



# LED Display Product Data Sheet LTS-315AP-Q

Spec No.: DS30-2003-080

Effective Date: 06/10/2003

Revision: -

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

**FEATURES**

- \* 0.3 inch (7.65 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

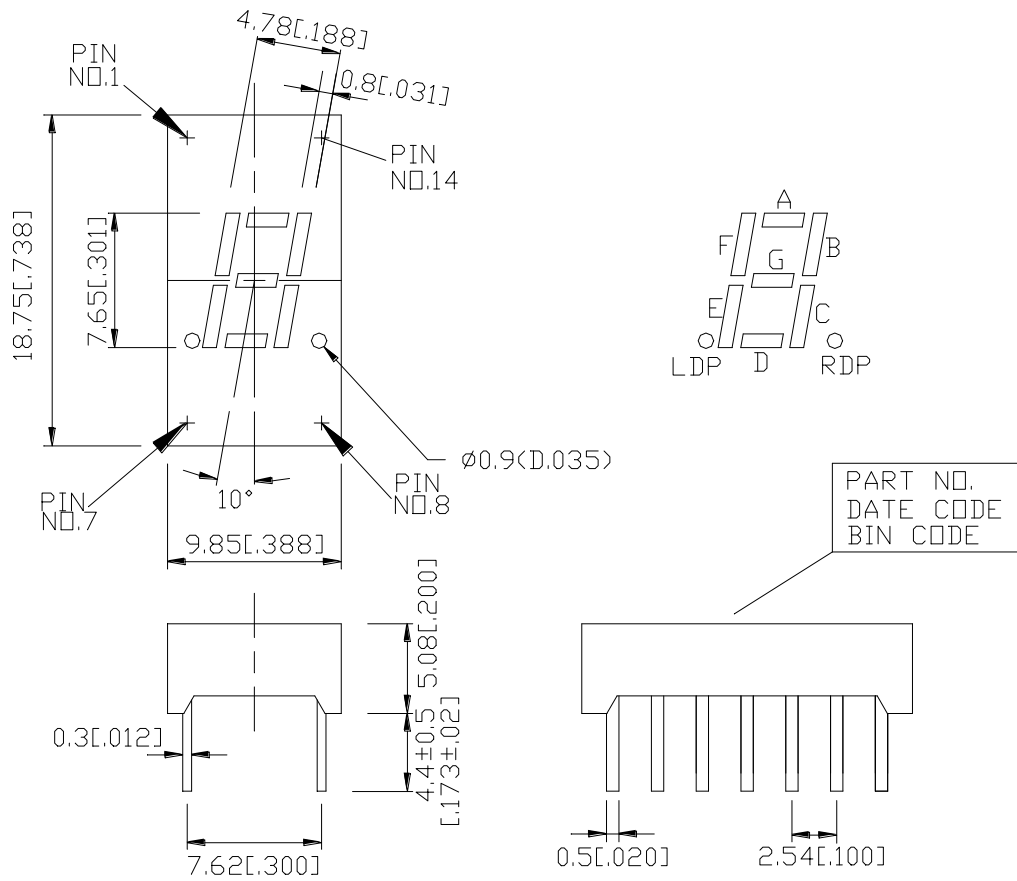
**DESCRIPTION**

The LTS-315AP-Q is a 0.3 inch (7.65 mm) digit height single-digit seven-segment display. This device uses GaP RED LED chips(GaP epi on GaP substrate ). The display has black face and red segments.

**DEVICE**

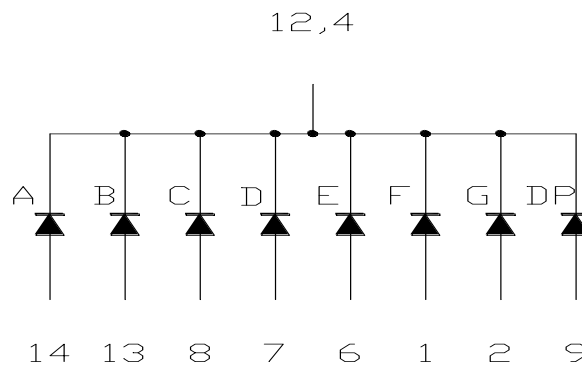
<b>PART NO.</b>	<b>DESCRIPTION</b>
RED	COMMON CATHODE
LTS-315AP-Q	RT. HANDE DECIMAL

## 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 F
2	ANODE G
3	NO PIN
4	COMMON CATHODE *3
5	NO PIN
6	ANODE E
7	ANODE D
8	ANODE C
9	ANODE DP
10	NO PIN
11	NO PIN
12	COMMON CATHODE *3
13	ANODE B
14	ANODE A

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

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	40	mW
Peak Forward Current Per Segment (Frequency 1Khz, 15% duty cycle)	60*	mA
Continuous Forward Current Per Segment	15	mA
Forward Current Derating From 25°C	0.2	mA/°C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35°C to +85°C	
Storage Temperature Range	-35°C to +85°C	
Soldering Conditions: 1/16 inch Below Seating Plane for 3 Seconds at 260°C		

\* see figure 5 to establish pulsed condition

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

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity Per Segment	I <sub>v</sub>	320	750		μcd	I <sub>F</sub> =10mA
Peak Emission Wavelength	λ <sub>p</sub>		697		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		90		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		657		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)

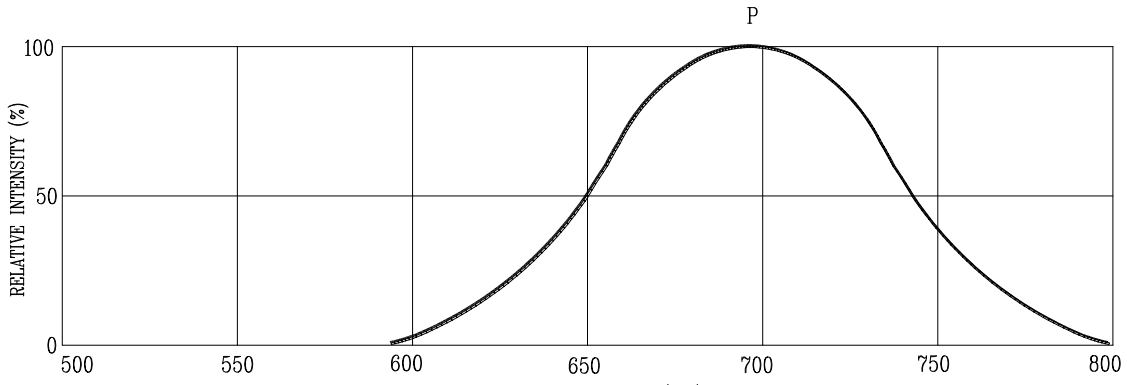


Fig1. Spectral Emission

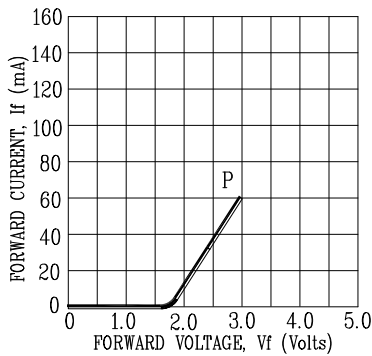


Fig2. Forward Current vs. Forward Voltage

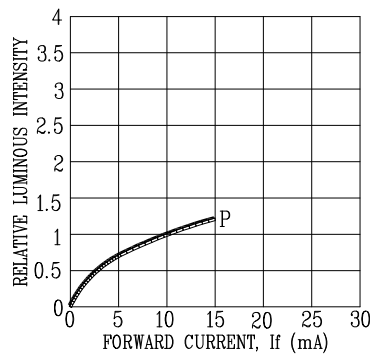


Fig3. Relative Luminous Intensity vs. DC Forward Current

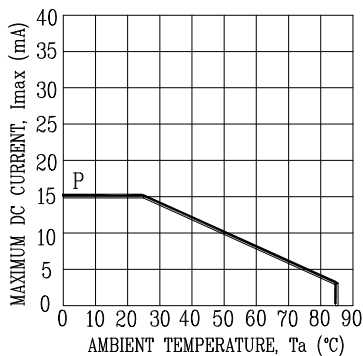


Fig4. Maximum Allowable DC Current vs. Ambient Temperature

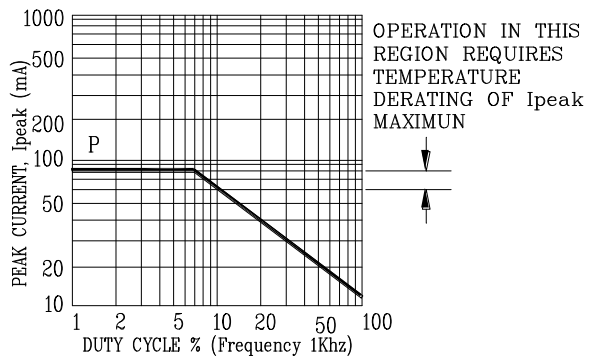


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE : P=BRIGHT RED