LITEON®
OPTOELECTRONICS

LED Display

Product Data Sheet

LTS-30302A

Spec No.: DS30-2000-292

Effective Date: 10/07/2000

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

LITE-ON Technology Corp. / Optoelectronics
No.90,Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C.
Tel: 886-2-2222-6181 Fax: 886-2-2221-1948 / 886-2-2221-0660
http://www.liteon.com/opto

FEATURES

∗3 inch (76.2 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.

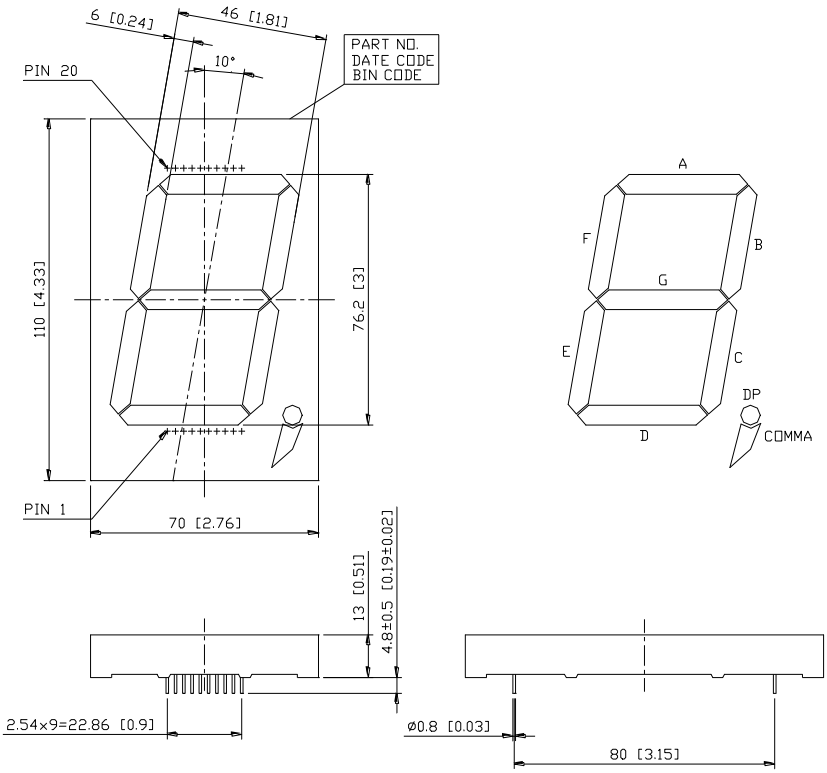
DESCRIPTION

The LTS-30302A is a 3 inch (76.2 mm) digit height single digit seven-segment display. This device utilizes red orange and green LED chips, The red orange LED chips are made from GaAsP on a transparent GaP substrate, The green LED chips are made from GaP on a transparent GaP substrate and has a black face and white segments.

DEVICE

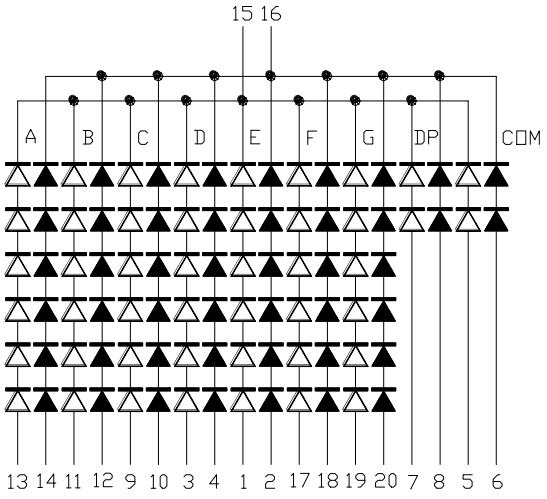
PART NO.	DESCRIPTION
MULTI COLOR	Common Cathode Rt. Hand Decimal
LTS-30302A	

PACKAGE DIMENSIONS



NOTES: All dimensions are in millimeters. Tolerance are ± 0.25-mm (0.01“) unless otherwise noted.

INTERNAL CIRCUIT DIAGRAM



NOTES: 1. The sign" ▲ "stands for RED ORANGE color chip.

2. The sign" ▽ "stands for GREEN color chip.

PIN CONNECTION

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

ABSOLUTE MAXIMUM RATING AT Ta=25℃

PARAMETER	GREEN	RED ORANGE	UNIT
Power Dissipation Per Segment	330(120)	330(120)	mW
Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width)	80	80	mA
Continuous Forward Current Per Segment	20	20	mA
Derating Linear From 25^0C Per Segment	0.24	0.24	mA/^{0}C
Reverse Voltage Per Segment	30(10)	30(10)	V
Operating Temperature Range	-35^0C to $+85^0$C		
Storage Temperature Range	-35^0C to $+85^0$C		
Solder Temperature: max 260℃ for max 3sec at 1.6mm[1/16inch] below seating plane.			

ELECTRICAL / OPTICAL CHARACTERISTICS AT T_A=25°C

GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	5000	18000		μcd	I_F=10mA
Peak Emission Wavelength	λp		565		nm	I_F=20mA
Spectral Line Half-Width	Δλ		30		nm	I_F=20mA
Dominant Wavelength	λd		569		nm	I_F=20mA
Forward Voltage Per Segment	V_F		12.6 (4.2)	15.6 (5.2)	V	I_F=20mA
Reverse Current Per Segment	I_R			100	μA	V_R=30(10)V
Luminous Intensity Matching Ratio	I_V-m			2:1		I_F=10mA

RED ORANGE

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	5000	18000		μcd	I_F=10mA
Peak Emission Wavelength	λp		630		nm	I_F=20mA
Spectral Line Half-Width	Δλ		40		nm	I_F=20mA
Dominant Wavelength	λd		621		nm	I_F=20mA
Forward Voltage Per Segment	V_F		12 (4)	15.6 (5.2)	V	I_F=20mA
Reverse Current Per Segment	I_R			100	μA	V_R=30(10)V
Luminous Intensity Matching Ratio	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'Eclariage) eye-response curve.

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

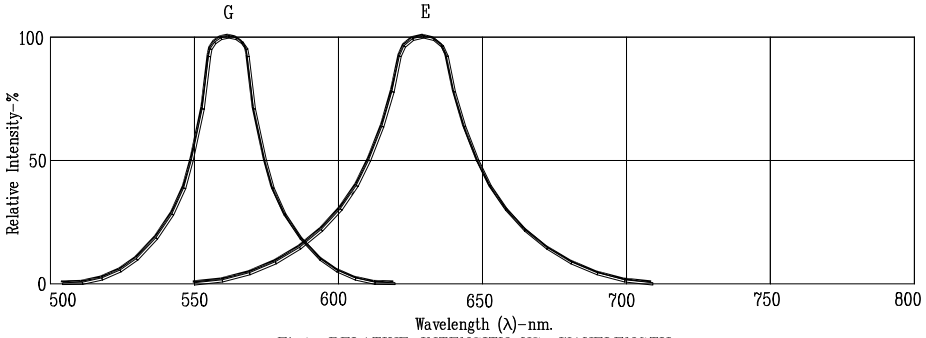


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

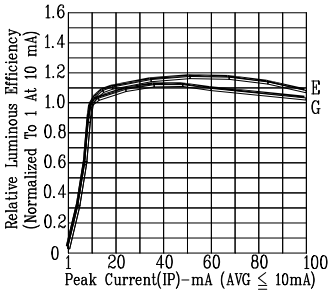


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

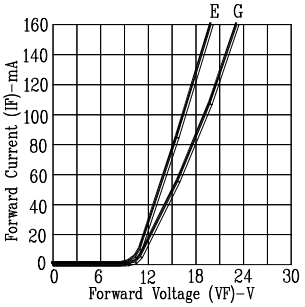


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

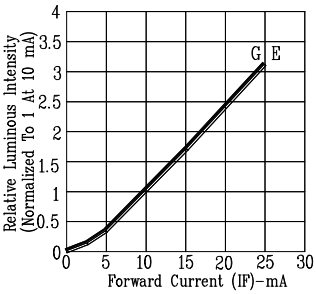


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

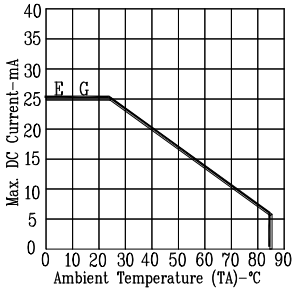


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

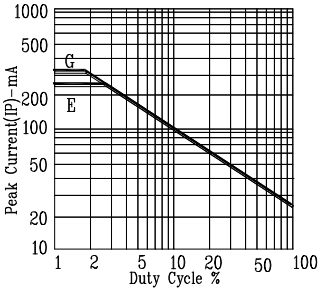


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: E=RED ORANGE G=GREEN