



**Spec No.: DS-30-97-151**Effective Date: 04/21/2000

Revision: -

**LITE-ON DCC** 

**RELEASE** 

BNS-OD-FC001/A4

# LITEON LITE-ON ELECTRONICS, INC.

# Property of Lite-on Only

### **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.

### **DESCRIPTION**

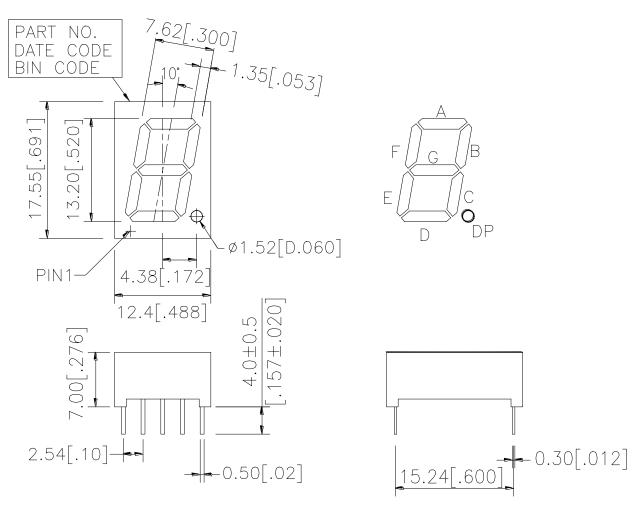
The LTS-546AHR is a 0.52 -inch (13.2 -mm) digit height single digit seven-segment display. This device utilizes Hi-eff. Red LED chips, which are made from GaAsP on GaP substrate, and has a red face and red segments.

## **DEVICE**

PART NO.	DESCRIPTION
HI-EFF. RED	Common Anode
LTS-546AHR	Rt. Hand Decimal

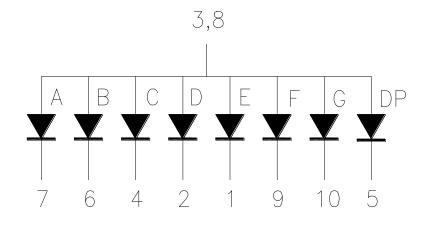
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## **PACKAGE DIMENSIONS**



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

## INTERNAL CIRCUIT DIAGRAM



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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

NOTE: PIN 3 & PIN 8 ARE INTERNALLY CONNECTED.

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## ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	MAXIMUM RATING	UNIT			
Power Dissipation Per Segment	75	mW			
Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA			
Continuous Forward Current Per Segment	25	mA			
Derating Linear From 25 <sup>o</sup> C Per Segment	0.33	mA/ <sup>0</sup> C			
Reverse Voltage Per Segment	5	V			
Operating Temperature Range	-35°C to +85°C				
Storage Temperature Range	-35°C to +85°C				
Solder Temperature 1/16 inch Below Seating Plane for 3 Seconds at 260°C					

# ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	Iv	870	2200		μcd	I <sub>F</sub> =10mA
Peak Emission Wavelength	λр		635		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		40		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λd		623		nm	I <sub>F</sub> =20mA
Forward Voltage Per Segment	VF		2.0	2.6	V	I <sub>F</sub> =20mA
Reverse Current Per Segment	Ir			100	μΑ	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio	Iv-m			2:1		I <sub>F</sub> =10mA

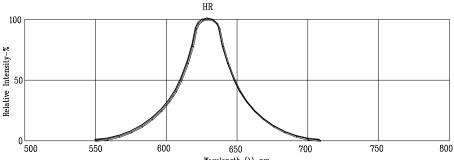
Note: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (commision internationale De L'Eclariage) eye-response curve.

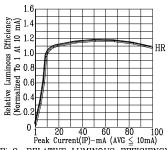
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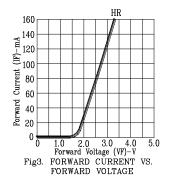
## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

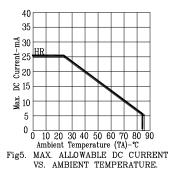
(25°C Ambient Temperature Unless Otherwise Noted)





0 V 10 40 60 80 100
Peak Current(IP)-ma (AVG \( \) 10mA)
RELATIVE LUMINOUS EFFICIENCY
(LUMINOUS INTENSITY PER UNIT
CURRENT) VS. PEAK CURRENT
(REFRESH RATE 1KHz)





HR ≘ 3 5 10 15 20 25 Forward Current (IF)-mA Fig4. RELATIVE LUMINOUS INTENSITY
VS. FORWARD CURRENT

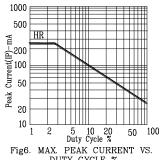


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: HR=HI.-EFF.RED

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