CATHODE E (DIGIT 2)  | 21        | CATHODE B (DIGIT 2)    |
| 7         | CATHODE D (DIGIT 2)  | 22        | CATHODE A (DIGIT 2)    |
| 8         | CATHODE L1 (DIGIT 1) | 23        | COMMON ANODE (DIGIT 2) |
| 9         | CATHODE C (DIGIT 2)  | 24        | CATHODE F (DIGIT 2)    |
| 10        | NO CONNECTION        | 25        | CATHODE G (DIGIT 2)    |
| 11        | CATHODE E (DIGIT 3)  | 26        | CATHODE B (DIGIT 1)    |
| 12        | CATHODE D (DIGIT 3)  | 27        | CATHODE A (DIGIT 1)    |
| 13        | NO CONNECTION        | 28        | COMMON ANODE (DIGIT 1) |
| 14        | CATHODE C (DIGIT 3)  | 29        | CATHODE F (DIGIT 1)    |
| 15        | NO CONNECTION        | 30        | CATHODE G (DIGIT 1)    |

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

| PARAMETER  | MAXIMUM RATING | UNIT  |
|--|----------------|-------|
| Power Dissipation Per Segment  | 75             | mW    |
| Peak Forward Current Per Segment<br>( 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.   |                |       |

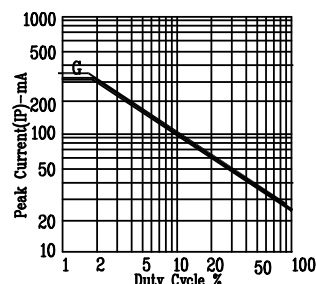
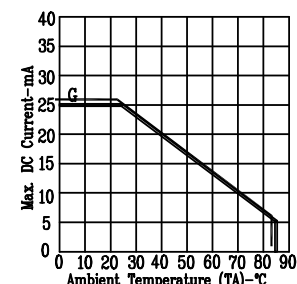
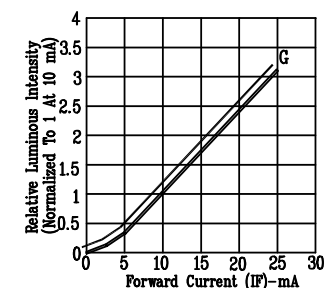
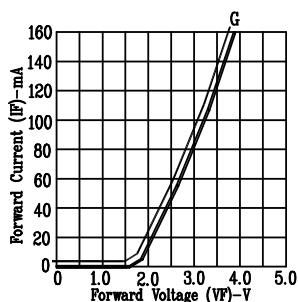
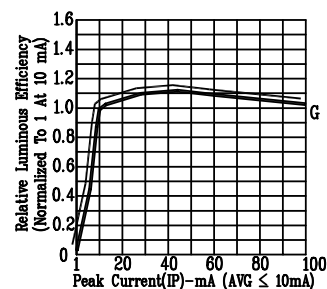
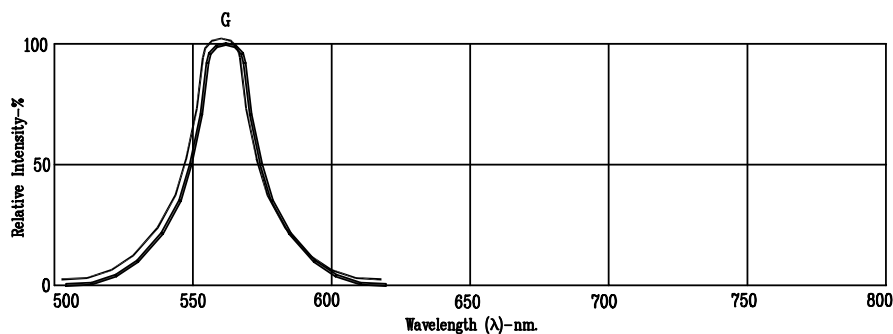
**ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C**

| PARAMETER                         | SYMBOL            | MIN. | TYP. | MAX. | UNIT | TEST CONDITION       |
|-----------------------------------|-------------------|------|------|------|------|----------------------|
| Average Luminous Intensity        | 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)



NOTE: G=GREEN