



# **LED Display**

## **Product Data Sheet**

### **LSHD-F101**

Spec No.: DS30-2002-151

Effective Date: 01/14/2003

Revision: -

**LITE-ON DCC**

**RELEASE**

**BNS-OD-FC001/A4**

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## FEATURES

- \* 0.39 inch (10.0 mm ) DIGIT HEIGHT
- \* EXCELLENT SEGMENT UNIFORMITY
- \* LOW POWER REQUIREMENT
- \* HIGH BRIGHTNESS AND HIGH CONTRAST
- \* WIDE VIEWING ANGLE
- \* SOLID STATE RELIABILITY
- \* BINNED FOR LUMINOUS INTENSITY

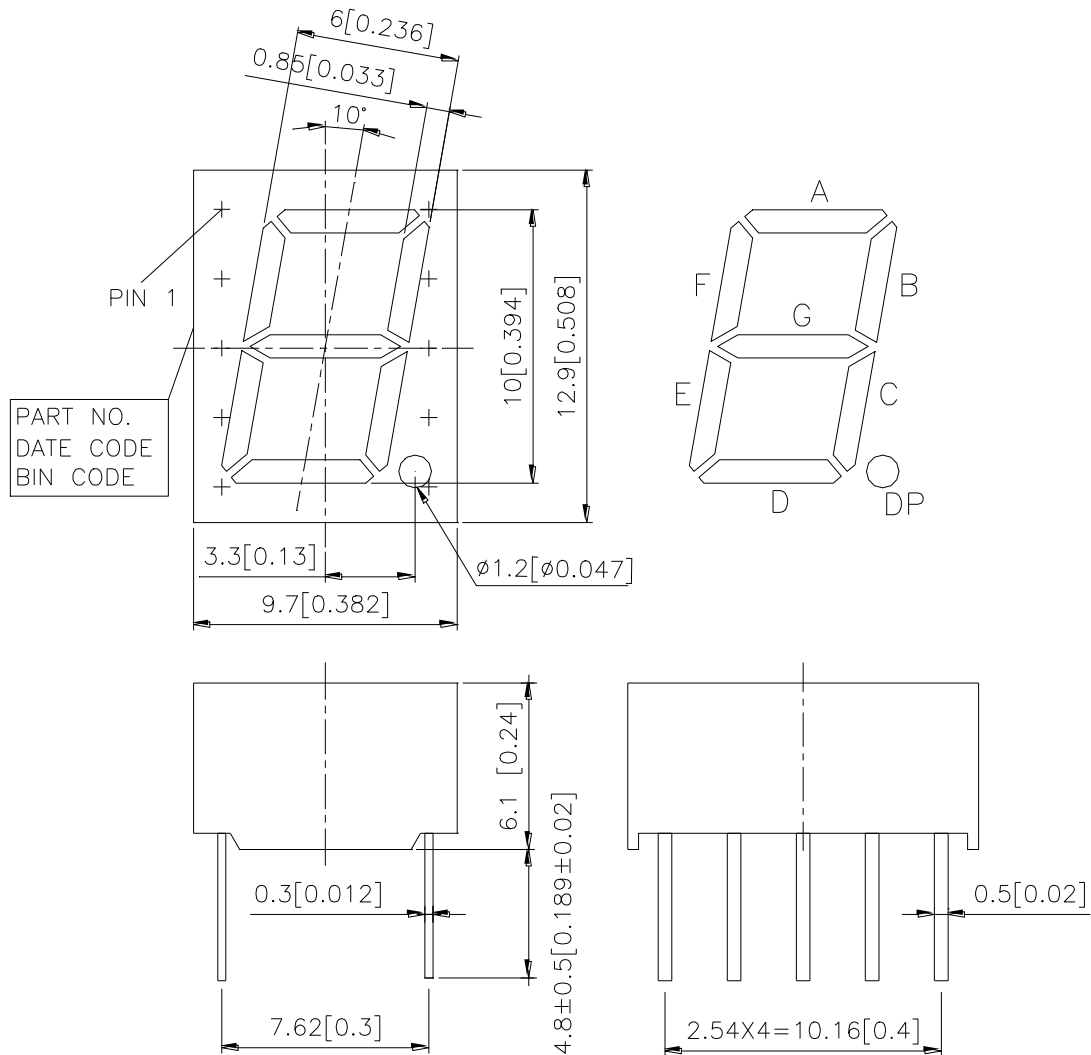
## DESCRIPTION

The LSHD-F101 is a 0.39 inch (10.0 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

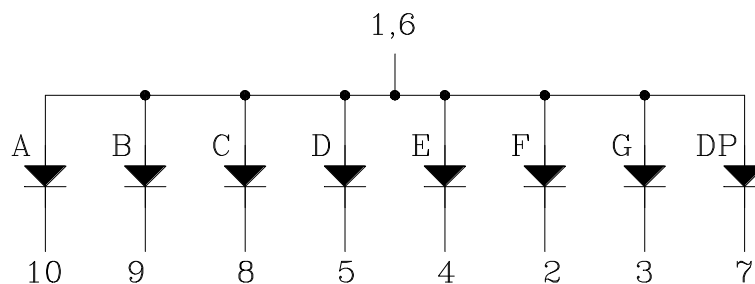
PART NO.	DESCRIPTION
AlInGaP RED	Common Anode Rt. Hand Decimal
LSHD-F101	

## PACKAGE DIMENSIONS



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

## INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

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

**ABSOLUTE MAXIMUM RATING AT Ta = 25°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>0</sup> C	0.28	mA/ <sup>0</sup> C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35 <sup>0</sup> C to +105 <sup>0</sup> C	
Storage Temperature Range	-35 <sup>0</sup> C to +105 <sup>0</sup> C	
Soldering Conditions : 1/16 inch below seating plane for 3 seconds at 260 <sup>0</sup> C		

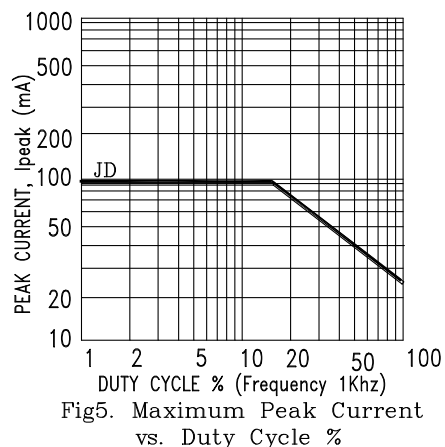
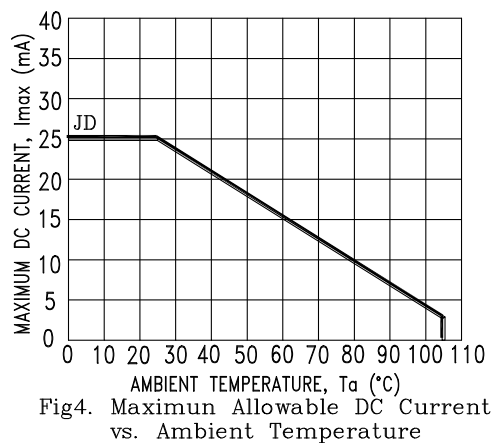
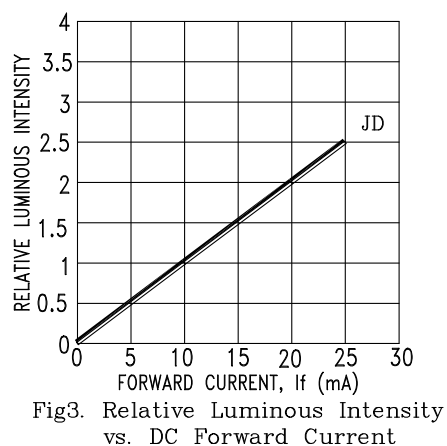
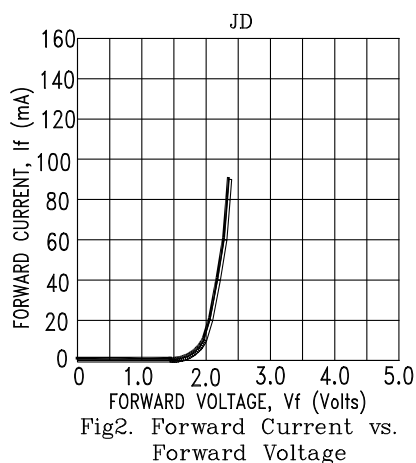
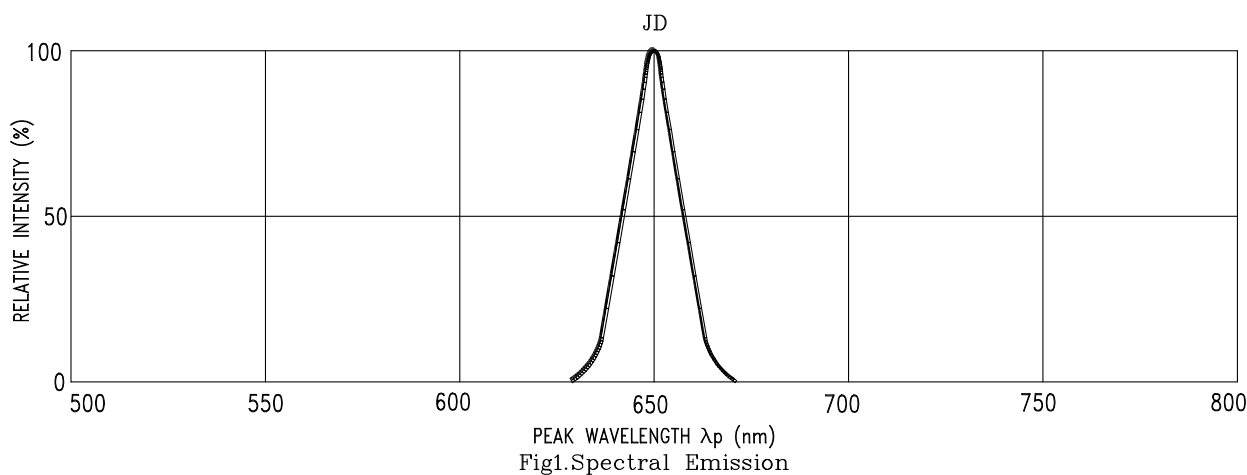
**ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta = 25°C**

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
Average Luminous Intensity Per Segment	I <sub>v</sub>	200 3400	750 9750		μcd	I <sub>F</sub> = 1mA I <sub>F</sub> = 10mA
Peak Emission Wavelength	λ <sub>p</sub>		650		nm	I <sub>F</sub> = 20mA
Spectral Line Half-Width	Δλ		20		nm	I <sub>F</sub> = 20mA
Dominant Wavelength	λ <sub>d</sub>		639		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> = 1mA

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)



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LSHD-F101