



LED Display

Product Data Sheet

LTS-3401TBE

Spec No.: DS30-2012-0110

Effective Date: 12/22/2012

Revision: B

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

LED DISPLAY**LTS-3401TBE**
DATA SHEET

ITEM	DESCRIPTION	ISSUER	DATE
1	New Spec.	Reo Lin	2012/04/06
2	Revised Dominant Wavelength in Page 6	Reo Lin	2012/12/07
3	Add the relative distance of Pin 2 to Reflector in Page 3	Reo Lin	2012/12/20

FEATURES

- * 0.8 inch (20.32 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)**

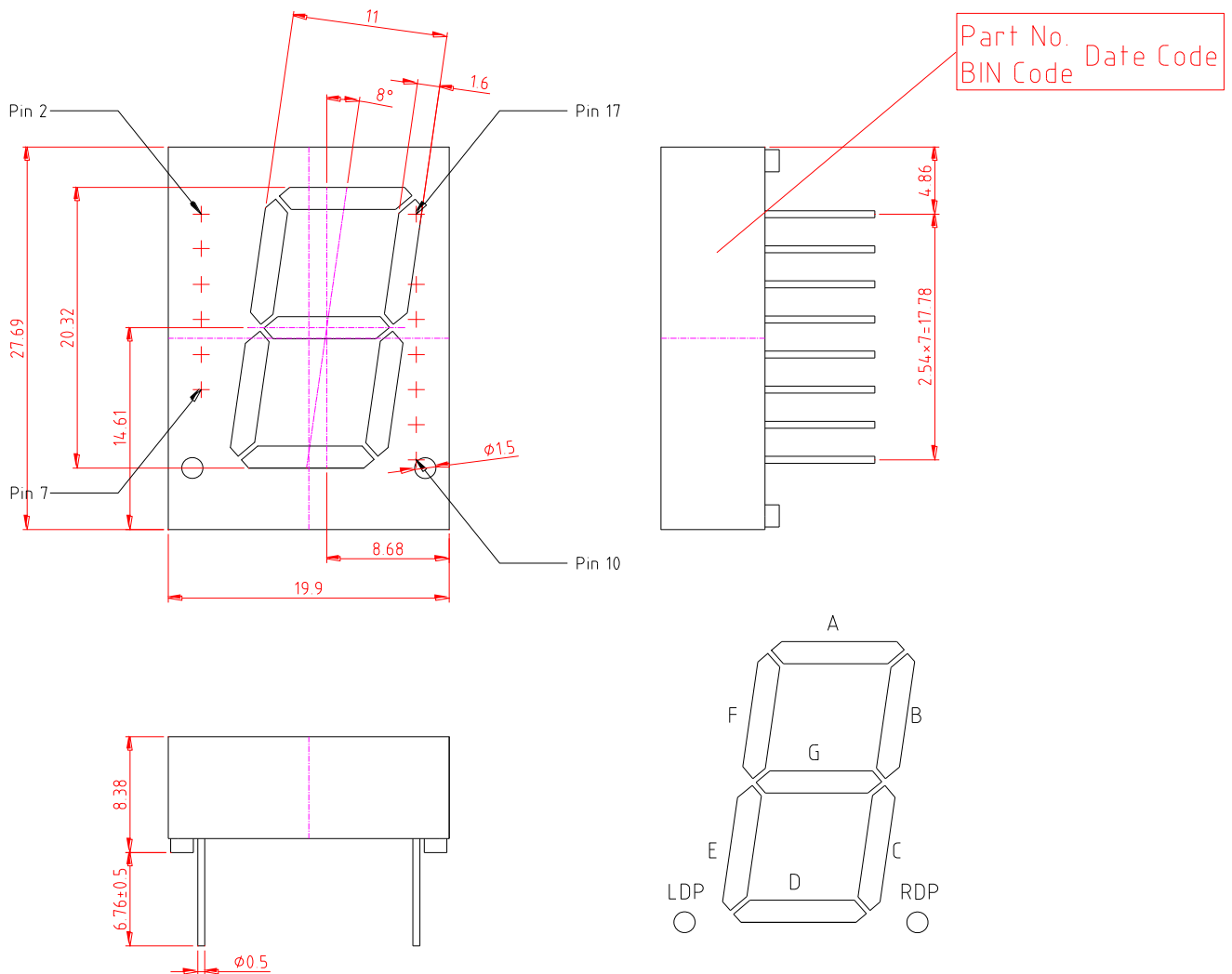
DESCRIPTION

The LTS-3401TBE is a 0.8 inch (20.32 mm) height digit display. This device utilizes Blue LED chips(InGaN epi on a Sapphire substrate), and have light gray face and white segment color.

This low current seven-segment display is designed to perform under low power consumption. It is tested and selected for it's excellent low current characteristics. It can be driven in low current condition and the segments are matched. This driving current as low as 1mA per segment is applicable.

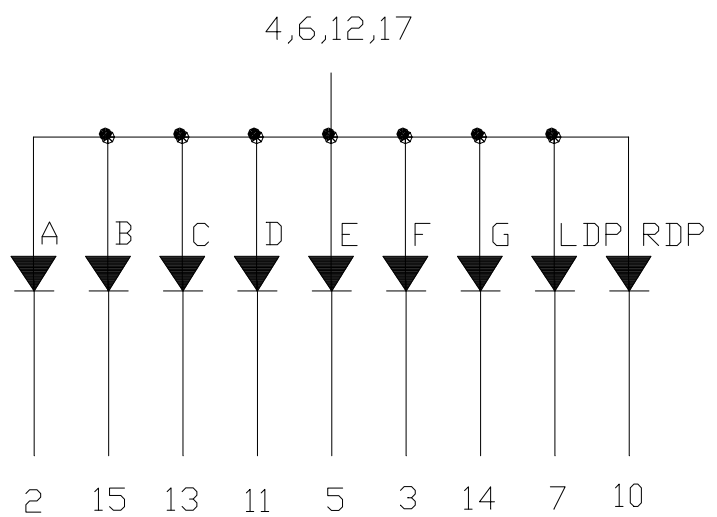
DEVICE

PART NO.	DESCRIPTION
InGaN Blue	Common Anode Rt. & Lt. Hand Decimal
LTS-3401TBE	

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 ≤ 10 mils
4. Ink contamination (surface) ≤ 20 mils
5. Bending $\leq 1\%$ of reflector length
6. Bubble in segment ≤ 10 mils
7. Recommend the best pcb hole : diameter 1mm

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

No.	CONNECTION
1	NO PIN
2	CATHODE A
3	CATHODE F
4	COMMON ANODE
5	CATHODE E
6	COMMON ANODE
7	CATHODE L.D.P
8	NO PIN
9	NO PIN
10	CATHODE R.D.P
11	CATHODE D
12	COMMON ANODE
13	CATHODE C
14	CATHODE G
15	CATHODE B
16	NO PIN
17	COMMON ANODE
18	NO PIN

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	70	mW
Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA
Continuous Forward Current Per Segment	20	mA
Derating Linear From 25°C Per Segment	0.25	mA/°C
Operating Temperature Range	-35°C to +85°C	
Storage Temperature Range	-35°C to +85°C	
Solder Temperature: max 260°C for max 3sec 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	I _v	6.4	10		mcd	I _F =10mA
Peak Emission Wavelength	λ _p		468		nm	I _F =20mA
Spectral Line Half-Width	Δλ		25		nm	I _F =20mA
Dominant Wavelength	λ _d		470		nm	I _F =20mA
Forward Voltage Per Segment	V _F		3.3	3.8	V	I _F =20mA
Reverse Current Per Segment ⁽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.

3. Cross talk specification ≤ 2.5%



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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 for N/D as a result of friction between LEDs during storage and handling.

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

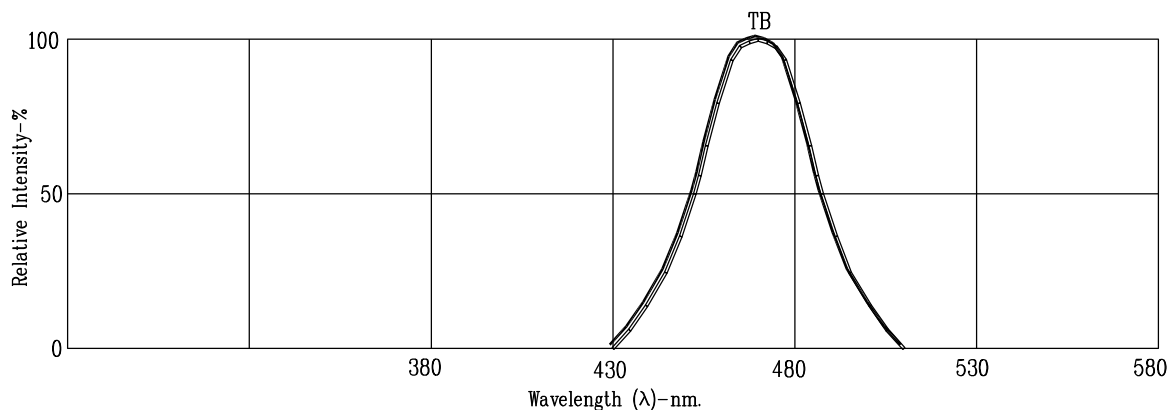


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

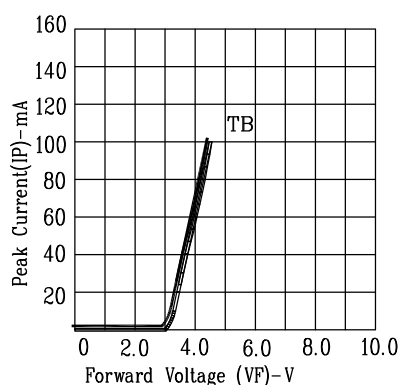


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

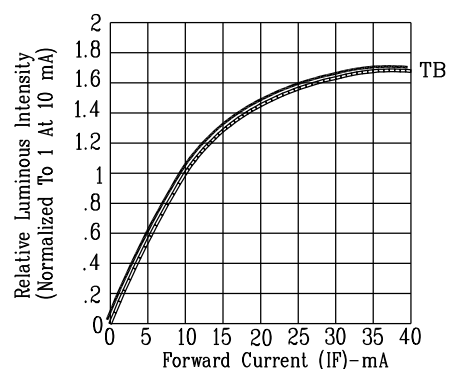


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

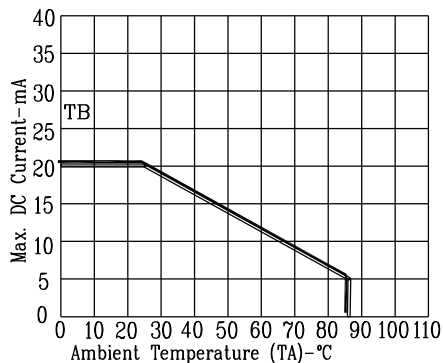


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

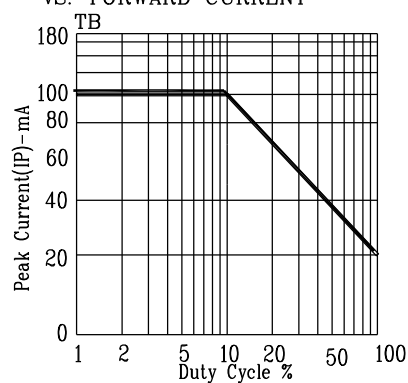


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: TB=InGaN/sapphire Blue