



# LED Display Product Data Sheet LTC-5653CB

Spec No.: DS30-2007-0072

Effective Date: 04/11/2007

Revision: -

**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.
- \* **LEAD-FREE PACKAGE (ACCORDING TO ROHS)**

## **DESCRIPTION**

The LTC-5653CB is a 0.56-inch (14.22-mm) digit height quad digit seven-segment display. This device uses InGaN BLUE LED chips (InGaN epi on SiC substrate). The display has gray face and white segments.

## **DEVICE**

<b>PART NO.</b>	<b>DESCRIPTION</b>
InGaN BLUE	Common Anode
LTC-5653CB	Rt. Hand Decimal



**PIN CONNECTION**

<b>No.</b>	<b>CONNECTION</b>
1	Cathode E (Digit 1)
2	Cathode D (Digit 1)
3	Cathode D.P. (Digit 1)
4	Cathode C (Digit 1)
5	Cathode G (Digit 1)
6	Common Anode (Digit 4)
7	Cathode B (Digit 1)
8	Common Anode (Digit 3)
9	Common Anode (Digit 2)
10	Cathode F (Digit 1)
11	Cathode A (Digit 1)
12	Common Anode (Digit 1)

## ABSOLUTE MAXIMUM RATING AT T<sub>A</sub>=25°C

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	115	mW
Peak Forward Current Per Segment ( 1/10 Duty Cycle, 0.1ms Pulse Width )	60	mA
Continuous Forward Current Per Segment	30	mA
Derating Linear From 25°C Per Segment	0.33	mA/°C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35°C to +105°C	
Storage Temperature Range	-35°C to +105°C	
Soldering Conditions: 1/16 inch below seating plane for 3 seconds at 260°C., or temperature of unit (during assembly) not over max. temperature rating above		

## ELECTRICAL / OPTICAL CHARACTERISTICS AT T<sub>A</sub>=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	5400	9000		μcd	I <sub>F</sub> =10mA
Peak Emission Wavelength	λ <sub>p</sub>		468		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		25		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		470		nm	I <sub>F</sub> =20mA
Forward Voltage Per Segment	V <sub>F</sub>		3.3	3.7	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 (Similar Light Area)	I <sub>v-m</sub>			2:1		I <sub>F</sub> =10mA

Note: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (commission international DE L'clairage) eye-response curve.

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

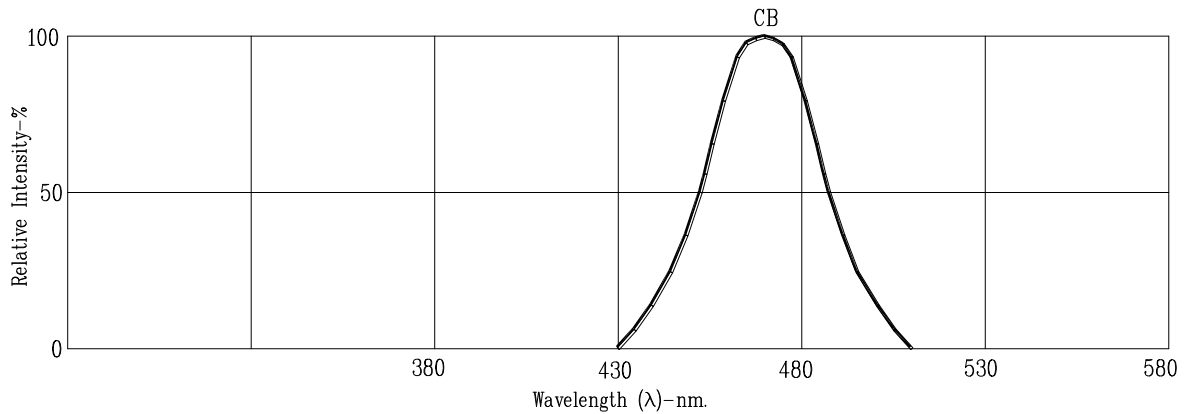


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

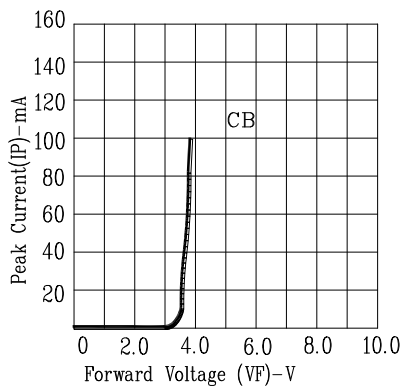


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

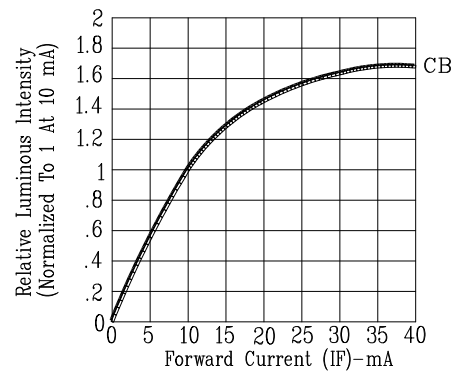


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

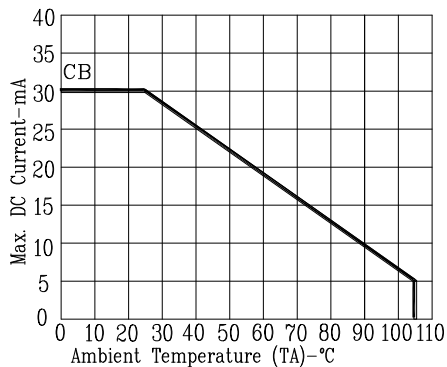


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

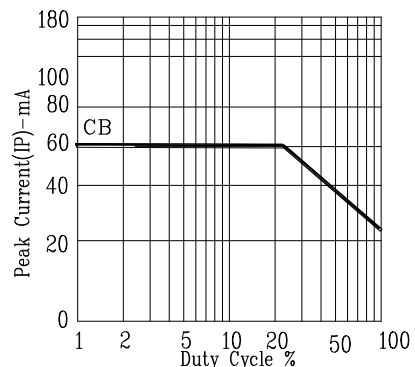


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: CB=InGaN Blue