LITEON®
OPTOELECTRONICS

LED Display

Product Data Sheet

LTS-546AWC-01T

Spec No.: DS30-2004-334

Effective Date: 12/18/2004

Revision: -

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

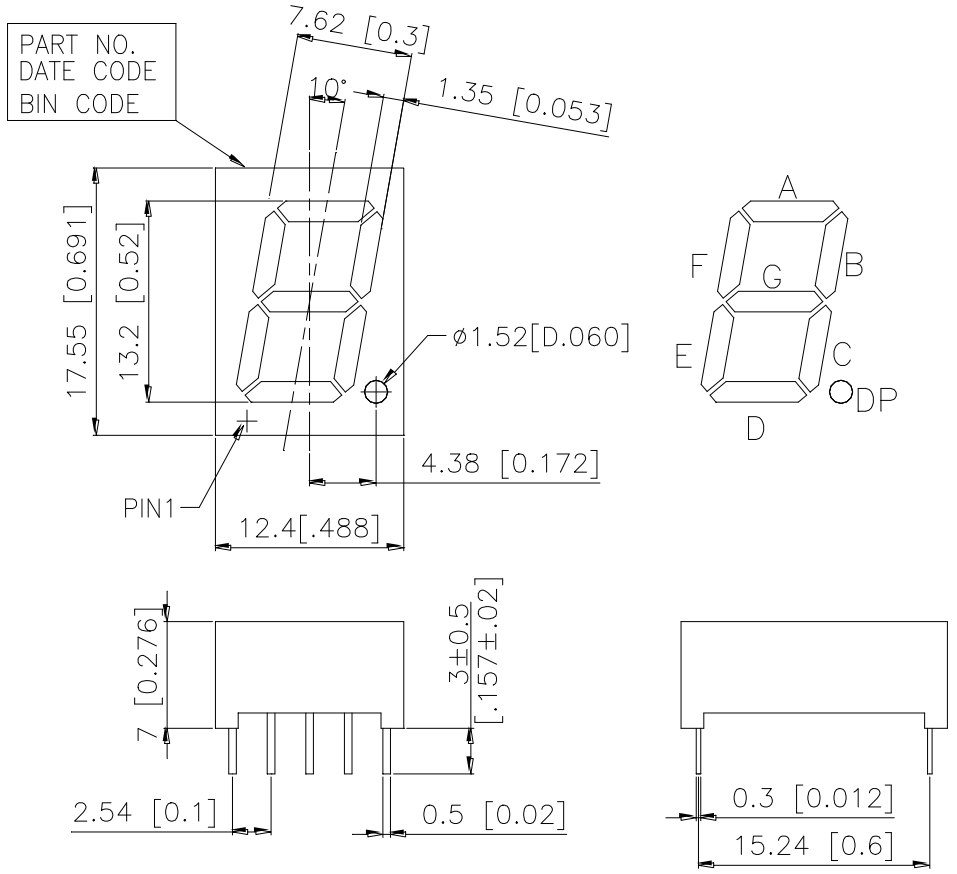
The LTS-546AWC-01T is a 0.52 inch (13.2 mm) height single digit display. This device uses RED LED chips (AlGaAs epi on GaAs substrate). The display has gray face and white segments.

This low current seven-segment display is designed to perform under low power consumption. It is tested and selected for it's 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

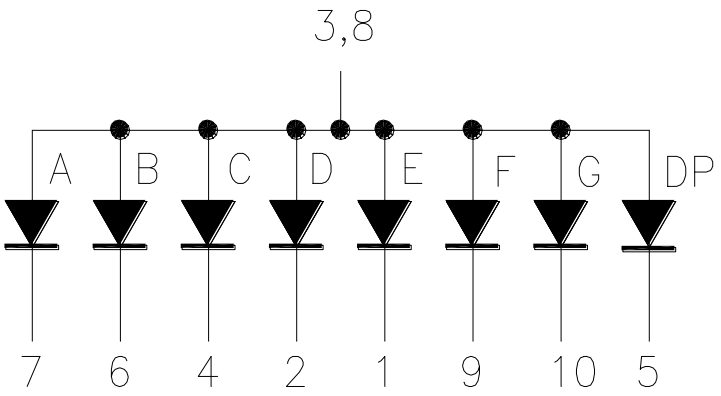
PART NO.	DESCRIPTION
AlGaAs RED	Common Anode,
LTS-546AWC-01T	Rt. Hand decimal

PACKAGE DIMENSIONS



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

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

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

ABSOLUTE MAXIMUM RATING

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	75	mW
Peak Forward Current Per Segment (Frequency 1Khz, 10% duty cycle)	125*	mA
Continuous Forward Current Per Segment Forward Current Derating from 25℃	30 0.4	mA mA/^{0}C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35^{0}C to +85^{0}C	
Storage Temperature Range	-35^{0}C to +85^{0}C	
Soldering Conditions: 1/16 inch below eating plane for 3 seconds at 260℃		

**** see figure 5 to establish pulsed condition***

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25^{o}C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	320	700		μcd	I_F=1mA
Peak Emission Wavelength	λp		660		nm	I_F=20mA
Spectral Line Half-Width	Δλ		35		nm	I_F=20mA
Dominant Wavelength	λd		638		nm	I_F=20mA
Forward Voltage Per Segment	V_F		1.8	2.4	V	I_F=20mA
Reverse Current Per Segment	I_R			10	μA	V_R=5V
Luminous Intensity Matching Ratio	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'Eclariage) eye-response curve.

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

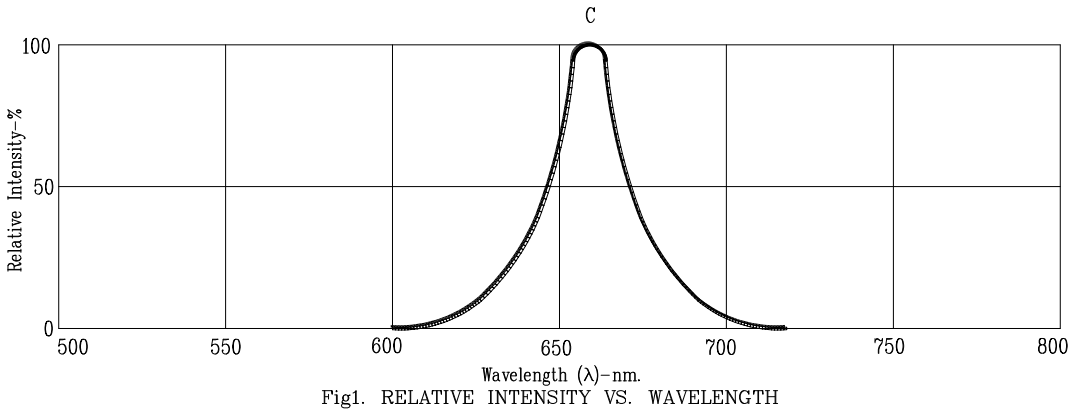


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

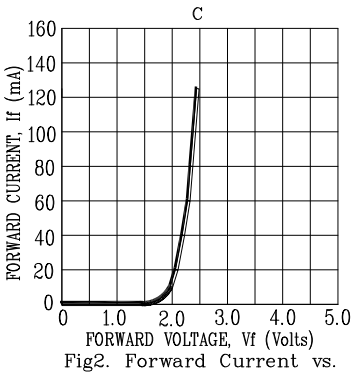


Fig2. Forward Current vs. Forward Voltage

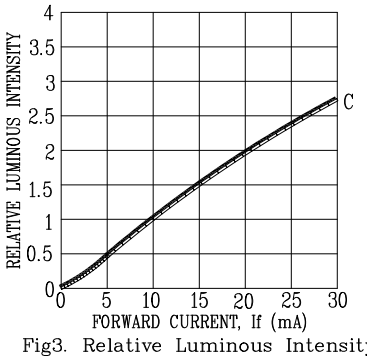


Fig3. Relative Luminous Intensity vs. DC Forward Current

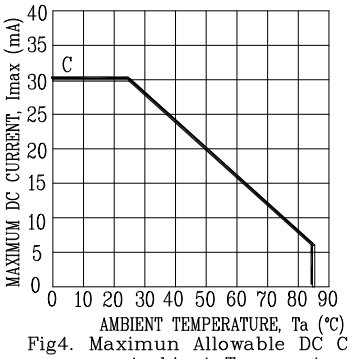


Fig4. Maximun Allowable DC Current vs. Ambient Temperature

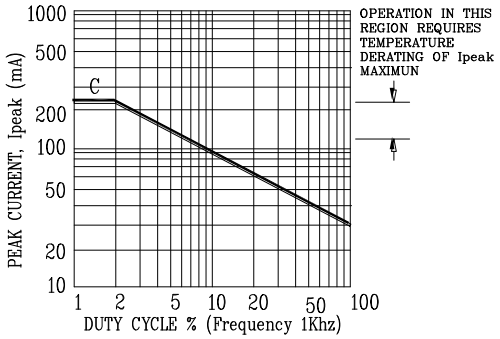


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE: C=AlGaAs RED