



LED Display

Product Data Sheet

LTC-561CB-03J

Spec No.: DS30-2011-0073

Effective Date: 06/02/2012

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

LED DISPLAY**LTC-561CB-03J**
DATASHEET

<u>Rev</u>	<u>Description</u>	<u>By</u>
01	ORIGINAL	<u>KITTISAK S.</u> <u>MAR 30/2011</u>
(Above data for PD and Customer tracking only)		
-	NPPR Received and Upload on OPNC	<u>KITTISAK S</u> <u>June 16 /2011</u>

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

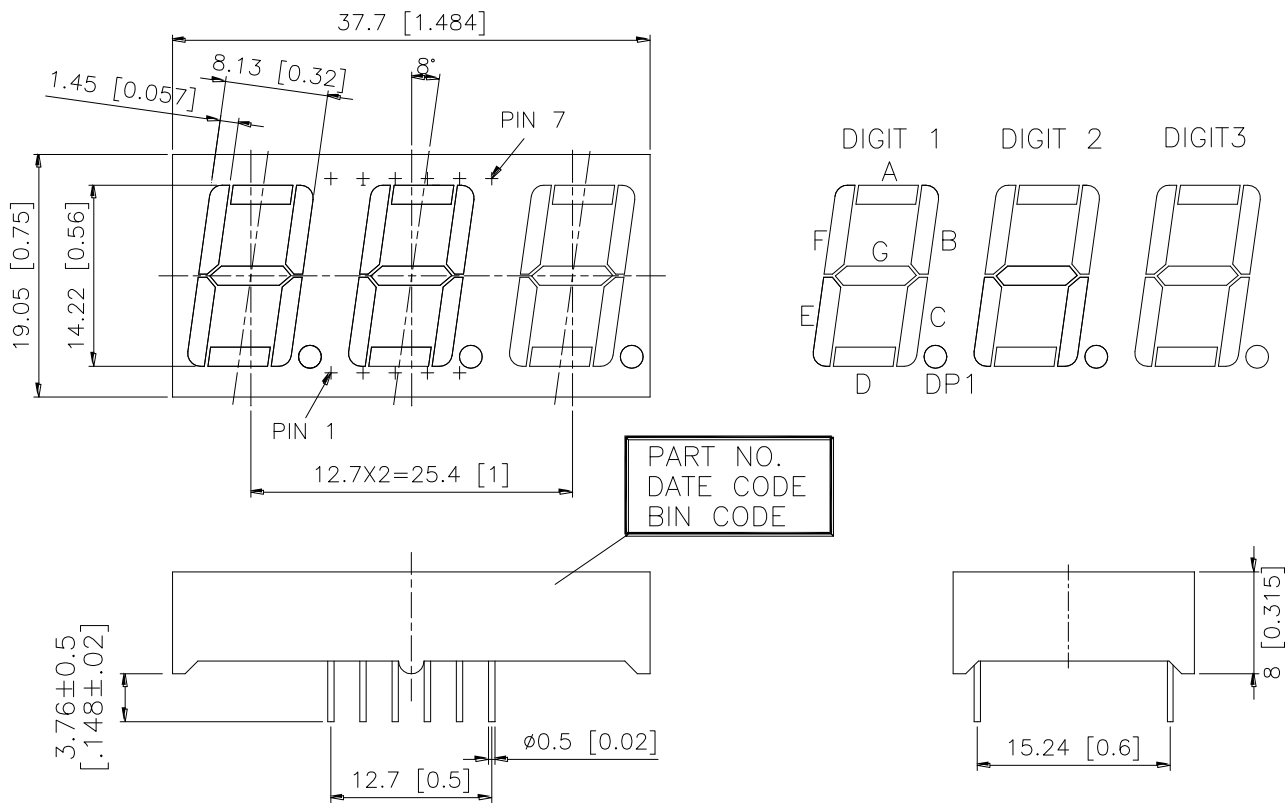
DESCRIPTION

The LTC-561CB-03J is a 0.56 inch (14.22 mm) digit height triple digit seven-segment display. This device uses InGaN BLUE LED chips (InGaN epi on SiC substrate). The display has black face and white segments.

DEVICE

PART NO.	DESCRIPTION
InGaN BLUE	Multiplex Common Anode Rt. Hand Decimal
LTC-561CB-03J	

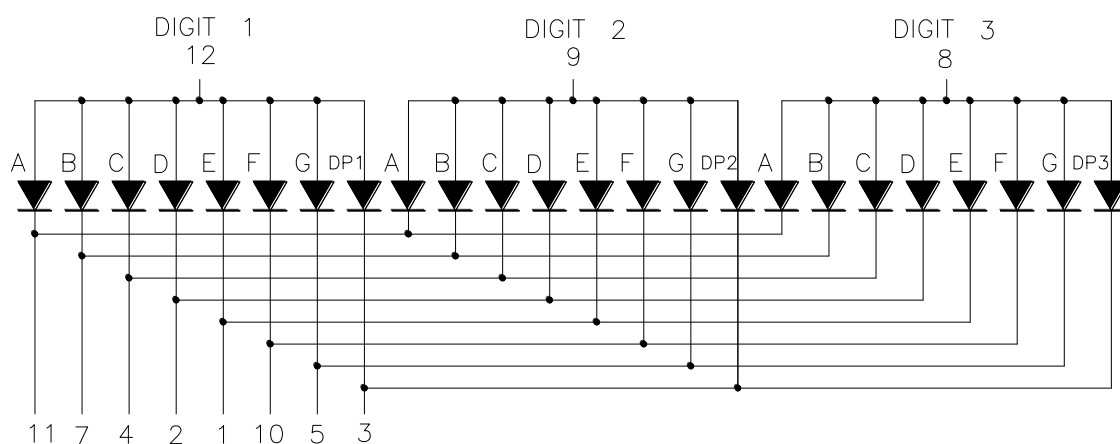
PACKAGE DIMENSIONS



NOTES: 1.All dimensions are in millimeters. Tolerances are ± 0.25 mm (0.01“) unless otherwise noted.

2. Pin tip's shift tolerance is ± 0.4 mm.
3. Foreign material on segment ≤ 10 mils
4. Ink contamination (surface) ≤ 20 mils
5. Bending $\leq 1\%$ of reflector length
6. Bubble in segment ≤ 10 mils

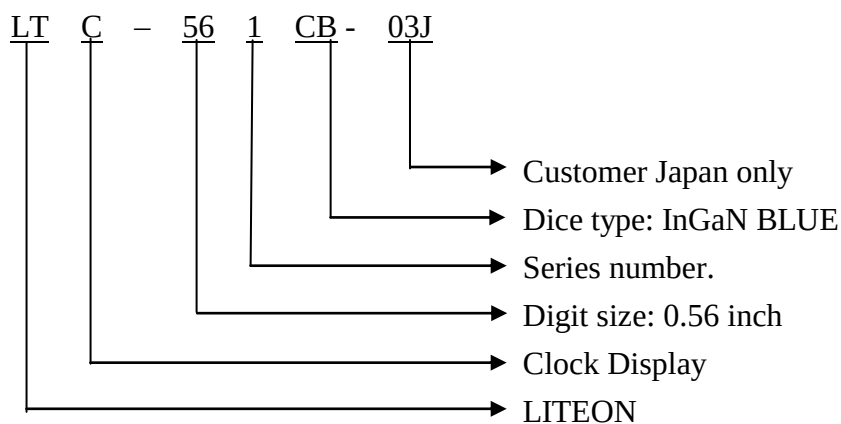
INTERNAL CIRCUIT DIAGRAM



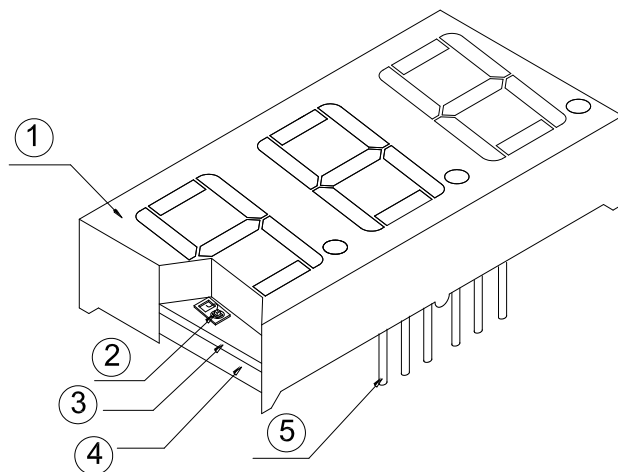
PIN CONNECTION

NO.	CONNECTION
1	CATHODE E
2	CATHODE D
3	CATHODE D.P.
4	CATHODE C
5	CATHODE G
6	NO CONNECTION
7	CATHODE B
8	COMMON ANODE, DIGIT 3
9	COMMON ANODE, DIGIT 2
10	CATHODE F
11	CATHODE A
12	COMMON ANODE , DIGIT 1

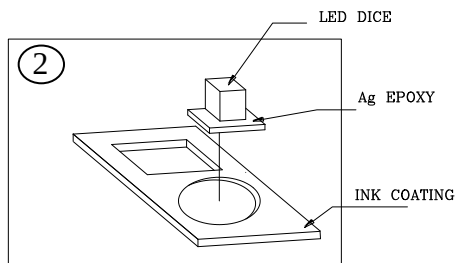
Explanation for Part Number



Cross Section & Material List.



1. Ag CONDUCTIVE EPOXY USING
2. ON THE PCB, COATING A LAYER OF INK
FOR CONTROLLING THE Ag EPOXY SCOPE



No.	Items	Material
1	Reflector	Polycarbonate
2	LED chip	InGaN BLUE
3	PCB	Resin + Glass + Fiber
4	Epoxy	Resin
5	Round pin	Cu + Fe + Sn

*** LED CHIP MAKER IS CREE**

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	115	mW
Peak Forward Current Per Segment (Frequency 1Khz, 10% duty cycle)	60	mA
Continuous Forward Current Per Segment	30	mA
Forward Current Derating from 25 ⁰ C	0.28	mA/ ⁰ C
Operating Temperature Range	-35 ⁰ C to +105 ⁰ C	
Storage Temperature Range	-35 ⁰ C to +105 ⁰ C	
Soldering Conditions: 1/16 inch below seating plane for 3 seconds at 260 ⁰ C.,or temperature of unit (during assembly) not over max. temperature rating above		

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

PARAMETER (Cree supplier)	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION
Average Luminous Intensity Per Segment	I _v	5400	13800		μcd	I _F = 10mA
Peak Emission Wavelength	λ _p		468		nm	I _F = 5mA
Spectral Line Half-Width	Δλ		25		nm	I _F = 5mA
Dominant Wavelength	λ _d	464	470	475	nm	I _F = 5mA
Forward Voltage Per Segment	V _F	2.5		3.5	V	I _F = 5mA
Reverse Current Per Segment	I _R			100	μA	V _R = 5V ^[2]
Luminous Intensity Matching Ratio (Similar Light Area)	I _v -m			2 : 1		I _F = 10mA

Note:1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.
2.Reverse voltage is only for IR test. It can not continue to operate at this situation.

BIN TABLE 2	BIN RANK TABLE					μcd I _F =10mA
BIN GRAD	M	N	P	Q	R	
RANG	5401~8600	8601~13700	13701~21820	21821~34700	34701~55170	

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

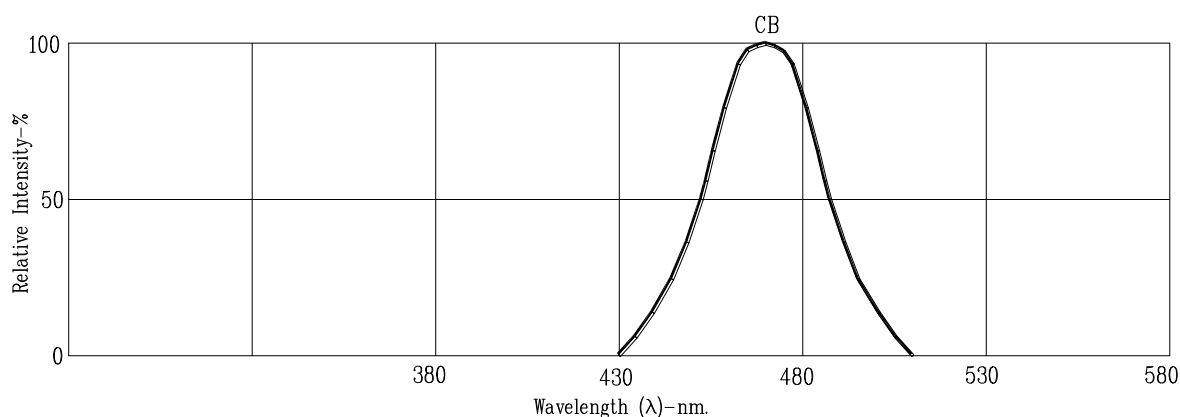


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

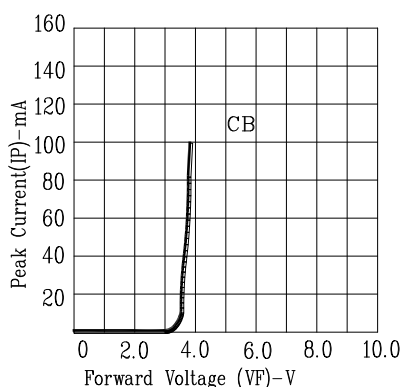


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

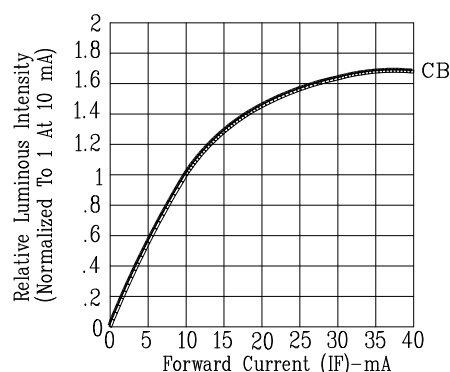


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

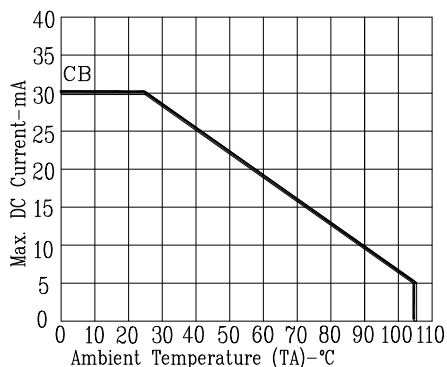


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

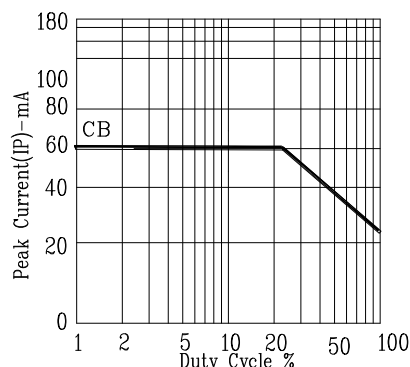


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: CB=InGaN Blue

The Packing spec

ON INNER CARTON

	MATERIAL NO. : LTC-561CB-03J	BATCH : P
	QUANTITY : 1486	
	CUS P/N :	MACHINE :
	DATE CODE : YYWW	PBFREE

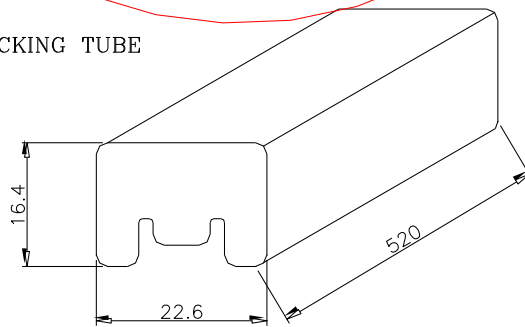
LITEON FINISHED GOODS STOCK LABEL

TAG NO. : T025085 CUSTOMER : SHARP CUSPART NO. : MATERIAL GROUP : 03B00CHG MATERIAL NO. : LTC-561CB-03J BATCH : P QUANTITY : 510 DATE CODE : YYWW COMMENT : PBF	  
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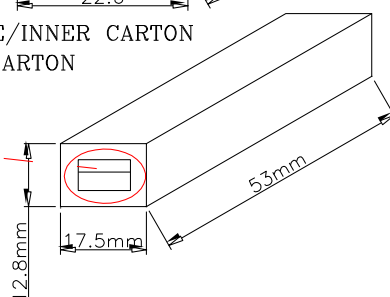
SHELF : BA1

TSG09 205/05/28 93922

13 PCS/PACKING TUBE



55 PACKING TUBE/INNER CARTON
715 PCS/INNER CARTON



4 INNER CARTON/OUTER CARTON
2860 PCS/OUTER CARTON

