LITEON®
OPTOELECTRONICS

LED Display

Product Data Sheet

LTS-546ACB

Spec No.: DS30-2007-0199

Effective Date: 12/18/2007

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-546ACB
DATASHEET

Rev	Description	By
01	ORIGINAL	WARIN Oct 1 .2007
Above data for PD and Customer tracking only		
-	NPPR Received and up load on OPNC	WARIN Dec 4 .2007

SPEC. NO.: DS30-2007-0199

D A T E : Dec 4 .2007

REV. NO. : -

PAGE NO. : 0 OF 5

FEATURES

∗0.52 INCH (13.2-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)**

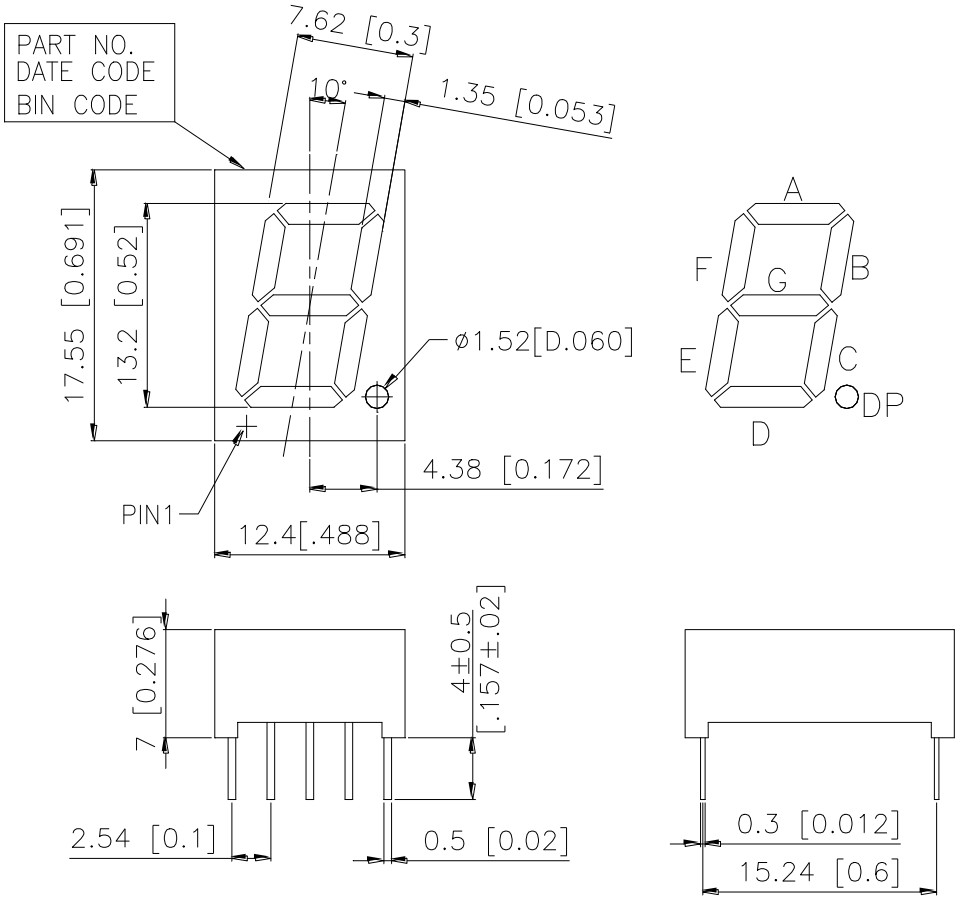
DESCRIPTION

The LTS-546ACB is a 0.52-inch (13.2-mm) height single digit display. This device uses InGaN BLUE LED chips (InGaN epi on SiC substrate), and has a gray face and white segments.

DEVICE

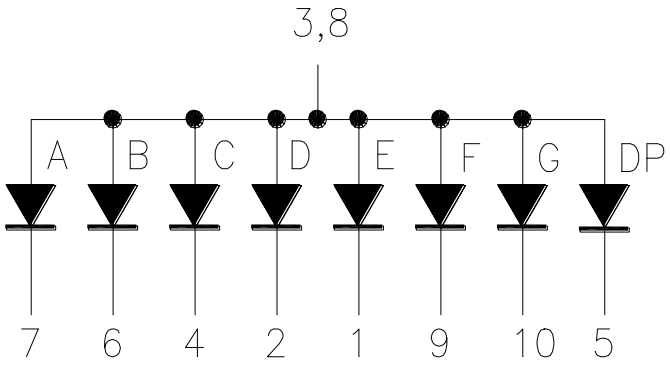
PART NO.	DESCRIPTION
InGaN BLUE	Common Anode,
LTS-546ACB	Rt. Hand decimal

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.

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 (Frequency 1Khz, 10% duty cycle)	60	mA
Continuous Forward Current Per Segment	30	mA
Forward Current Derating from 25^0C	0.33	mA/^{0}C
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35^0C to +105^0C	
Storage Temperature Range	-35^0C to +105^0C	
Soldering Conditions: 1/16 inch below seating plane for 3 seconds at 260^0C., or temperature of 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 Per Segment	I_V	5 400	13800		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	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
Luminous Intensity Matching Ratio (Similar Light Area)	I_V-m			2 : 1		I_F = 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)

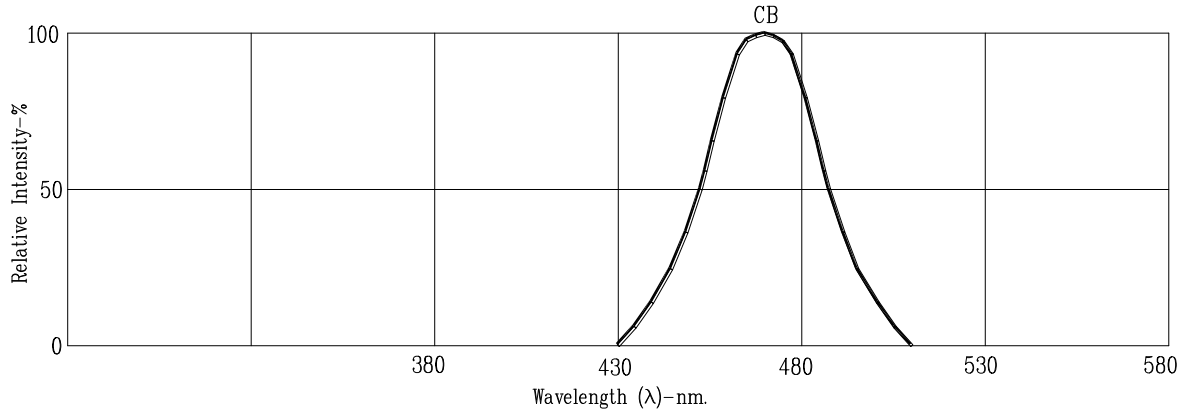


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

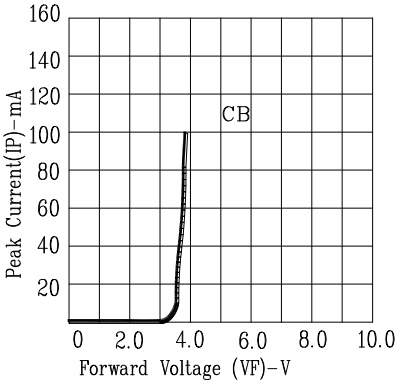


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

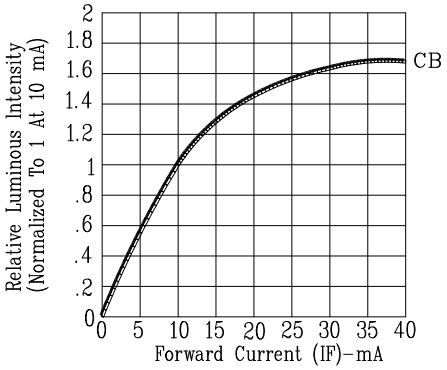


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

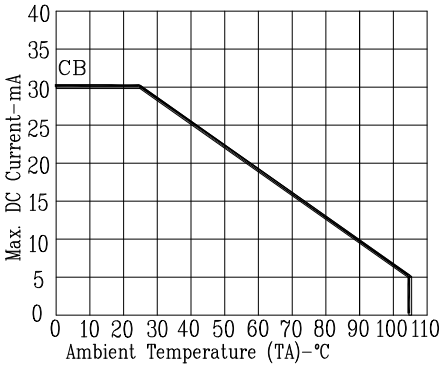


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

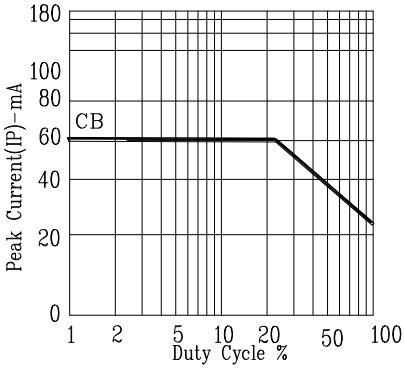


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: CB=InGaN Blue