LITEON®
OPTOELECTRONICS

LED Display

Product Data Sheet

LTP-757STB

Spec No.: DS30-2010-0087

Effective Date: 06/16/2010

Revision: A

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

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LED DISPLAY

LTP-757STB

DATA SHEET

Item	Description	By	DATE
1	RDR New Spec	Eason Lin	2010/04/14
2	1. Remove 2000V Human body mode. 2. Change to round pin	Eason Lin	2010/04/23
3	1. Delete Reverse Voltage Per Dice at absolute maximum rating. 2. Add Reverse voltage remark at electrical/ optical characteristics. 3. Add ESD caution in Absolute Maximum Rating.	Eason Lin	2010/06/08

FEATURES

∗0.7 inch (17.74 mm) MATRIX HEIGHT
∗LOW POWER REQUIREMENT
∗SINGLE PLANE, WIDE VIEWING ANGLE
∗SOLID STATE RELIABILITY
∗5x7 ARRAY WITH X-Y SELECT
∗COMPATIBLE WITH USASCII AND EBCDIC CODES
∗STACKABLE HORIZONTALLY
∗CATEGORIZED FOR LUMINOUS INTENSITY
∗**LEAD-FREE PACKAGE (ACCORDING TO ROHS)**
∗**InGaN BLUE CHIP LED .**

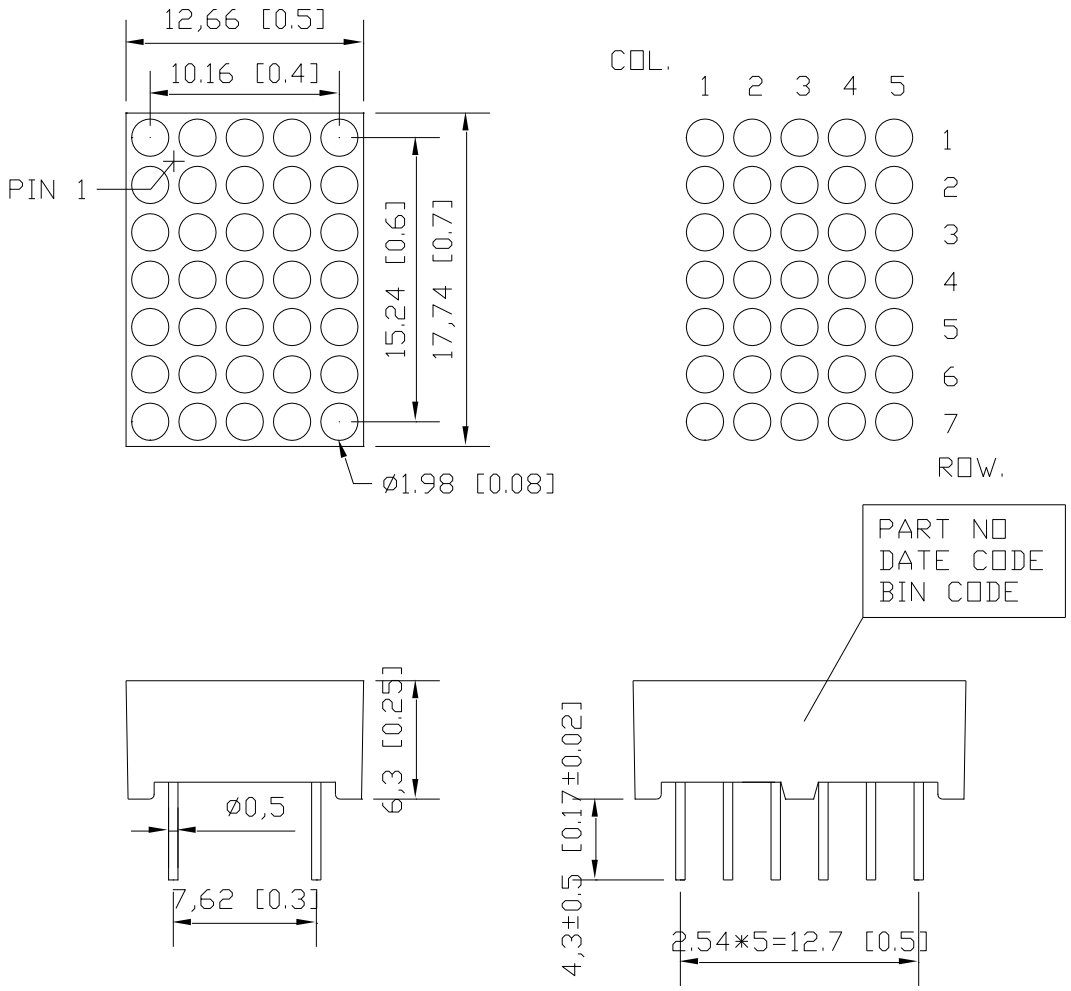
DESCRIPTION

The LTP-757STB is a 0.7 inch (17.74 mm) matrix height 5 x 7 dot matrix display.
This device uses InGaN blue LED LED chips (InGaN epi on a Sapphire substrate).
The display has gray face and white dots.

DEVICE

PART NO.	DESCRIPTION
InGaN Blue	Cathode Column
LTP-757STB	Anode Row

PACKAGE DIMENSIONS



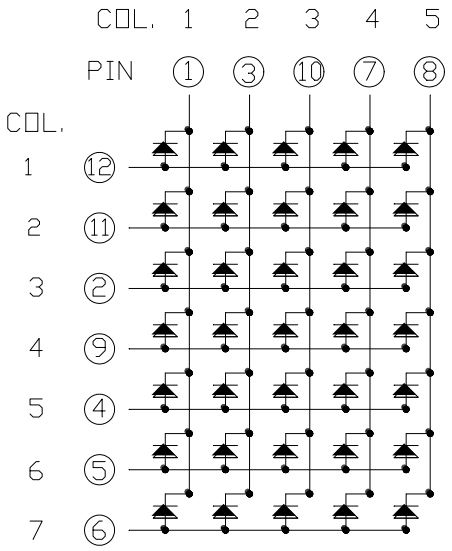
NOTES:

1).All dimensions are in millimeters.

2).Tolerances are ± 0.25 mm (0.01“) unless otherwise noted.

3). Pin tip’s shift tolerance is +/- 0.5 mm.

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

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

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per chip	70	mW
Peak Forward Current Per chip (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA
Continuous Forward Current Per chip Derating Linear From 25℃ Per chip	20 0.25	mA mA/℃
Operating Temperature Range	-35℃ to +85℃	
Storage Temperature Range	-35℃ to +85℃	

Note:
1. Static Electricity or power surge will damage the LED.
   Suggestions to prevent ESD damage:
   - Use of a conductive wrist band or anti-electrostatic glove when handling these LEDs.
   - All devices, equipment, and machinery must be properly grounded.
   - Work tables, storage racks, etc. should be properly grounded.
   - Use ion blower to neutralize the static charge which might have built up on surface of the LED's plastic lens as a result of friction between LEDs during storage and handling.
2. Solder Temperature: max 260℃ for max 5sec at 1.6mm[1/16inch] below seating plane.

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity Per chip	I_V	5400	13500		μcd	I_F=10mA
Peak Emission Wavelength Per chip	λp		468		nm	I_F=20mA
Spectral Line Half-Width Per chip	Δλ		25		nm	I_F=20mA
Dominant Wavelength	λd		470	475	nm	I_F=20mA
Forward Voltage Per chip	V_F		3.3	3.6	V	I_F=20mA
Reverse Current Per chip(2)	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. Reverse voltage is only for IR test. It can not continue to operate at this situation.

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

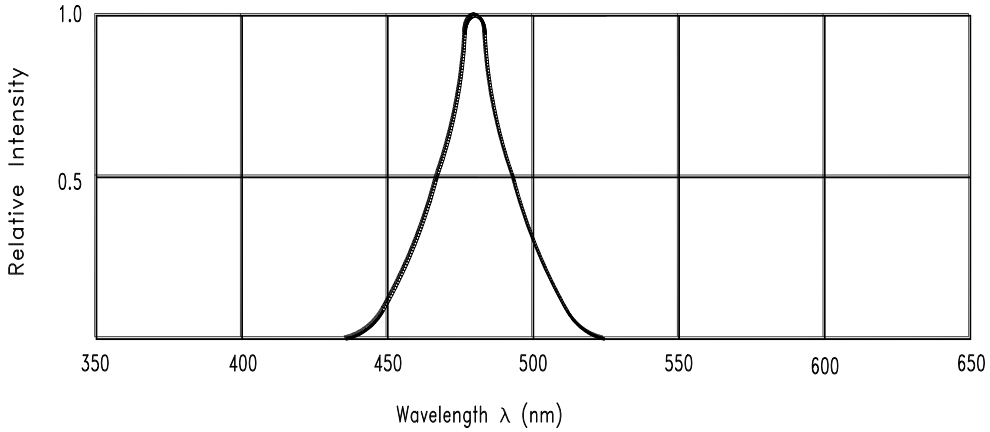


Fig.1 Relative Intensity vs. Wavelength

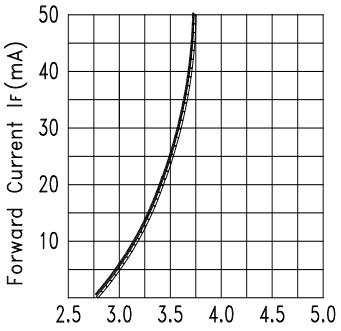


Fig.2 Forward Current vs. Forward Voltage

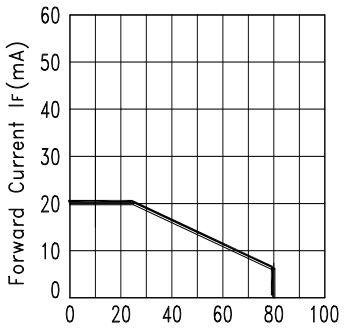


Fig.3 Forward Current Derating Curve

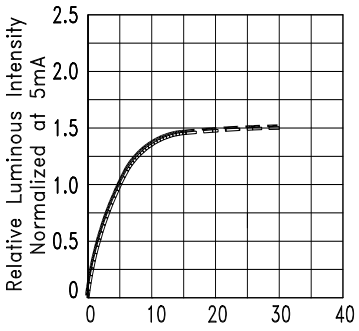


Fig.4 Relative Luminous Intensity vs. Forward Current

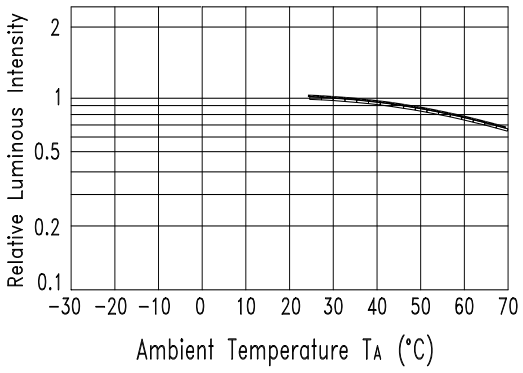


Fig.5 Luminous Intensity vs. Ambient Temperature

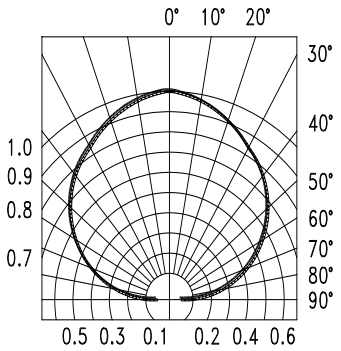


Fig.6 Spatial Distribution