



# LED Display

## Product Data Sheet

### LTD-4608B

Spec No.: DS30-2000-369

Effective Date: 11/14/2000

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

**FEATURES**

- \* 0.4-INCH (10.0-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.
- \* LOW POWER REQUIREMENT.

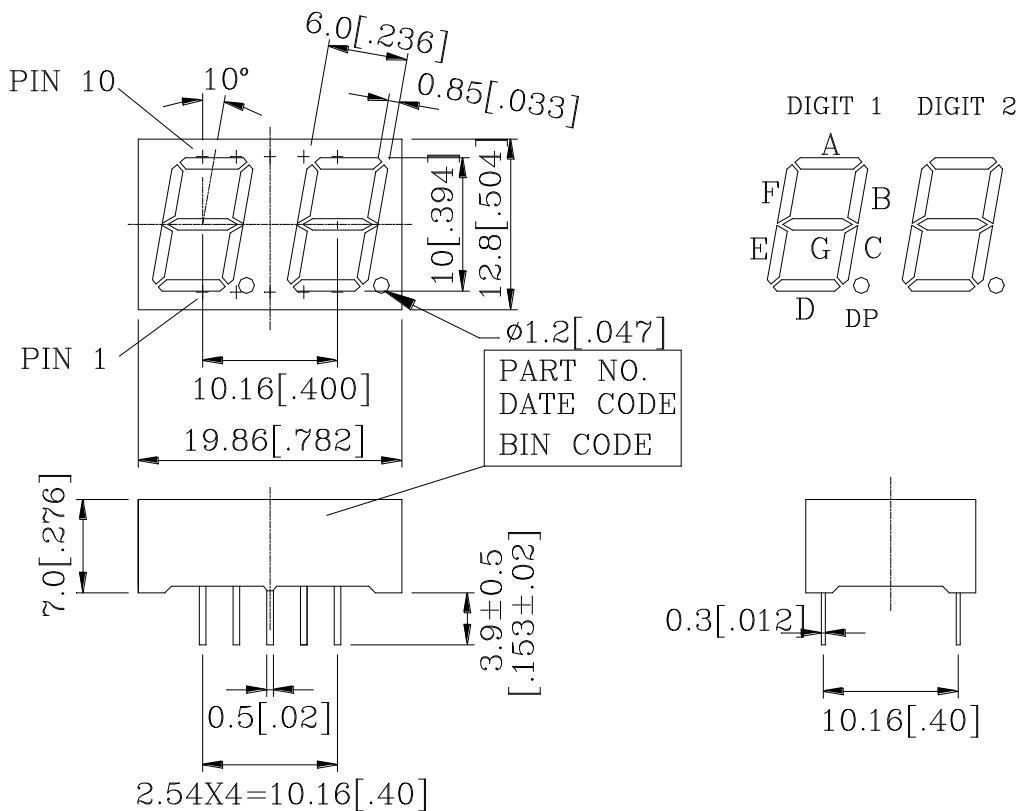
**DESCRIPTION**

The LTD-4608B is a 0.4-inch (10-mm) digit height dual digit seven-segment display. This device utilizes blue LED chips, which are made from GaN on a SiC substrate, and has a gray face and white segments.

**DEVICE**

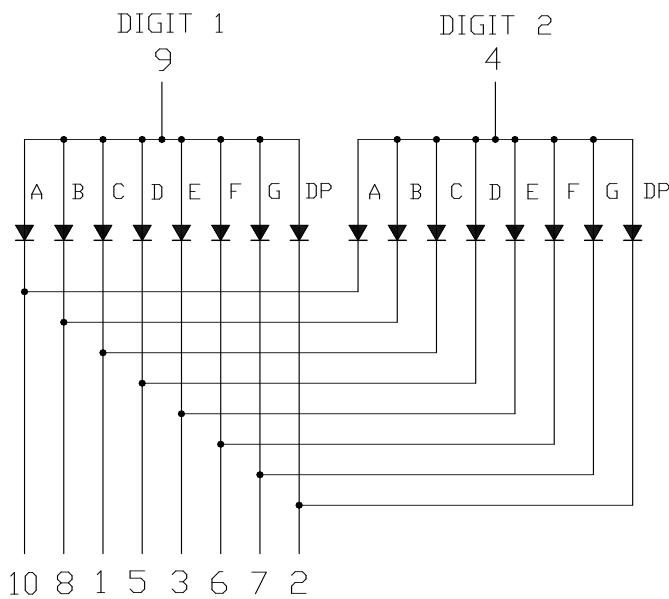
<b>PART NO.</b>	<b>DESCRIPTION</b>
BLUE	Duplex Common Anode
LTD-4608B	Rt. Hand Decimal

## PACKAGE DIMENSIONS



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

## INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

No.	CONNECTION
1	CATHODE C
2	CATHODE D.P.
3	CATHODE E
4	COMMON ANODE (DIGIT 2)
5	CATHODE D
6	CATHODE F
7	CATHODE G
8	CATHODE B
9	COMMON ANODE (DIGIT 1)
10	CATHODE A

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

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	65	mW
Peak Forward Current Per Segment ( 1/10 Duty Cycle, 0.1ms Pulse Width )	60	mA
Continuous Forward Current Per Segment	15	mA
Derating Linear From 25°C Per Segment	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	
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	I <sub>v</sub>	1200	3600		μcd	I <sub>F</sub> =10mA
Peak Emission Wavelength	λ <sub>p</sub>		428		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		65		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		466		nm	I <sub>F</sub> =20mA
Forward Voltage Per Segment	V <sub>F</sub>		3.8	4.5	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)

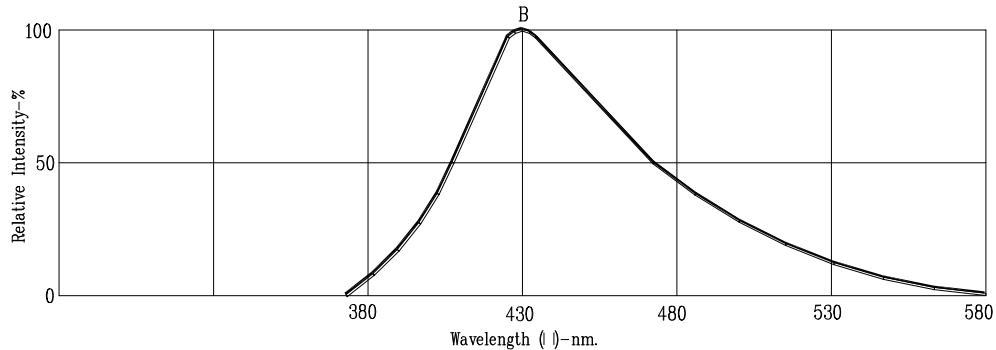


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

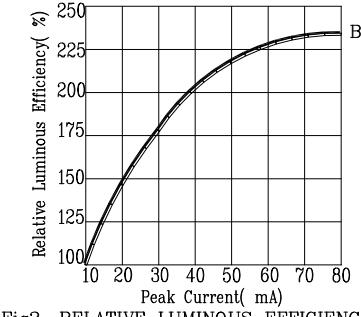
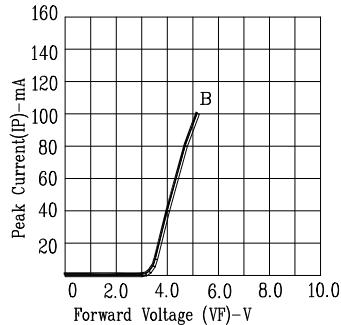
Fig2. RELATIVE LUMINOUS EFFICIENCY VS. PEAK FORWARD CURRENT  
(250us pulse width; 2ms period)

Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

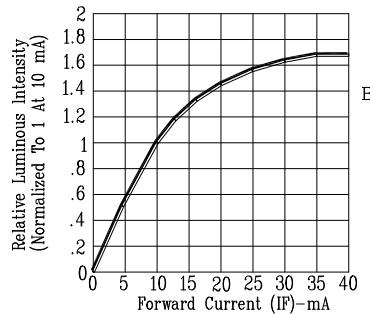


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

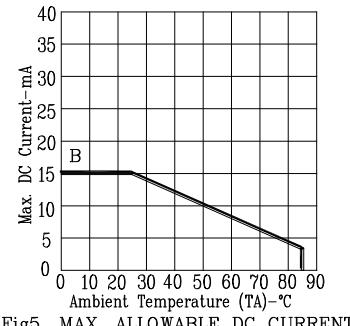
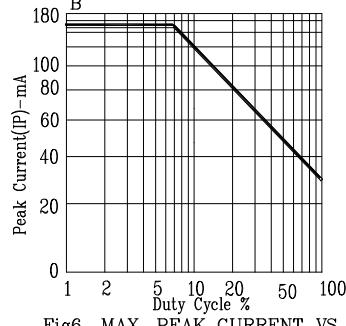


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

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