## LITEON LITE-ON TECHNOLOGY CORPORATION

## Property of Lite-On Only

### **FEATURES**

- \*0.56 inch (14.22 mm) DIGIT HEIGHT
- **\*EXCELLENT SEGMENT UNIFORMITY**
- \*LOW POWER REQUIREMENT
- \*HIGH BRIGHTNESS AND HIGH CONTRAST
- \*WIDE VIEWING ANGLE
- **\* SOLID STATE RELIABILITY**
- \*BINNED FOR LUMINOUS INTENSITY

### **DESCRIPTION**

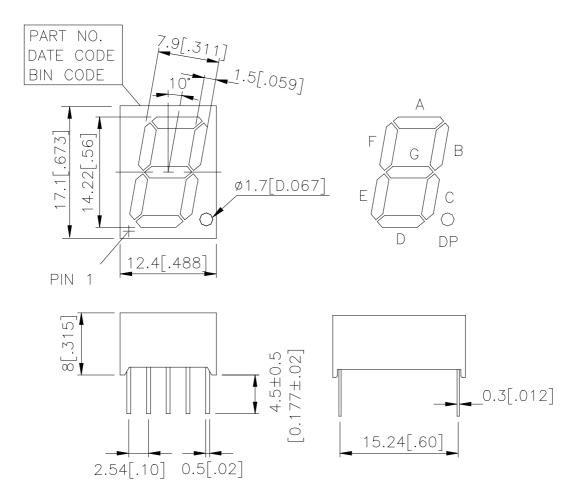
The LSHD-5503 is a 0.56 inch (14.22 mm) digit height single-digit display. This device uses AS-AlInGaP RED LED chips (AlInGaP epi on GaAs substrate). The display has light gray face and white segments.

### **DEVICE**

PART NO.	DESCRIPTION			
AlInGaP RED	Common Cathode			
LSHD-5503	Rt. Hand Decimal			

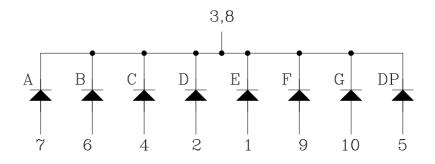
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## **PACKAGE DIMENSIONS**



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

## INTERNAL CIRCUIT DIAGRAM



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## **PIN CONNECTION**

No.	CONNECTION				
1	Anode E				
2	Anode D				
3	Common Cathode				
4	Anode C				
5	Anode DP				
6	Anode B				
7	Anode A				
8	Common Cathode				
9	Anode F				
10	Anode G				

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## ABSOLUTE MAXIMUM RATING AT $Ta = 25^{\circ}C$

PARAMETER	MAXIMUM RATING	UNIT				
Power Dissipation Per Segment	70	mW				
Peak Forward Current Per Segment (Frequency 1Khz, 15% duty cycle)	90	mA				
Continuous Forward Current Per Segment	25	mA				
Forward Current Derating from 25 <sup>o</sup> C	0.28	mA/ <sup>0</sup> C				
Operating Temperature Range	$-35^{0}$ C to $+105^{0}$ C					
Storage Temperature Range	$-35^{\circ}$ C to $+105^{\circ}$ C					
Soldering Conditions: 1/16 inch below seating plane for 5 seconds at 260°C						

## ELECTRICAL / OPTICAL CHARACTERISTICS AT $Ta = 25^{\circ}C$

PARAMETER	SYMBOL	MIN	ТҮР	MAX	UNIT	TEST CONDITION
Average Luminous Intensity Per Segment	Iv	320	1300		μcd	$I_F = 1 \text{mA}$
		5400	17000			$I_F = 10mA$
Peak Emission Wavelength	λр		632		nm	$I_F = 20mA$
Spectral Line Half-Width	Δλ		20		nm	$I_F = 20 \text{mA}$
Dominant Wavelength	λd		624		nm	$I_F = 20 \text{mA}$
Forward Voltage Per Segment	$V_{\mathrm{F}}$		2.1	2.6	V	$I_F = 20 \text{mA}$
Reverse Current Per Segment	Ir			100	μΑ	$V_R = 5V$
Luminous Intensity Matching Ratio	Iv-m			2:1		$I_F = 1mA$

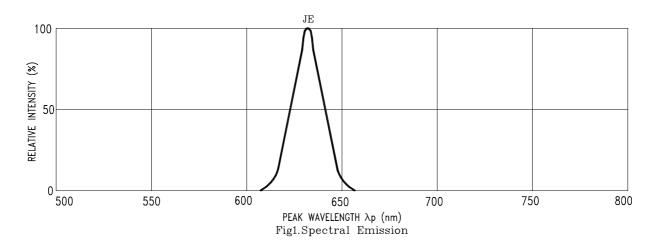
Note: 1.Luminous Intensity is measured with a light sensor and filter combination that approximates the CIE (Commission Internationale De L'Eclairage) eye-response curve.

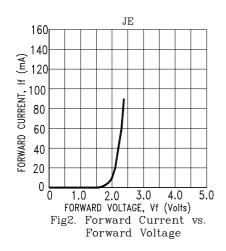
2. Reverse voltage is only for IR test. It can not continue to operate at this situation.

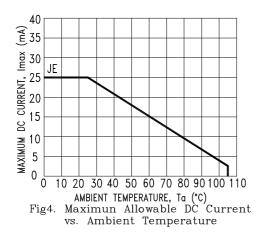
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## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

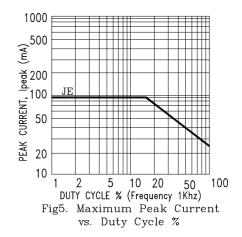






JΕ 10 15 20 FORWARD CURRENT, If (mA)

Fig3. Relative Luminous Intensity vs. DC Forward Current



NOTE: JE=AlInGaP RED

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