



LED Display

Product Data Sheet

LTC-561JG

Spec No.: DS30-2006-188

Effective Date: 01/23/2007

Revision: -

LITE-ON DCC

RELEASE

FEATURES

- * 0.56 inch (14.2 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

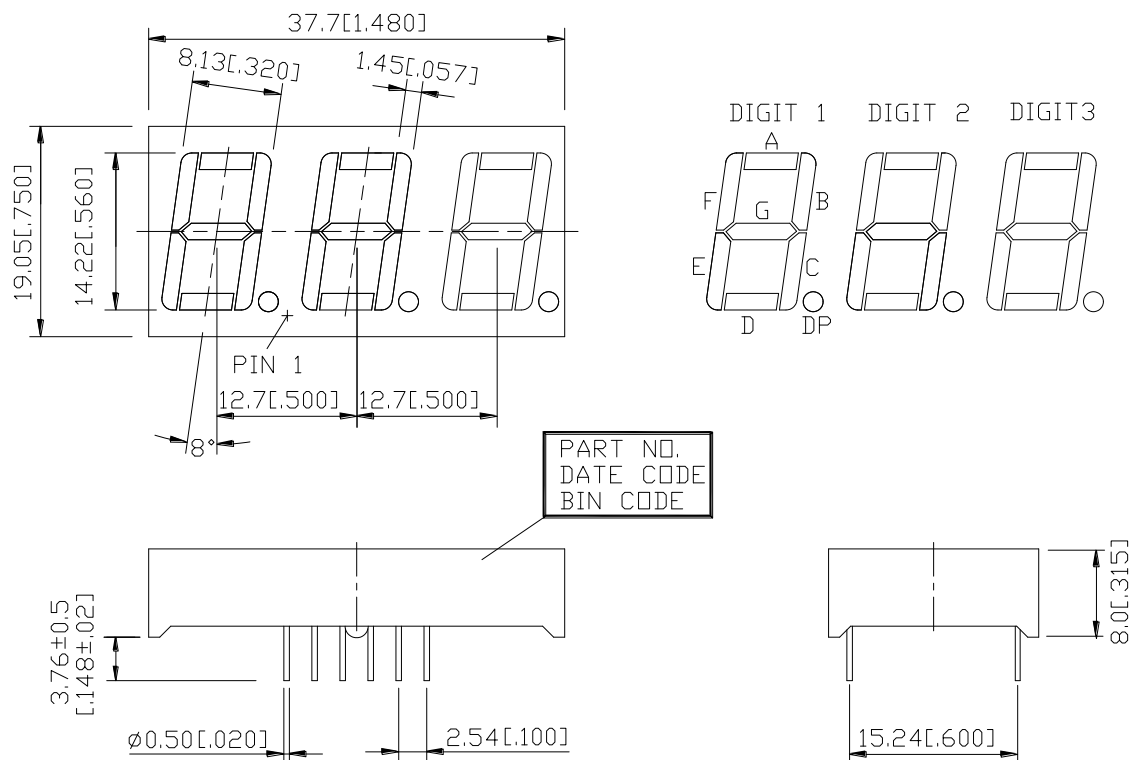
The LTC-561JG is a 0.56 inch (14.2 mm) digit height triple digit seven-segment display. This device utilizes AlInGaP Green LED chips, which are made from AlInGaP on a non-transparent GaAs substrate, and has a gray face and white segments.

This low current seven-segment display is designed to perform under low power consumption. It is tested and selected for its excellent low current characteristics. It can be driven in low current condition and the segments are matched. This driving current as low as 1mA per segment is applicable.

DEVICE

| PART NO. | DESCRIPTION |
|---------------|--|
| AlInGaP GREEN | Multiplex Common Anode Rt. Hand Decimal |
| LTC-561JG | |

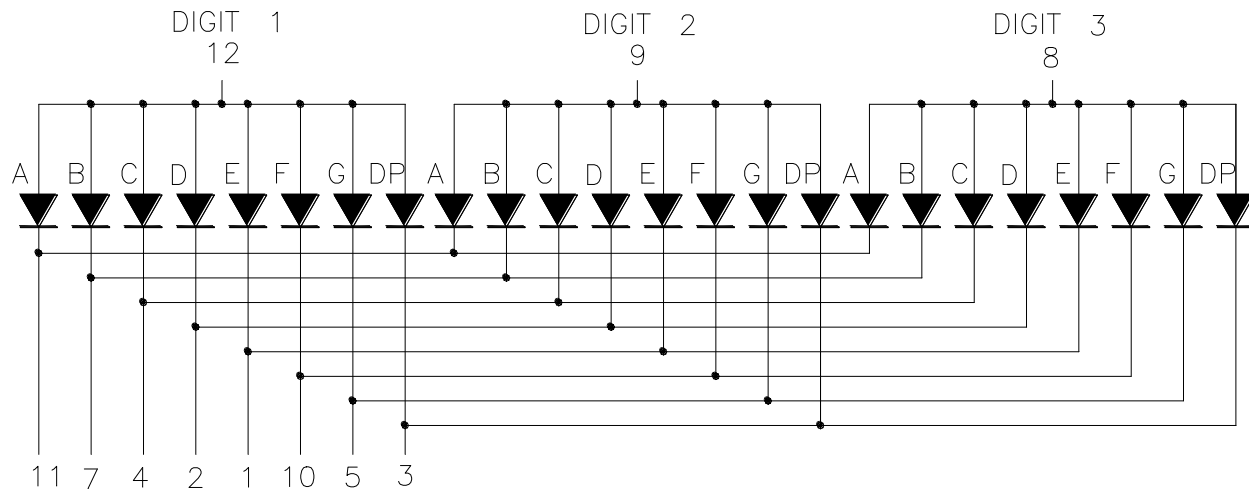
PACKAGE DIMENSIONS



NOTES: 1. All dimensions are in millimeters. Tolerances are ± 0.25 mm (0.01") unless otherwise noted.

2. Pin tip's shift tolerance is ± 0.4 mm.

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

| NO. | CONNECTION |
|-----|------------------------|
| 1 | CATHODE E |
| 2 | CATHODE D |
| 3 | CATHODE D.P. |
| 4 | CATHODE C |
| 5 | CATHODE G |
| 6 | NO CONNECTION |
| 7 | CATHODE B |
| 8 | COMMON ANODE, DIGIT 3 |
| 9 | COMMON ANODE, DIGIT 2 |
| 10 | CATHODE F |
| 11 | CATHODE A |
| 12 | COMMON ANODE , DIGIT 1 |

ABSOLUTE MAXIMUM RATING AT Ta=25°C

| PARAMETER | MAXIMUM RATING | UNIT |
|--|-----------------|-------|
| Power Dissipation Per Segment | 70 | mW |
| Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width) | 60 | 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 +105°C | |
| Storage Temperature Range | -35°C to +105°C | |
| Soldering Conditions: 1/16 inch below seating plane for 3 seconds at 260 ⁰ C., or temperature of unit (during assembly) not over max. temperature rating above | | |

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|---|------------------|------|------|------|------|----------------------|
| Average Luminous Intensity | I _v | 200 | 577 | | μcd | I _F =1mA |
| Peak Emission Wavelength | λ _p | | 571 | | nm | I _F =20mA |
| Spectral Line Half-Width | Δλ | | 15 | | nm | I _F =20mA |
| Dominant Wavelength | λ _d | | 572 | | nm | I _F =20mA |
| Forward Voltage Per Segment | V _F | | 2.05 | 2.6 | V | I _F =20mA |
| Reverse Current Per Segment | I _R | | | 100 | μA | V _R =5V |
| Luminous Intensity Matching Ratio (Similar Light Area) | I _{v-m} | | | 2:1 | | I _F =1mA |

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)

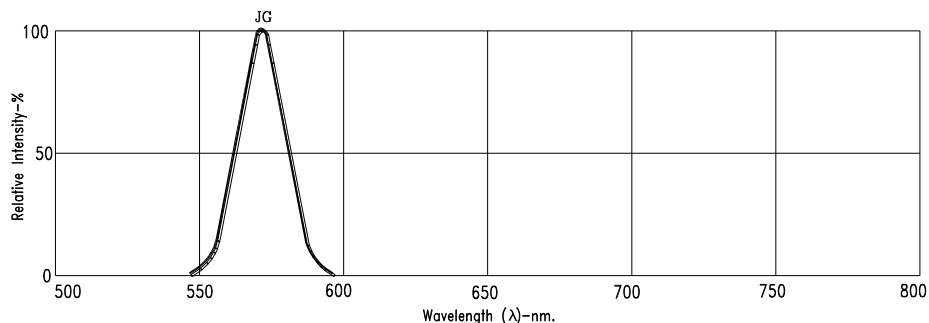


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

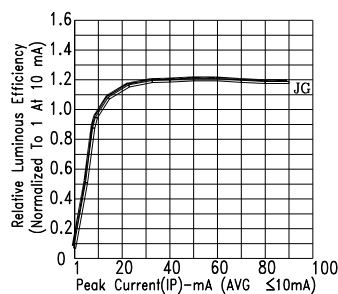


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

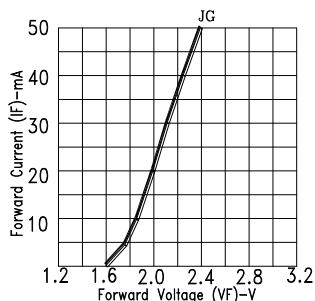


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

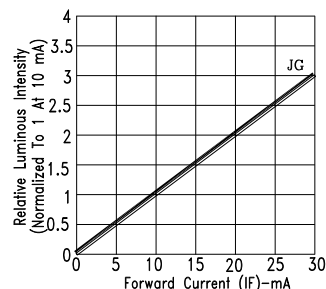


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

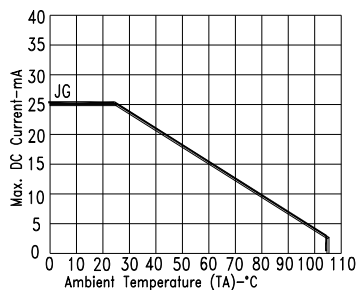


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

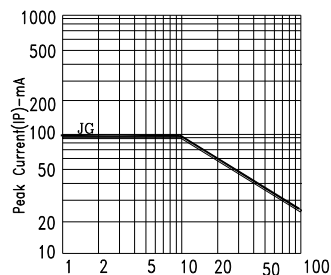


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE : JG=AlInGaP GREEN