



**Spec No.: DS-30-98-059** Effective Date: 01/26/2005

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-546AWC is a 0.52-inch (13.2-mm) height single digit display. This device uses AlGaAs 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.

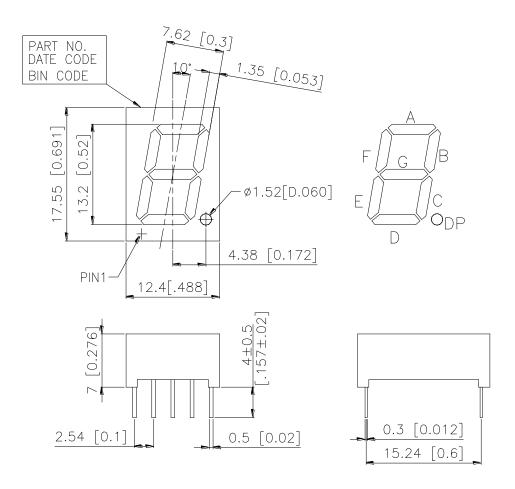
#### **DEVICE**

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

PART NO.: LTS-546AWC PAGE: 1 of 5

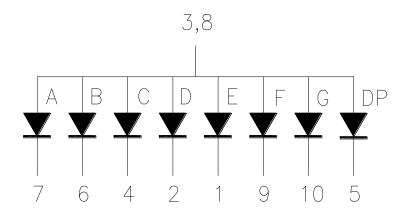
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## **PACKAGE DIMENSIONS**



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

## INTERNAL CIRCUIT DIAGRAM



PART NO.: LTS-546AWC PAGE: 2 of 5

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## 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

PART NO.: LTS-546AWC PAGE: 3 of 5

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## **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	30	mA			
Forward Current Derating from 25 <sup>o</sup> C	0.40	mA/ <sup>0</sup> C			
Reverse Voltage Per Segment	5	V			
Operating Temperature Range	$-35^{\circ}$ C to $+85^{\circ}$ C				
Storage Temperature Range -35°C to +85°C					
Soldering Conditions: 1/16 inch below seating plane for 8 seconds at 265°C					

<sup>\*</sup> see figure 5 to establish pulsed condition

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
	Iv	320	700		μcd	I <sub>F</sub> =1mA
Average Luminous Intensity			3750		μcd	I <sub>F</sub> =5mA
Peak Emission Wavelength	λр		660		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		35		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λd		638		nm	I <sub>F</sub> =20mA
	VF		1.6			I <sub>F</sub> =1mA
Forward Voltage. Per Segment			1.7	2.4	V	I <sub>F</sub> =5mA
			1.8			I <sub>F</sub> =20mA
Reverse Current, Per Segment	Ir			100	μΑ	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio (Similar Light Area)	Iv-m			2:1		I <sub>F</sub> =10mA

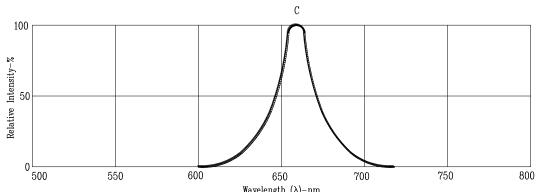
Note: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclariage) eye-response curve.

PART NO.: LTS-546AWC PAGE: 4 of 5

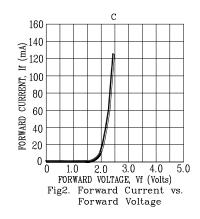
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## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

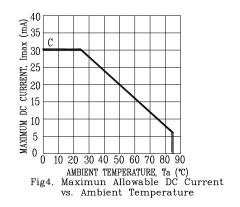
(25°C Ambient Temperature Unless Otherwise Noted)

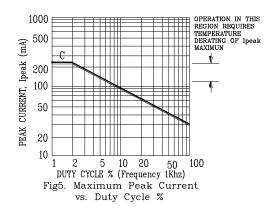


 $\label{eq:wavelength} \begin{tabular}{ll} Wavelength $(\lambda)$-nm. \\ Fig1. RELATIVE INTENSITY VS. WAVELENGTH \\ \end{tabular}$ 



vs. DC Forward Current





NOTE: C = AlGaAs RED

PART NO.: LTS-546AWC PAGE: 5 of 5

# AMEYA360 Components Supply Platform

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