LITEON
OPTOELECTRONICS

LED Display

Product Data Sheet

LTP-1557TBE

Spec No.: DS30-2010-0067

Effective Date: 06/16/2010

Revision: A

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

LED DISPLAY

LTP-1557TBE

DATA SHEET

Item	Description	By	DATE
1	RDR Original Spec	Eason Lin	2010/02/23
4	Delete Reverse Voltage Per Dice at absolute maximum rating. Add Reverse voltage remark at electrical/ optical characteristics.	Eason Lin	2010/06/08

FEATURES

∗1.2 inch (30.42 mm) MATRIX HEIGHT
∗LOW POWER REQUIREMENT
∗SINGLE PLANE, WIDE VIEWING ANGLE
∗SOLID STATE RELIABILITY
∗5×7 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 .**

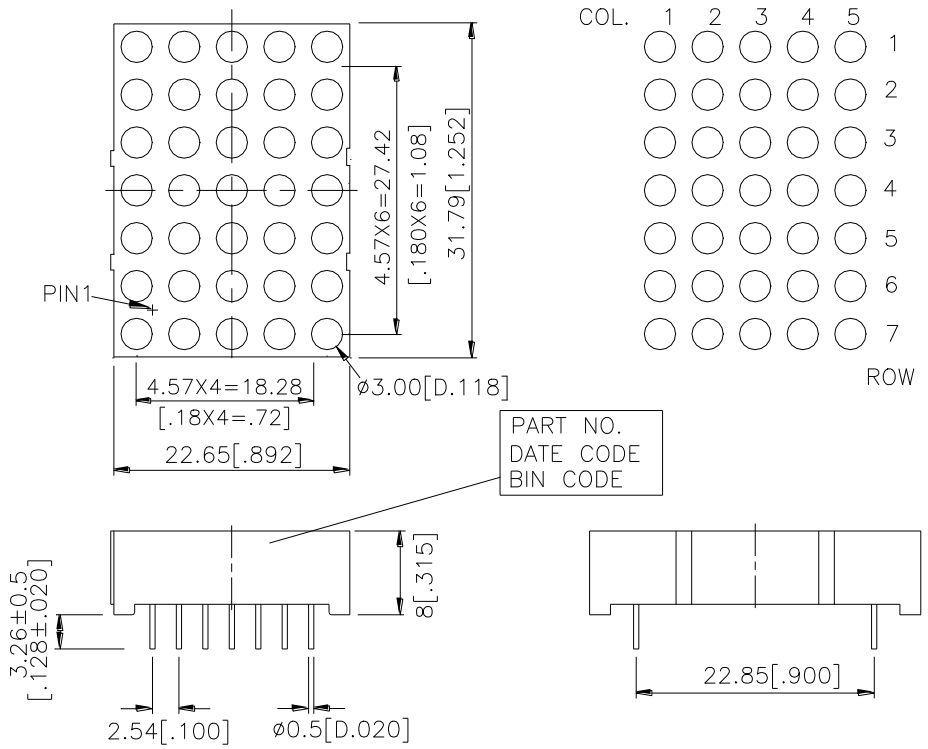
DESCRIPTION

The LTP-1557TBE is a 1.2 inch (30.42 mm) matrix height 5×7 dot matrix displays. This device uses Blue LED chips (InGaN epi on a Sapphire substrate). and the display has a gray face and white dot color.

DEVICE

PART NO.	DESCRIPTION
InGaN Blue	CATHODE COLUMN
LTP-1557TBE	ANODE ROW

PACKAGE DIMENSIONS



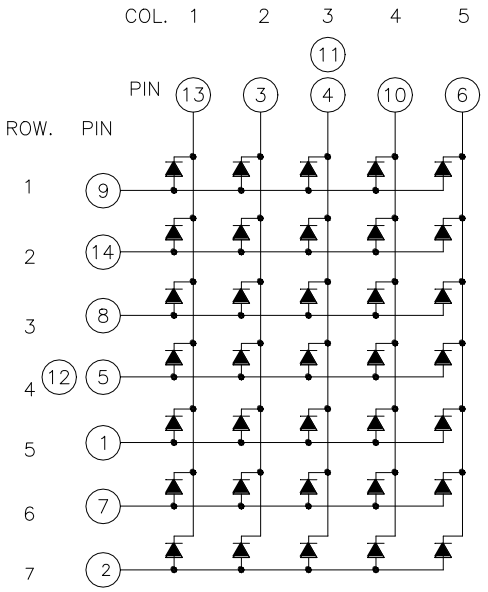
NOTES:

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	ANODE ROW 5
2	ANODE ROW 7
3	CATHODE COLUMN 2
4	CATHODE COLUMN 3
5	ANODE ROW 4
6	CATHODE COLUMN 5
7	ANODE ROW 6
8	ANODE ROW 3
9	ANODE ROW 1
10	CATHODE COLUMN 4
11	CATHODE COLUMN 3
12	ANODE ROW 4
13	CATHODE COLUMN 1
14	ANODE ROW 2

ABSOLUTE MAXIMUM RATING

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 0.21	mA mA/℃
Electrostatic Discharge Threshold(HBM)Note	2000	V
Operating Temperature Range	-35℃ to +85℃	
Storage Temperature Range	-35℃ to +85℃	
Solder Temperature: max 260℃ for max 5sec at 1.6mm[1/16inch] below seating plane.		

* HBM: Human Body Model. Seller gives no other assurances regarding the ability of product to withstand ESD.

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 any Dot Per chip	V_F		3.3	3.6	V	I_F=20mA
Reverse Current any Dot Per chip(2)	I_R			100	μA	V_R=5V
Luminous Intensity Matching Ratio (Same 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.

ESD (Electrostatic Discharge)

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.

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

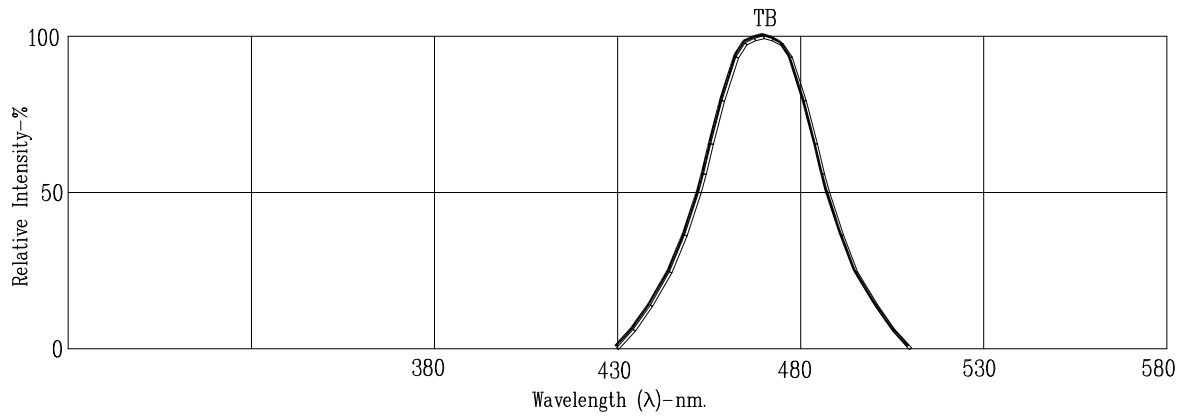


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

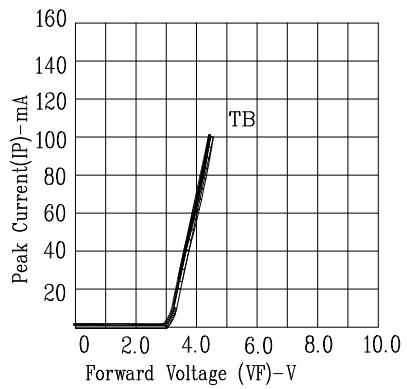


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

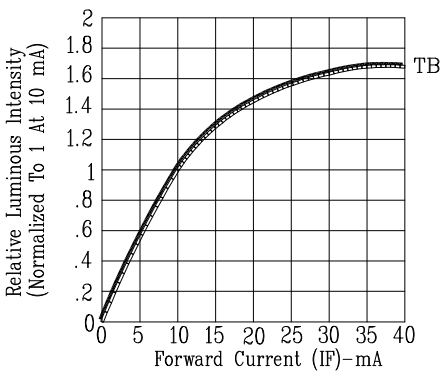


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

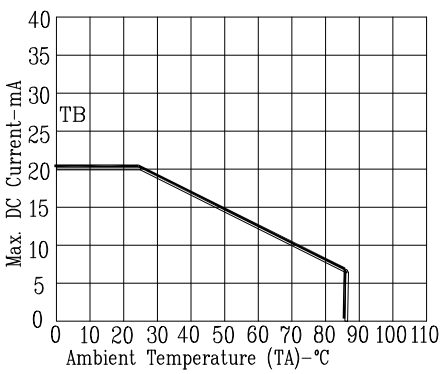


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

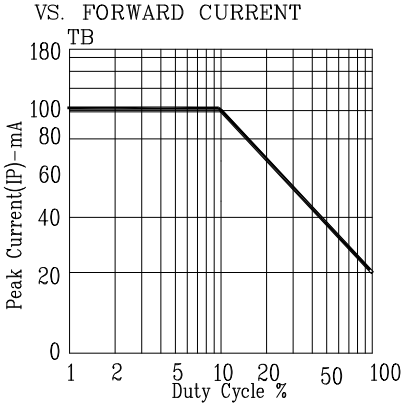


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: TB=InGaN/sapphire Blue