



# LED Display Product Data Sheet LTS-50802A

Spec No.: DS-30-98-251

Effective Date: 04/21/2000

Revision: -

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4

**FEATURES**

- \* 5 INCH (127.0 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.

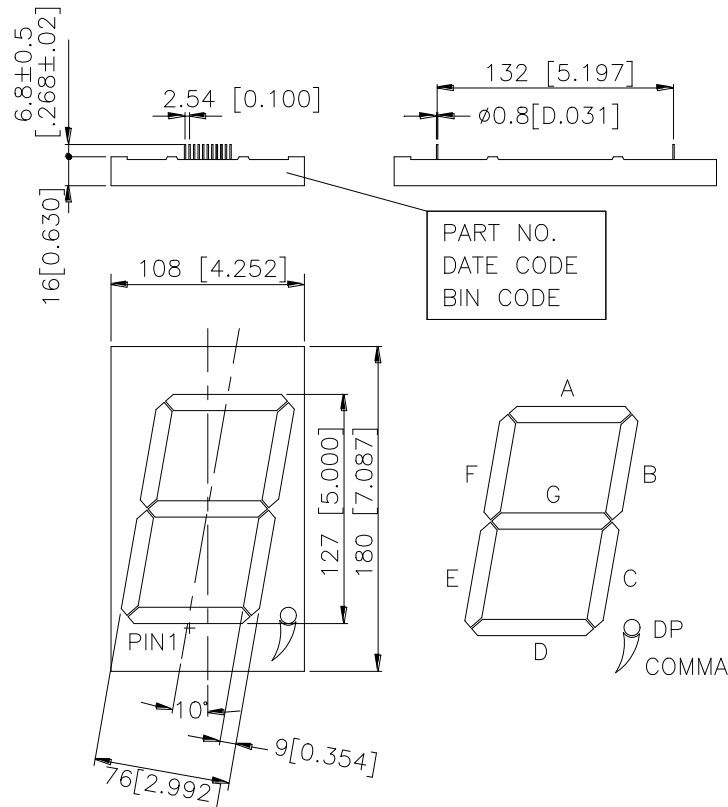
**DESCRIPTION**

The LTS-50802A is a 5-inch (127.0-mm) digit height single digit seven-segment display. This device are multi-color display, and has a black face and white segments.

**DEVICE**

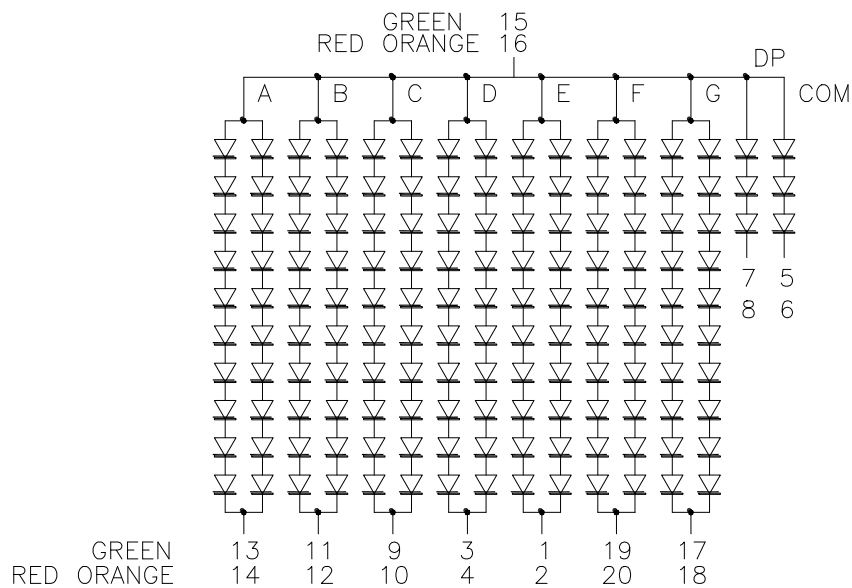
<b>PART NO.</b>	<b>DESCRIPTION</b>
MULTI-COLOR	Common Anode
LTS-50802A	

## PACKAGE DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerance is  $\pm 0.25$ -mm (0.01") unless otherwise noted.

## INTERNAL CIRCUIT DIAGRAM



**PIN CONNECTION**

No.	CONNECTION	No.	CONNECTION
1	CATHODE E GREEN	11	CATHODE B GREEN
2	CATHODE E RED ORANGE	12	CATHODE B RED ORANGE
3	CATHODE D GREEN	13	CATHODE A GREEN
4	CATHODE D RED ORANGE	14	CATHODE A RED ORANGE
5	CATHODE COMMA GREEN	15	ANODE COMMON GREEN
6	CATHODE COMMA RED ORANGE	16	ANODE COMMON RED ORANGE
7	CATHODE DP. GREEN	17	CATHODE G GREEN
8	CATHODE DP. RED ORANGE	18	CATHODE G RED ORANGE
9	CATHODE C GREEN	19	CATHODE F GREEN
10	CATHODE C RED ORANGE	20	CATHODE F RED ORANGE

**ABSOLUTE MAXIMUM RATING AT Ta=25°C**

PARAMETER	GREEN	ORED RANGE	UNIT
Power Dissipation Per Segment	900	900	mW
Peak Forward Current Per Segment ( 1/10 Duty Cycle, 0.1ms Pulse Width )	160	160	mA
Continuous Forward Current Per Segment	40	40	mA
Derating Linear From 25 <sup>0</sup> C Per Segment	0.48	0.48	mA/ <sup>0</sup> C
Reverse Voltage Per Segment	50	50	V
Operating Temperature Range	-35 <sup>0</sup> C to +85 <sup>0</sup> C		
Storage Temperature Range	-35 <sup>0</sup> C to +85 <sup>0</sup> C		
Solder Temperature 1/16 inch Below Seating Plane for 3 Seconds at 260 <sup>0</sup> C			

**ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C****GREEN**

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	13	40		mcd	I <sub>F</sub> =20mA
Peak Emission Wavelength	λ <sub>p</sub>		565		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		30		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		569		nm	I <sub>F</sub> =20mA
Forward Voltage Per Segment	V <sub>F</sub>		21 (6.3)	26 (7.8)	V	I <sub>F</sub> =40mA
Reverse Current Per Segment	I <sub>R</sub>			200	μA	V <sub>R</sub> =50V
Luminous Intensity Matching Ratio	I <sub>v</sub> -m			2:1		I <sub>F</sub> =10mA

**RED ORANGE**

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	13	40		mcd	I <sub>F</sub> =20mA
Peak Emission Wavelength	λ <sub>p</sub>		630		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		40		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		621		nm	I <sub>F</sub> =20mA
Forward Voltage Per Segment	V <sub>F</sub>		20 (6.0)	26 (7.8)	V	I <sub>F</sub> =40mA
Reverse Current Per Segment	I <sub>R</sub>			200	μA	V <sub>R</sub> =50V
Luminous Intensity Matching Ratio	I <sub>v</sub> -m			2:1		I <sub>F</sub> =10mA

Note: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (commision internationale DE L'clariage) eye-response curve.

**TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES**

(25°C Ambient Temperature Unless Otherwise Noted)

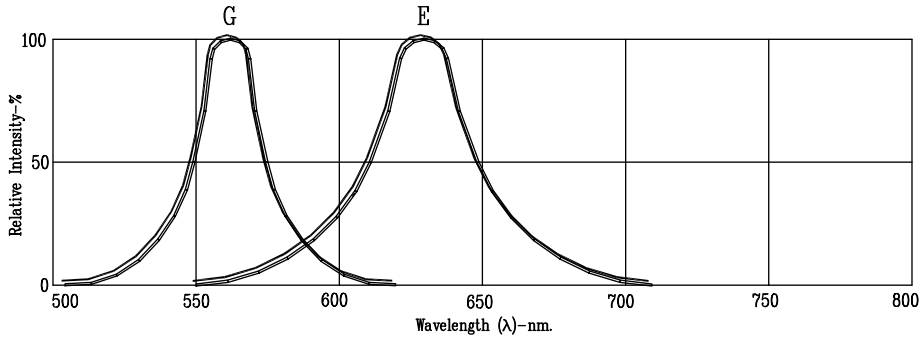


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

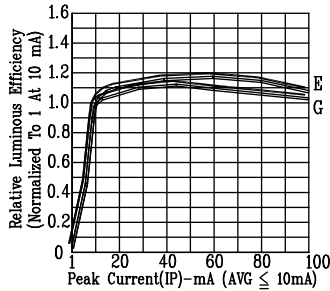


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

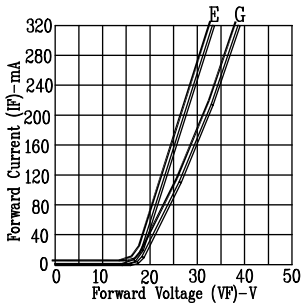


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

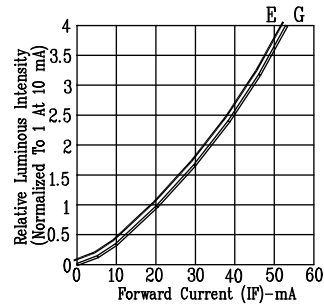


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

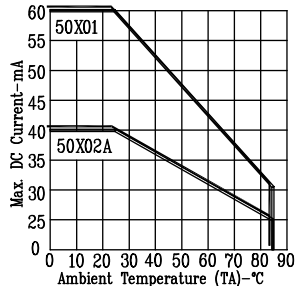


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

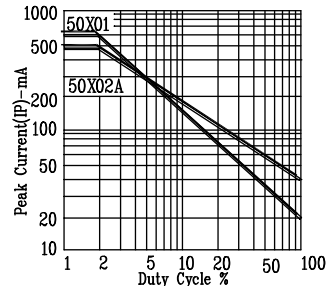


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN E=RED ORANGE