



# LED Display Product Data Sheet LTP-747CB

Spec No.: DS30-2006-191

Effective Date: 01/23/2007

Revision: -

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

# **LITEON** LITE-ON TECHNOLOGY CORPORATION

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## **LED DISPLAY**

### **LTP-747CB** **DATA SHEET**

<b><u>Rev</u></b>	<b><u>Description</u></b>	<b><u>By</u></b>
-	Original Spec	<b><u>PHANOMKRON J.</u></b>

SPEC. NO.: DS30-2006-xxx

D A T E : DEC/20/06

REV. NO. : -

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## **FEATURES**

- \* 0.7INCH (17.22mm) 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)**

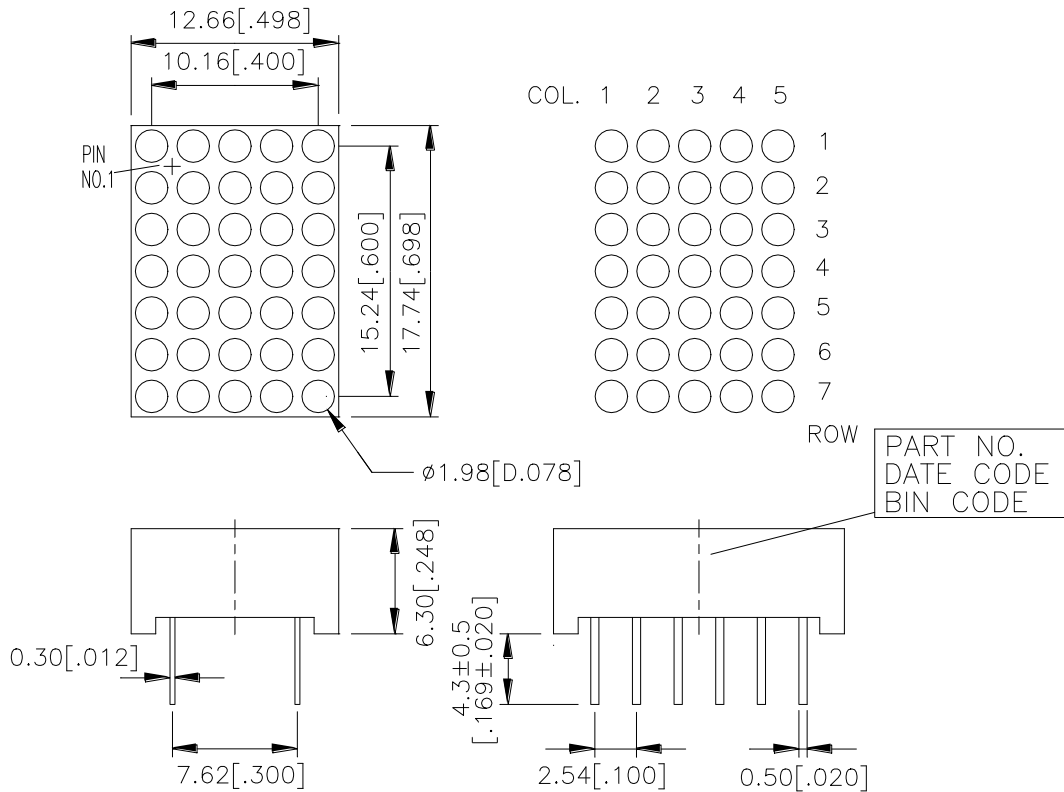
## **DESCRIPTION**

The LTP-747CB is a 0.7inch (17.22mm) matrix height 5 x 7 dot matrix display. This device utilizes InGaN blue LED chips, which are made from InGaN on Sic substrate, and has a gray face and white dots.

## **DEVICE**

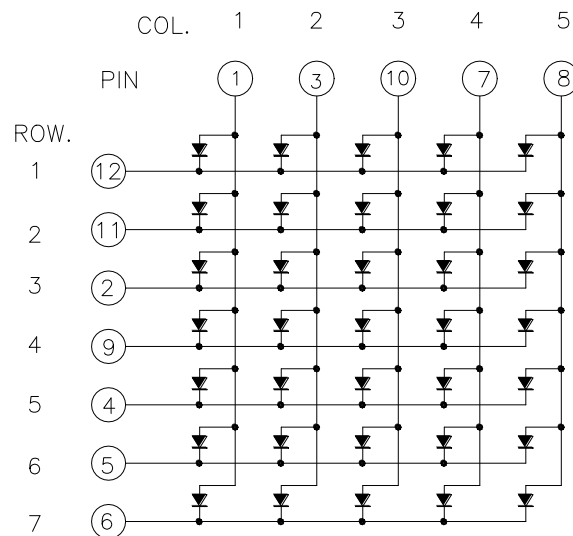
<b>PART NO.</b>	<b>DESCRIPTION</b>
InGaN Blue	Anode Column
LTP-747CB	Cathode Row

## PACKAGE DIMENSIONS



- NOTES: 1. All dimensions are in millimeters. Tolerances are  $\pm 0.25$  mm unless otherwise note.  
 2. Pin tip's shift tolerance is  $\pm 0.4$  mm.

## INTERNAL CIRCUIT DIAGRAM



## PIN CONNECTION

No.	CONNECTION
1	ANODE COLUMN 1
2	CATHODE ROW 3
3	ANODE COLUMN 2
4	CATHODE ROW 5
5	CATHODE ROW 6
6	CATHODE ROW 7
7	ANODE COLUMN 4
8	ANODE COLUMN 5
9	CATHODE ROW 4
10	ANODE COLUMN 3
11	CATHODE ROW 2
12	CATHODE ROW 1

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## ABSOLUTE MAXIMUM RATING AT $T_A=25^{\circ}\text{C}$

PARAMETER	MAXIMUM RATING	UNIT
Average Power Dissipation Per dot	115	mW
Peak Forward Current Per dot	60	mA
Average Forward Current Per dot	30	mA
Derating Linear From $25^{\circ}\text{C}$ Per dot	0.33	$\text{mA}/^{\circ}\text{C}$
Reverse Voltage Per dot	5	V
Operating Temperature Range	$-35^{\circ}\text{C}$ to $+105^{\circ}\text{C}$	
Storage Temperature Range	$-35^{\circ}\text{C}$ to $+105^{\circ}\text{C}$	

Soldering Conditions: 1/16 inch below seating plane for 3 seconds at  $260^{\circ}\text{C}$  or  
of temperature unit (during assembly) not over max temperature rating above.

## ELECTRICAL / OPTICAL CHARACTERISTICS AT $T_A=25^{\circ}\text{C}$

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	$I_v$		4250		$\mu\text{cd}$	$I_F=80\text{mA}$ , 1/16Duty
Peak Emission Wavelength	$\lambda_p$		468		nm	$I_F=20\text{mA}$
Spectral Line Half-Width	$\Delta\lambda$		25		nm	$I_F=20\text{mA}$
Dominant Wavelength	$\lambda_d$		470		nm	$I_F=20\text{mA}$
Forward Voltage Per dot	$V_F$		3.3	3.7	V	$I_F=20\text{mA}$
Reverse Current Per dot	$I_R$			100	$\mu\text{A}$	$V_R=5\text{V}$
Luminous Intensity Matching Ratio (Similar Light Area)	$I_{v-m}$			2:1		$I_F=80\text{mA}$ , 1/16Duty

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)

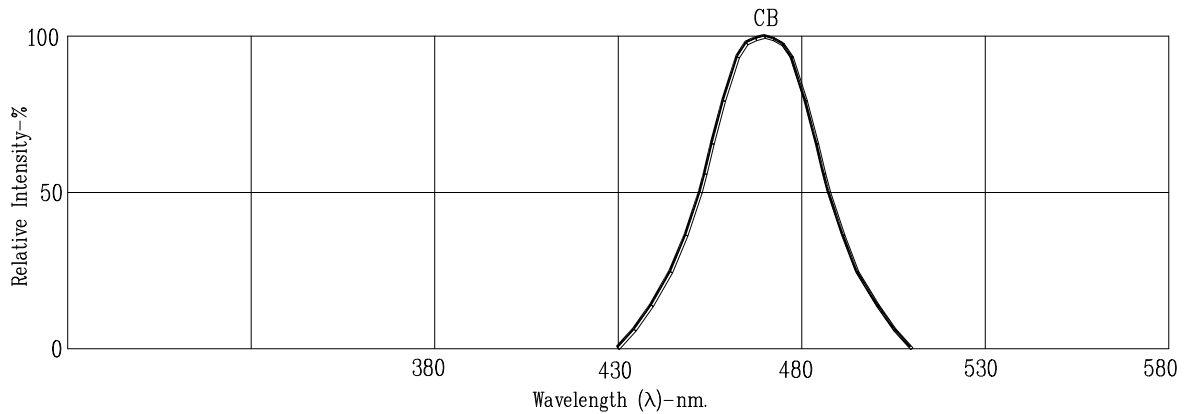


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

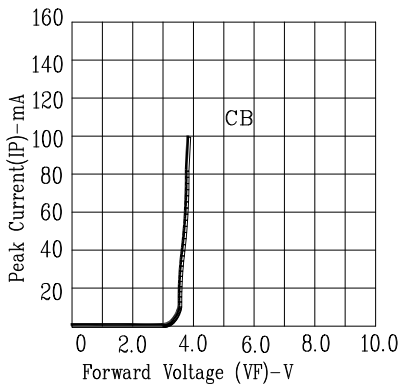


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

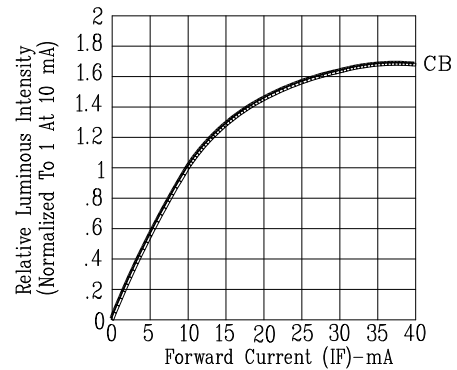


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

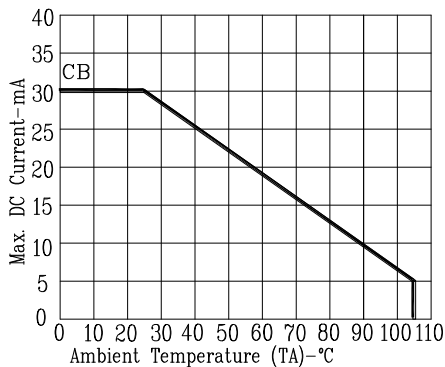


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

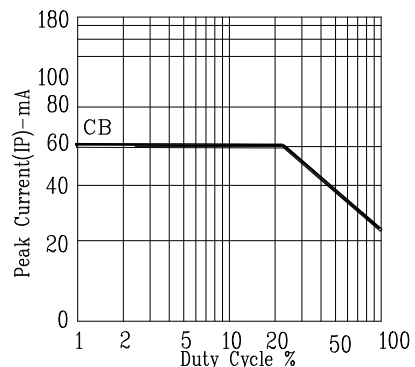


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: CB=InGaN Blue