

**FEATURES**

- \* 0.28 inch (7.0-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**

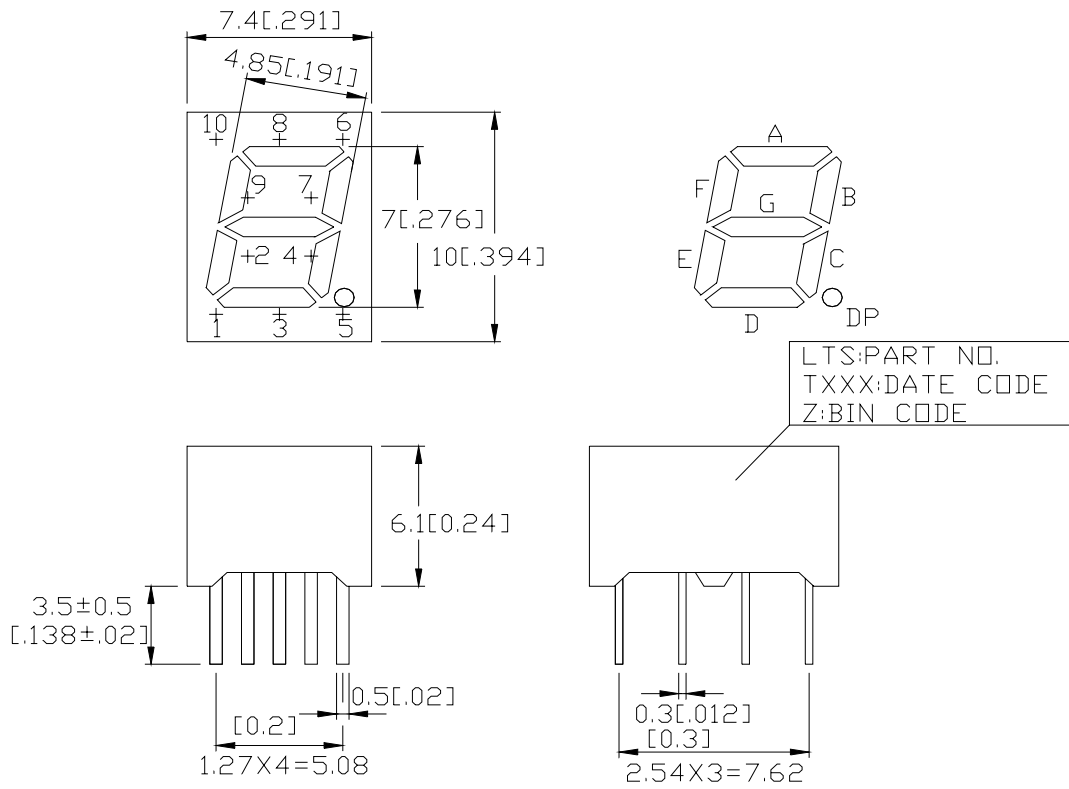
The LTS-2301AWC is a 0.28 inch (7-mm) digit height single digit low current seven-segment display. This device uses AlGaAs red LED chips(AlGaAs epi on GaAs substrate). The display has gray face and white segments.

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**

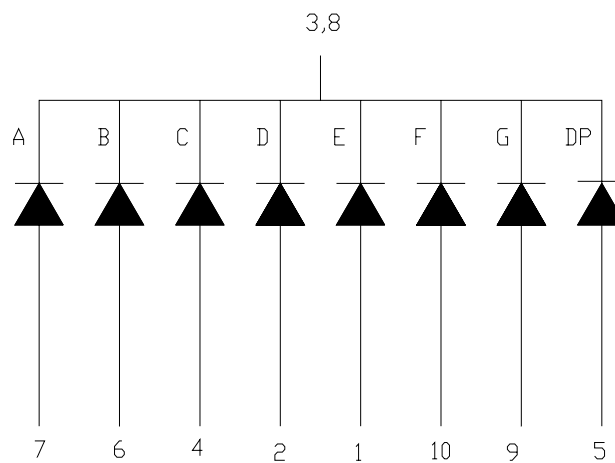
<b>PART NO.</b>	<b>DESCRIPTION</b>
AlGaAs RED	Common Cathode Rt. Hand Decimal
LTS-2301AWC	

## PACKAGE DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerance is  $\pm 0.25$  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 G
10	ANODE F

**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>0</sup> C	0.4	mA/
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35 to +85	
Storage Temperature Range	-35 to +85	
Soldering Conditions: 1/16 inch below eating plane for 3 seconds at 260 <sup>0</sup> C.		

\* see figure 5 to establish pulsed condition

**ELECTRICAL / OPTICAL CHARACTERISTICS AT T<sub>A</sub>=25<sup>0</sup>C**

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	200	600		μcd	I <sub>F</sub> =1mA
			3400		μcd	I <sub>F</sub> =5mA
Peak Emission Wavelength	λ <sub>p</sub>		660		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		35		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		638		nm	I <sub>F</sub> =20mA
Forward Voltage Per Segment	V <sub>F</sub>		1.6	2.4	V	I <sub>F</sub> =1mA
			1.7			I <sub>F</sub> =5mA
			1.8			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)

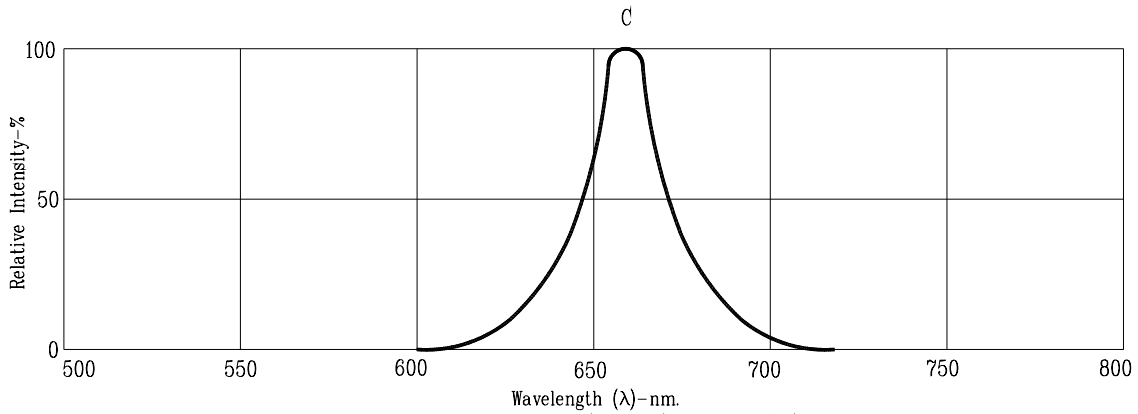


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

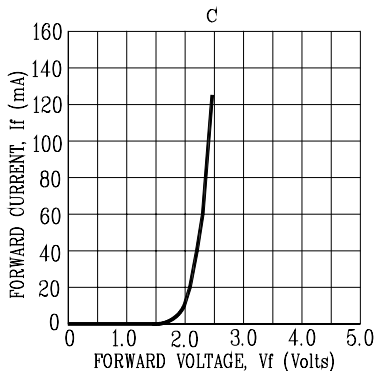


Fig2. Forward Current vs. Forward Voltage

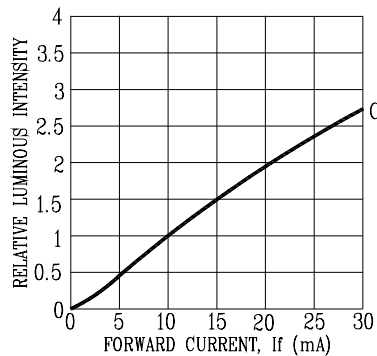


Fig3. Relative Luminous Intensity vs. DC Forward Current

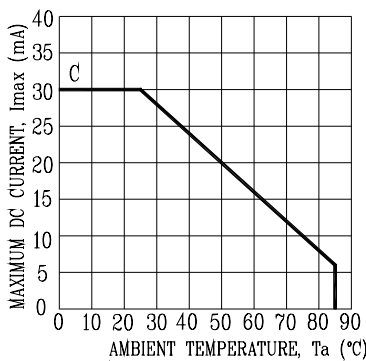


Fig4. Maximum Allowable DC Current vs. Ambient Temperature

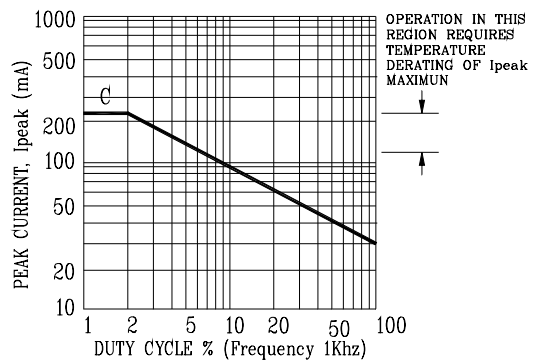


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE: C= AlGaAs RED