



# LED Display Product Data Sheet LTD-5523AB

Spec No.: DS30-2000-372

Effective Date: 10/19/2001

Revision: A

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

**FEATURES**

- \* 0.56 inch (14.22 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

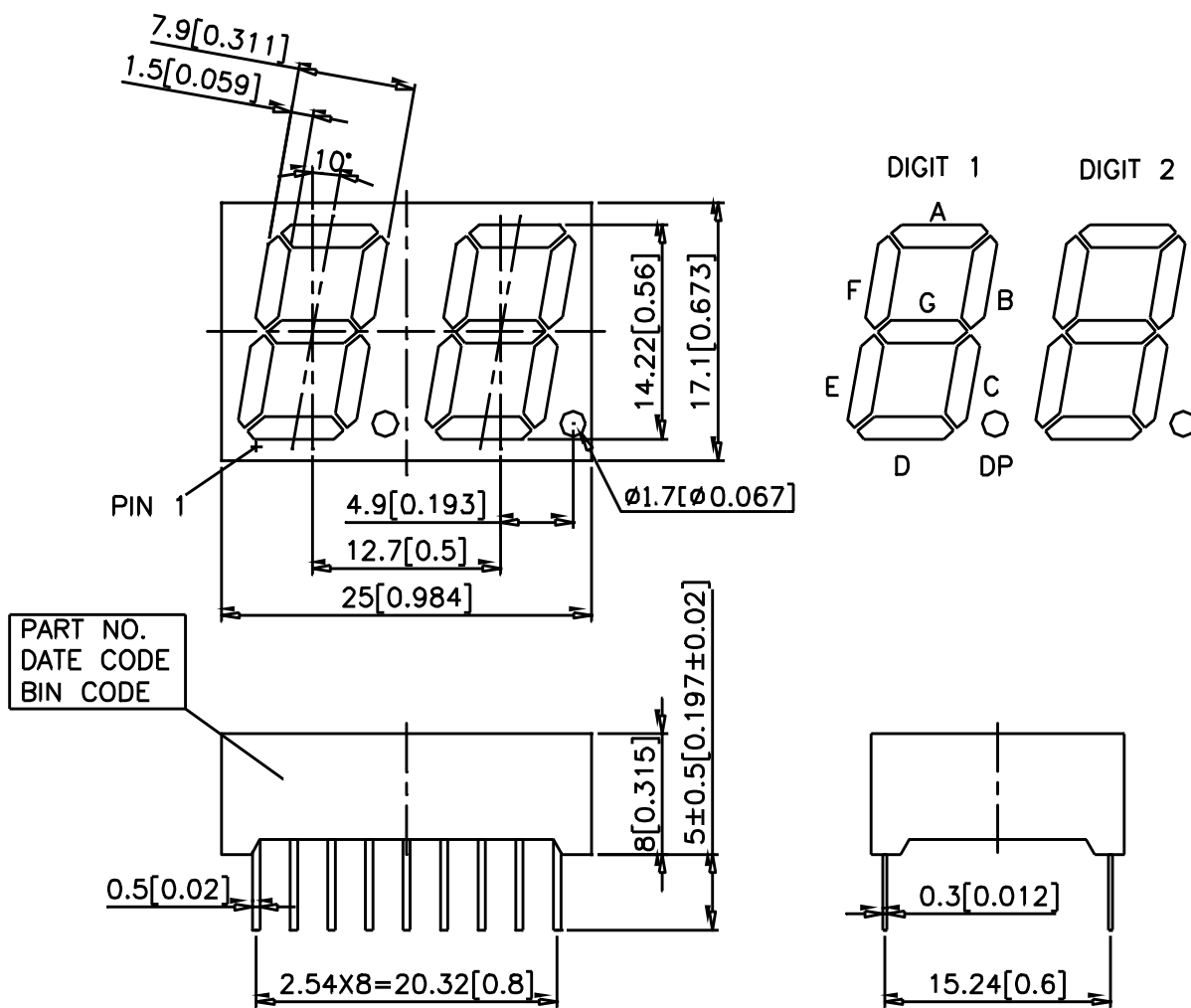
**DESCRIPTION**

The LTD-5523AB is a 0.56 inch (14.22 mm) digit height dual digit seven-segment display. The device utilizes blue chips, which are made from GaN on a SiC substrate, and has a gray face and white segments.

**DEVICE**

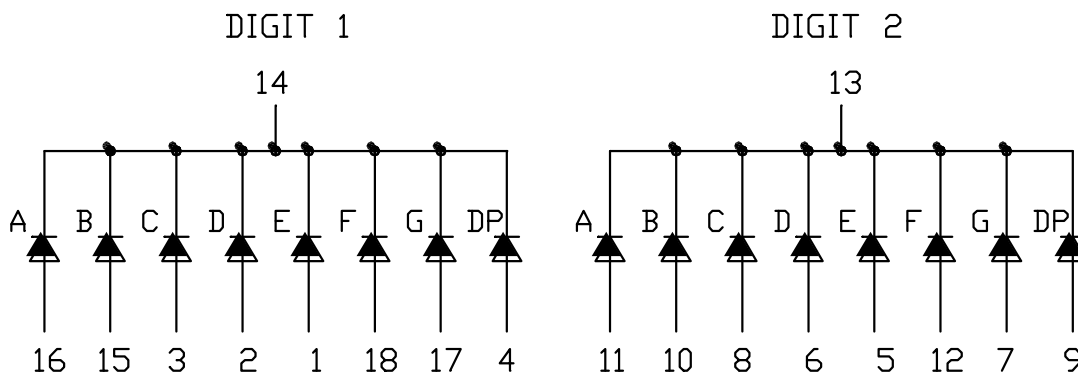
<b>PART NO</b>	<b>DESCRIPTION</b>
BLUE	COMMON CATHODE
LTD-5523AB	RT. HAND DECIMAL

## PACKAGE DIMENSIONS



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

## INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

<b>No.</b>	<b>CONNECTION</b>
1	ANODE E (DIGIT 1)
2	ANODE D (DIGIT 1)
3	ANODE C (DIGIT 1)
4	ANODE DP (DIGIT 1)
5	ANODE E (DIGIT 2)
6	ANODE D (DIGIT 2)
7	ANODE G (DIGIT 2)
8	ANODE C (DIGIT 2)
9	ANODE DP (DIGIT 2)
10	ANODE B (DIGIT 2)
11	ANODE A (DIGIT 2)
12	ANODE F (DIGIT 2)
13	COMMON CATHODE (DIGIT 2)
14	COMMON CATHODE (DIGIT 1)
15	ANODE B (DIGIT 1)
16	ANODE A (DIGIT 1)
17	ANODE G (DIGIT 1)
18	ANODE F (DIGIT 1)

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

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	95	mW
Peak Forward Current Per Segment ( 1/10 Duty Cycle, 0.1ms Pulse Width )	60	mA
Continuous Forward Current Per Segment	25	mA
Derating Linear From 25 <sup>0</sup> C Per Segment	0.33	mA/ <sup>0</sup> C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35 <sup>0</sup> C to +85 <sup>0</sup> C	
Storage Temperature Range	-35 <sup>0</sup> C to +85 <sup>0</sup> C	
Solder Temperature 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	I <sub>v</sub>	1300	4300		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)

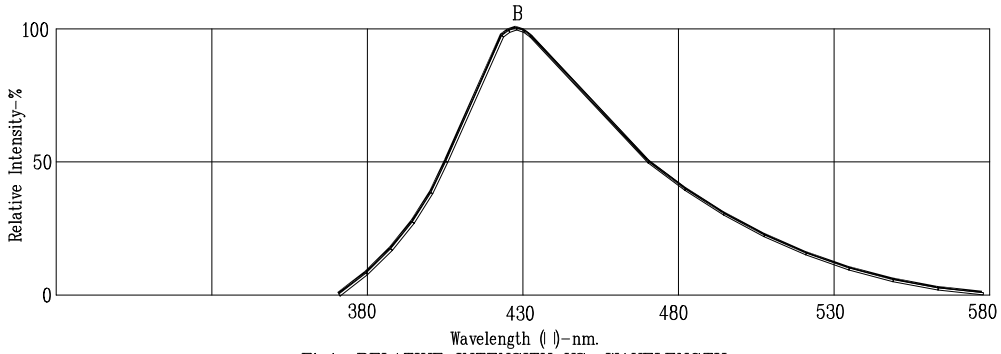


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

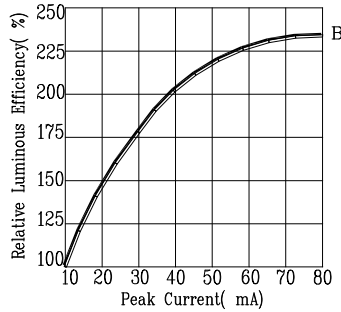


Fig2. RELATIVE LUMINOUS EFFICIENCY VS. PEAK FORWARD CURRENT (250us pulse width; 2ms period)

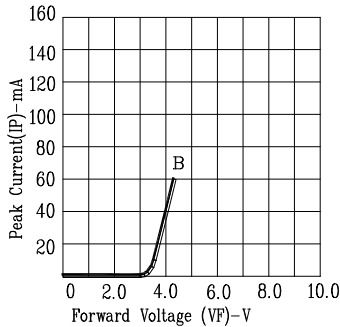


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

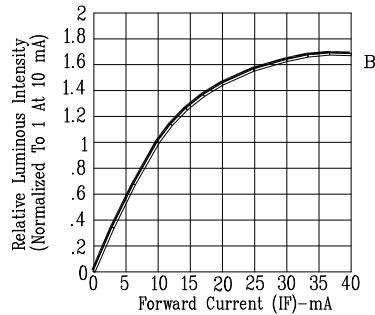


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

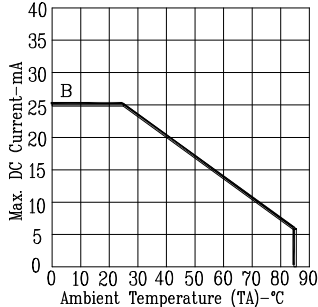


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

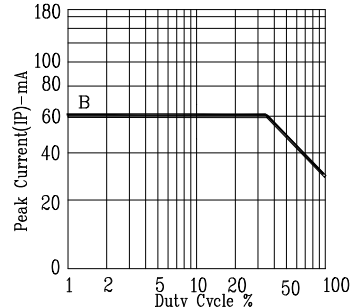


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)