LITEON®
OPTOELECTRONICS

LED Display

Product Data Sheet

LTS-5501ACB-01J

Spec No.: DS30-2010-0111

Effective Date: 08/27/2010

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

LITE-ON Technology Corp. / Optoelectronics
No.90,Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C.
Tel: 886-2-2222-6181 Fax: 886-2-2221-1948 / 886-2-2221-0660
http://www.liteon.com/opto

LED DISPLAY

LTS-5501ACB-01J

DATA SHEET

Rev	Description	By
01	SIMILAR LTS-5501AB CHANGE TO CB dice and black face	KITTISAK B. April 23/2010
02	ADD BIN TABLE	KITTISAK B. May 17/2010
(Above data for PD and Customer tracking only)		
-	NPPR Received and Upload on OPNC	KITTISAK B. May 26/2010

SPEC. NO.: DS30-2010-0111

D A T E : May 26/2010

REV. NO. : -

PAGE NO. : 0 OF 5

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)**

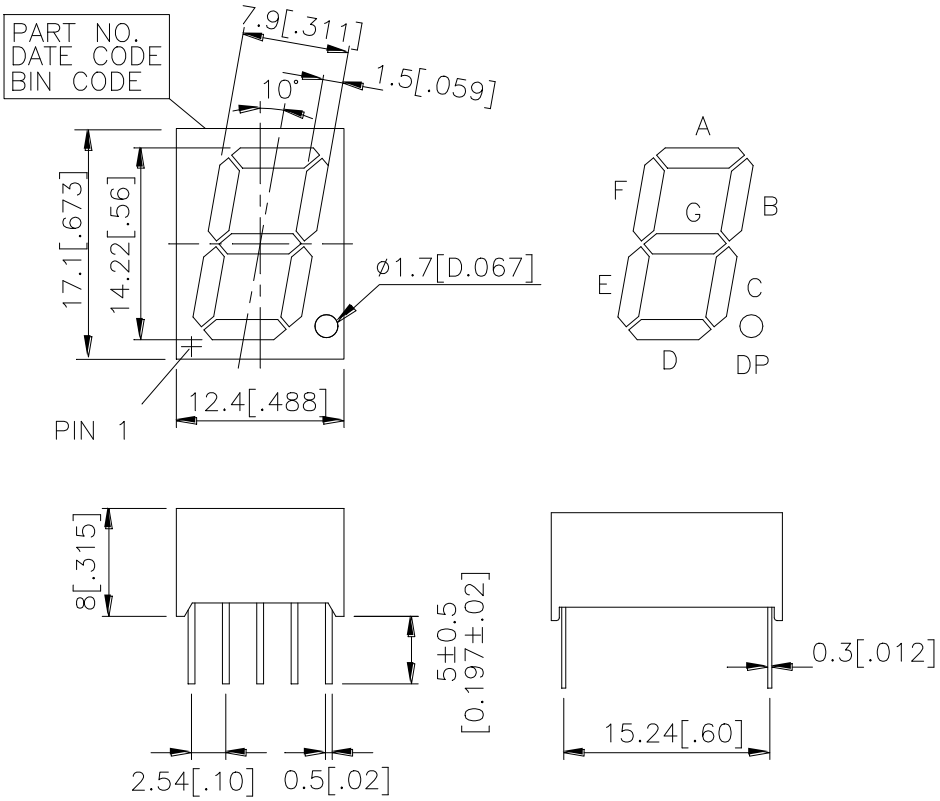
DESCRIPTION

The LTS-5501ACB-01J is a 0.56 inch (14.22 mm) digit height single digit display. This device uses InGaN BLUE LED chips (InGaN epi on SiC substrate), and has a black face and white segments.

DEVICE

PART NO.	DESCRIPTION
InGaN BLUE	COMMON ANODE
LTS-5501ACB-01J	RT. HAND DECIMAL

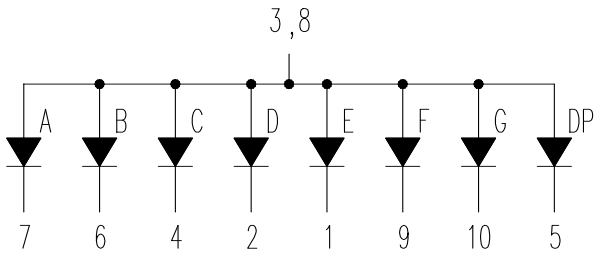
PACKAGE DIMENSIONS



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 ≦10mils
4. Ink contamination (surface) ≦20mils
5. Bending≦1% of reflector length
6. Bubble in segment ≦10mils

INTERNAL CIRCUIT DIAGRAM



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

ABSOLUTE MAXIMUM RATING AT Ta=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 Derating Linear From 25°C Per Segment	30 0.28	mA mA/°C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35°C to +105°C	
Storage Temperature Range	-35°C to +105°C	
Solder Temperature 1/16 inch Below Seating Plane for 5 Seconds at 260°C or of temperature unit (during assembly) not over max. temperature rating above.		

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	5400	20400		μcd	I_F=10mA
Peak Emission Wavelength	λp		468		nm	I_F=5mA
Spectral Line Half-Width	Δλ		25		nm	I_F=5mA
Dominant Wavelength	λd		470		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
Luminous Intensity Matching Ratio	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. Cross talk specification <=2.5%

BIN TABLE

BIN TEBLE 2 FOR LUMINOUS INTENSITY

BIN GRADE	M	N	P	Q	R
RANGE(ucd)IF=10mA	5401-8600	8601-13700	13701-21820	21821-34700	34701-55170

The Luminous Intensity Tolerance ±15percentage

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

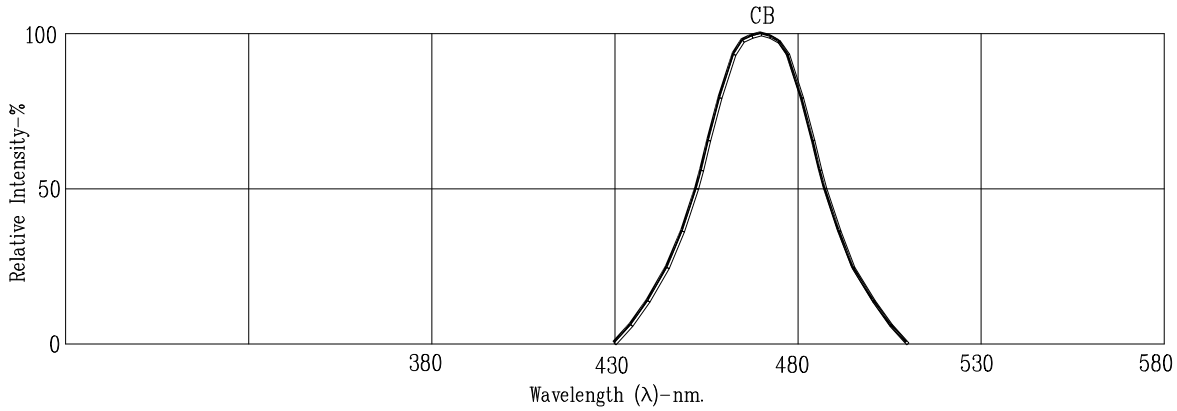


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

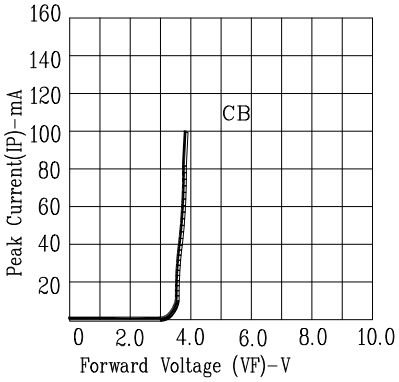


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

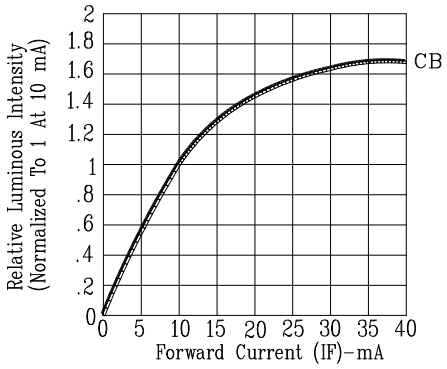


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

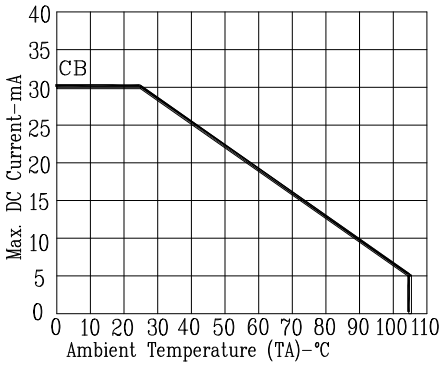


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

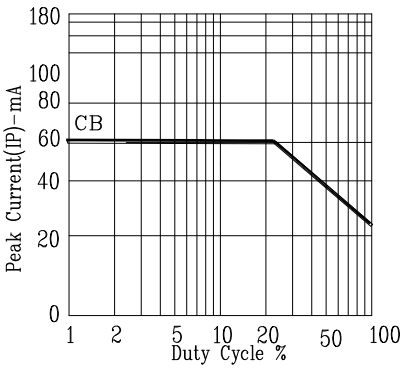


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: CB=InGaN Blue