# LTG-0632TBZ
# DATA SHEET

| Item | Description | By | DATE |
|---|---|---|---|
| 01 | RDR original spec | Lucas | 2009/11/23 |
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## FEATURES

* 0.66 inch (16.8 mm) DIGIT HEIGHT
* CONTINUOUS UNIFORM SEGMENTS
* LOW POWER REQUIREMENT
* EXCELLENT CHARACTERS APPEARANE
* HIGH BRIGHTNESS & HIGH CONTRAST
* WIDE VIEWING ANGLE
* SOLID STATE RELIABILITY
* LEAD-FREE PACKAGE (ACCORDING TO ROHS)
* InGaN BLUE CHIP LED WITH A ZENER DIODE.

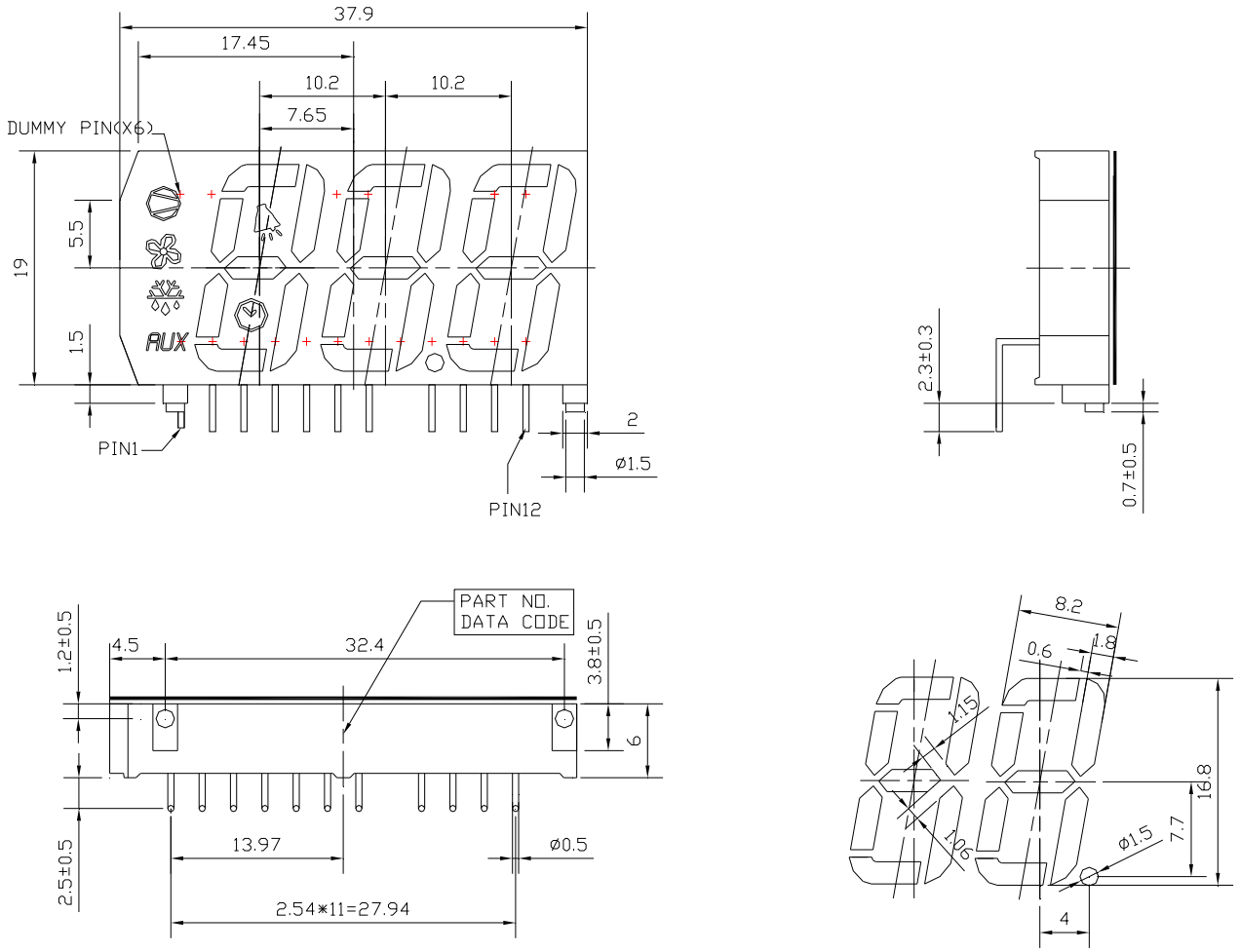
## DESCRIPTION

The LTG-0632TBZ is a 0.66 inch (16.8 mm) digit height triple digit seven-segment display with some icons. The device uses blue LED chips (InGaN epi on a Sapphire substrate). The device has a black face and white segments.

## DEVICE

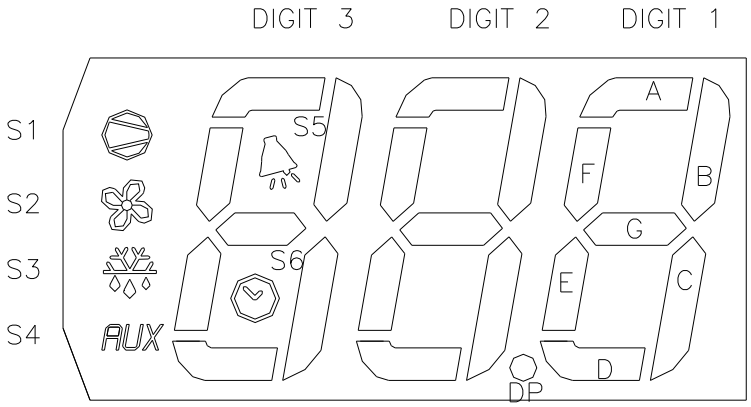
| PART NO. | DESCRIPTION |
|---|---|
| InGaN blue | ANODE COLUMN |
| LTG-0632TBZ | CATHODE ROW |

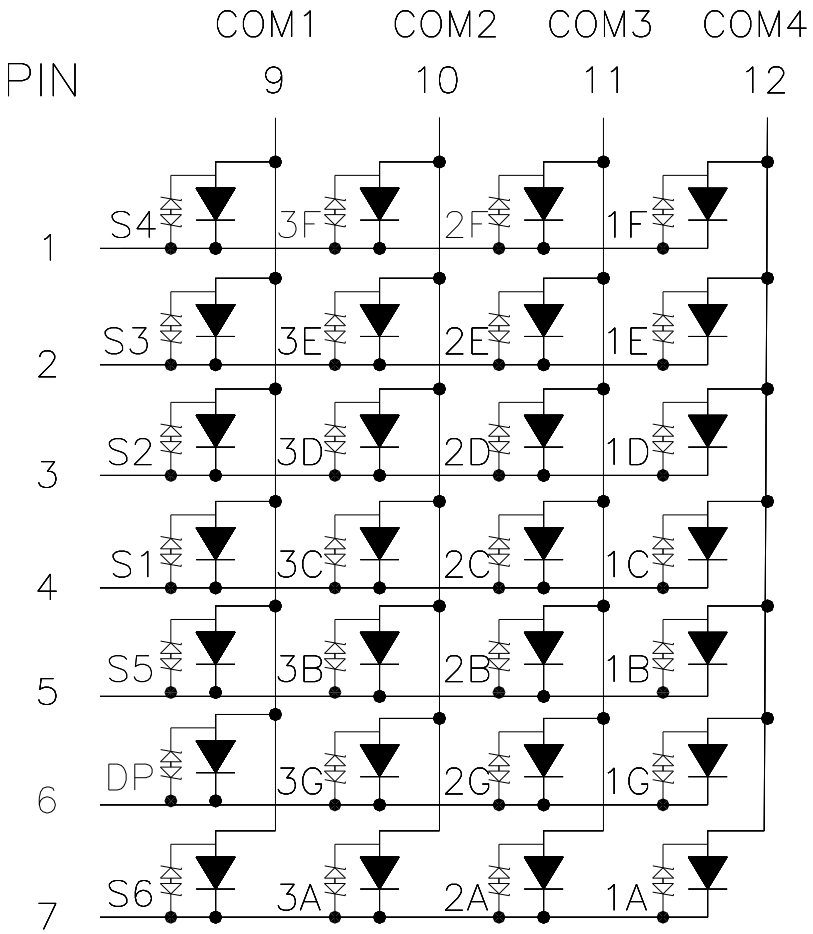
## PACKAGE DIMENSIONS




NOTES: 1.All dimensions are in millimeters. Tolerances are ± 0.25 mm unless otherwise noted.

## INTERNAL CIRCUIT DIAGRAM




The sign  is stand for zener diode.

The sign  is stand for InGaN blue chip (λd=470mm).

## PIN CONNECTION

| No. | CONNECTION |
|---|---|
| 1 | COMMON CATHODE S4,3F,2F,1F |
| 2 | COMMON CATHODE S3,3E,2E,1E |
| 3 | COMMON CATHODE S2,3D,2D,1D |
| 4 | COMMON CATHODE S1,3C,2C,1C |
| 5 | COMMON CATHODE S5,3B,2B,1B |
| 6 | COMMON CATHODE DP,3G,2G,1G |
| 7 | COMMON CATHODE S6,3A,2A,1A |
| 8 | NP |
| 9 | COMMON ANODE COM1 |
| 10 | COMMON ANODE COM2 |
| 11 | COMMON ANODE COM3 |
| 12 | COMMON ANODE COM4 |

## ABSOLUTE MAXIMUM RATING (LED+Zener)

| PARAMETER | MAXIMUM RATING | UNIT |
|---|---|---|
| Power Dissipation Per Segment | 70 | mW |
| Peak Forward Current Per Segment<br>( 1/10 Duty Cycle, 0.1ms Pulse Width ) | 100 | mA |
| Continuous Forward Current Per Segment<br>Derating Linear From 25℃ Per Segment | 20<br>0.21 | mA<br>mA/℃ |
| Reverse Voltage Per Segment | 5 | V |
| Electrostatic Discharge Threshold(HBM)Note | 8000 | V |
| Operating Temperature Range | -35℃ to +85℃ | |
| Storage Temperature Range | -35℃ to +85℃ | |
| Solder Conditions: 1/16 inch below seating plane for 3 seconds at 260℃,or temperature of unit (during assembly) not over max. temperature rating above | | |

## ELECTRICAL/OPTICAL CHARACTERISTICS AT Ta=25°C(LED+Zener)

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|---|---|---|---|---|---|---|
| Average Luminous Intensity | $I_V$ | 6400 | 10500 | | μcd | $I_F$=10mA |
| Peak Emission Wavelength | λp | | 468 | | nm | $I_F$=20mA |
| Spectral Line Half-Width | Δλ | | 25 | | nm | $I_F$=20mA |
| Dominant Wavelength | λd | | 470 | 475 | nm | $I_F$=20mA |
| Forward Voltage Per Segment | $V_F$ | | 3.3 | 3.6 | V | $I_F$=20mA |
| 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)

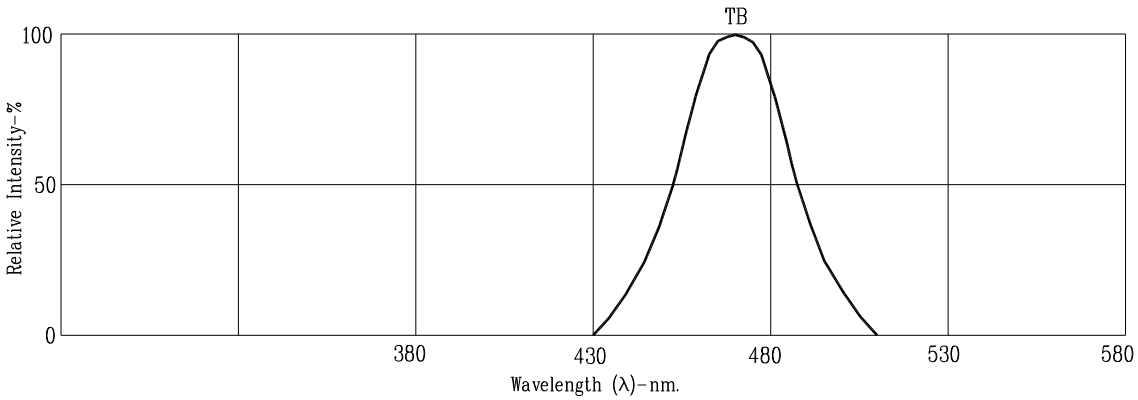



Fig1. RELATIVE INTENSITY VS. WAVELENGTH

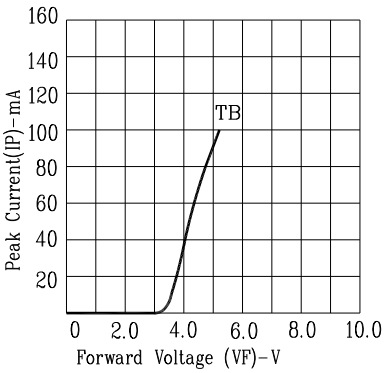



Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

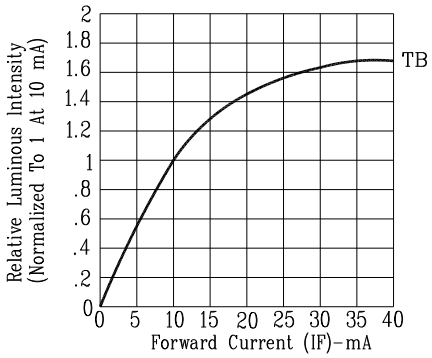



Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

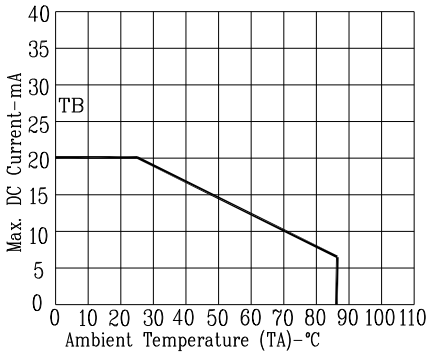



Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

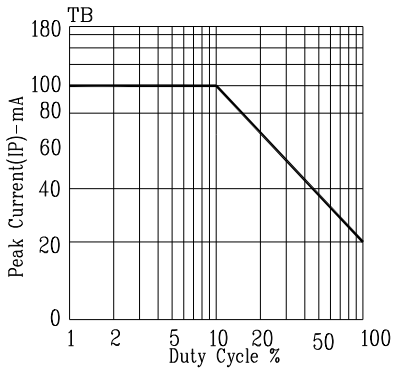



Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: TB=InGaN/sapphire Blue