LITEON®
OPTOELECTRONICS

LED Display

Product Data Sheet

LTA-15202M

Spec No.: DS-30-97-103

Effective Date: 06/17/2000

Revision: A

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

∗RECTANGULAR LIGHT BAR.
∗LARGE, BRIGHT, UNIFORM LIGHT EMITTING AREAS.
∗LOW POWER REQUIREMENT.
∗HIGH BRIGHTNESS & HIGH CONTRAST.
∗SOLID STATE RELIABILITY.

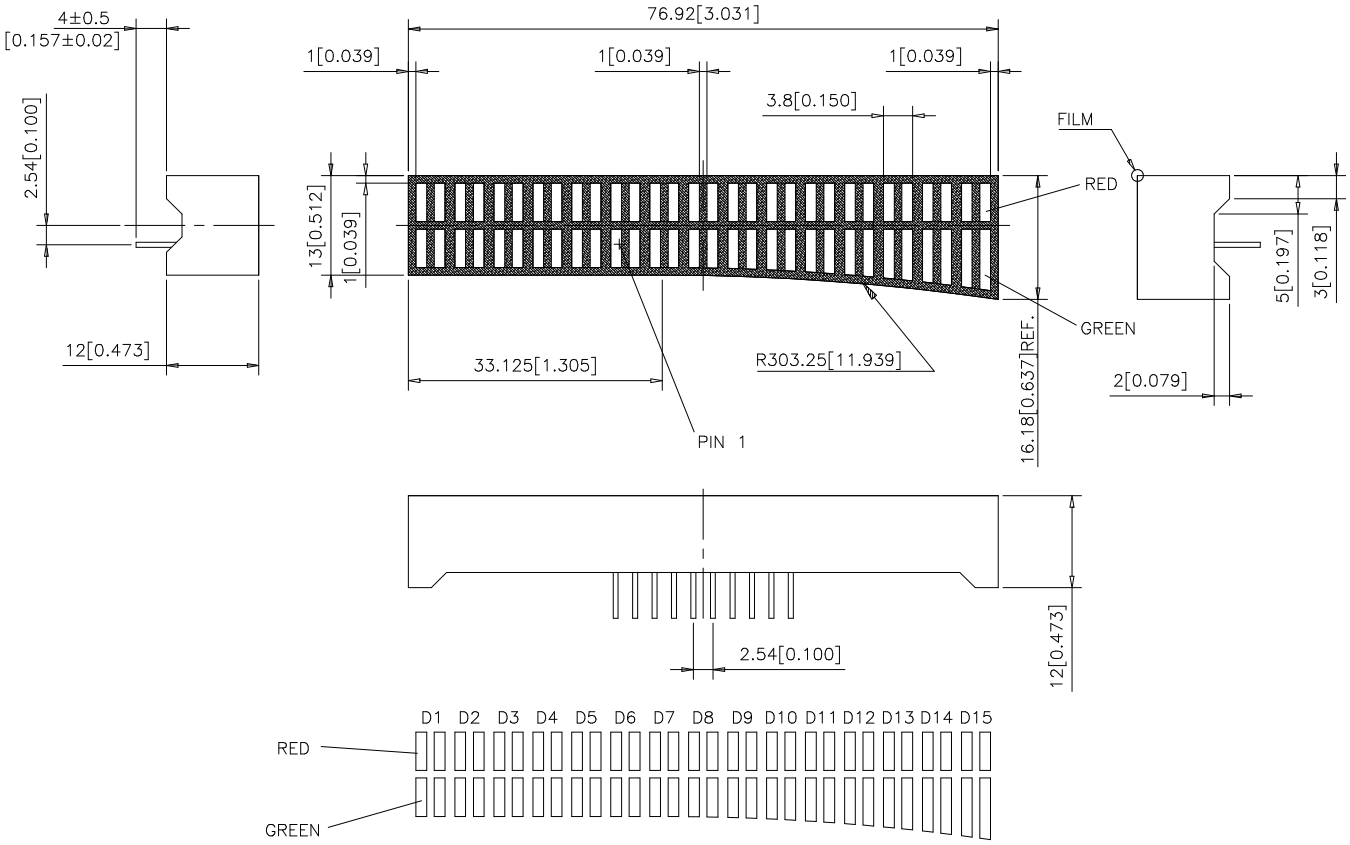
DESCRIPTION

The LTA-15202M is a eleven rectangular light sources array display. This device utilizes high efficiency green LED chips, which are made from GaP on a transparent GaP substrate, This device utilizes AlGaAs red LED chips, which are made from AlGaAs on a non-transparent GaAs substrate, and has a black face and white segments.

DEVICE

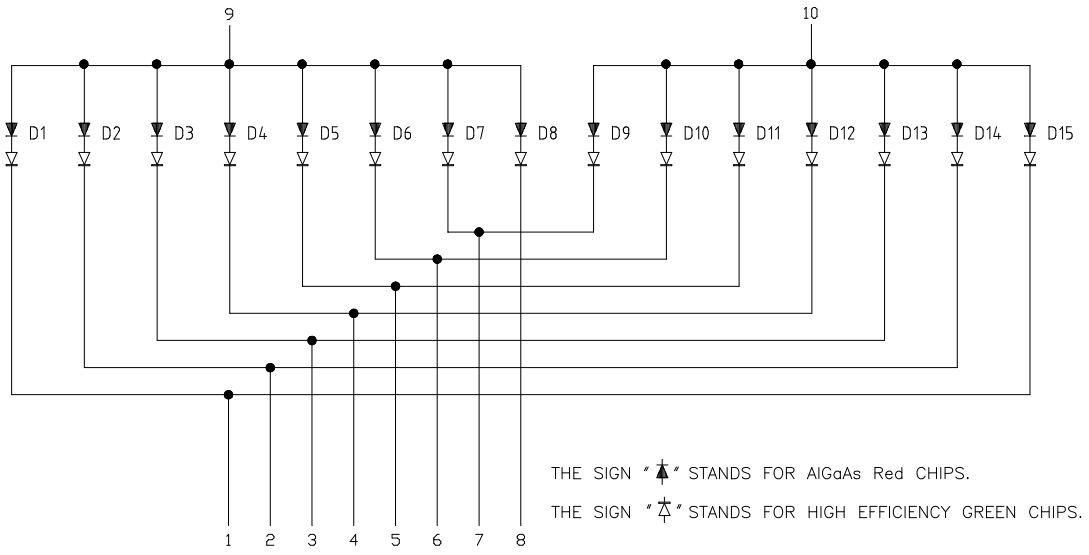
PART NO.	DESCRIPTION
HI-EFF. Green & AlGaAs Red	Duplex Common Anode
LTA-15202M	

PACKAGE DIMENSIONS



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

INTERNAL CIRCUIT DIAGRAM



PIN CONNECTION

NO.	CONNECTION
1	CATHODE D1,D15
2	CATHODE D2,D14
3	CATHODE D3,D13
4	CATHODE D4,D12
5	CATHODE D5,D11
6	CATHODE D6,D10
7	CATHODE D7,D9
8	CATHODE D8
9	ANODE D1~D8
10	ANODE D9~D15

ABSOLUTE MAXIMUM RATING AT Ta=25°C

HI-EFF. GREEN

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	75	mW
Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA
Continuous Forward Current Per Segment Derating Linear From 25℃ Per Segment	25 0.33	mA mA/℃
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35℃ to +85℃	
Storage Temperature Range	-35℃ to +85℃	
Solder Temperature: max 260℃ for max 3sec at 1.6mm below seating plane.		

AlGaAs Red

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	75	mW
Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width)	125	mA
Continuous Forward Current Per Segment Derating Linear From 25℃ Per Segment	30 0.4	mA mA/℃
Reverse Voltage Per Segment	5	V
Operating Temperature Range	-35℃ to +85℃	
Storage Temperature Range	-35℃ to +85℃	
Solder Temperature: max 260℃ for max 3sec at 1.6mm below seating plane.		

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

HI-EFF. GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	320	800		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		2.1	2.6	V	I_F=20mA
Reverse Current Per Segment	I_R			100	μA	V_R=5V
Luminous Intensity Matching Ratio	I_V-m			2:1		I_F=10mA

AlGaAs Red

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_V	500	1360		μcd	I_F=10mA
Peak Emission Wavelength	λp		660		nm	I_F=20mA
Spectral Line Half-Width	Δλ		35		nm	I_F=20mA
Dominant Wavelength	λd		638		nm	I_F=20mA
Forward Voltage Per Segment	V_F		2.1	2.6	V	I_F=20mA
Reverse Current Per Segment	I_R			100	μA	V_R=5V
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'Eclairage) eye-response curve.

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

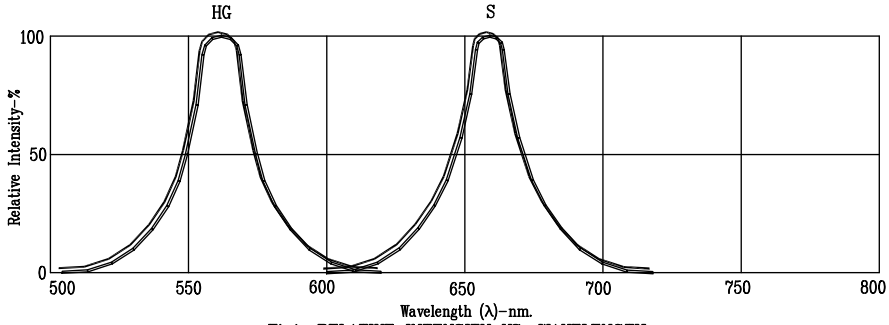


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

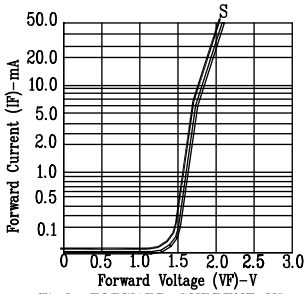


Fig2. FORWARD CURRENT VS. FORWARD VOLTAGE

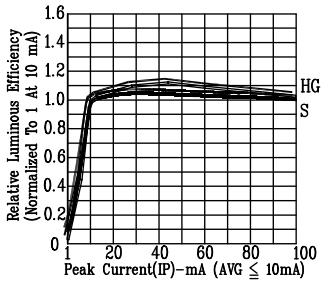


Fig3. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

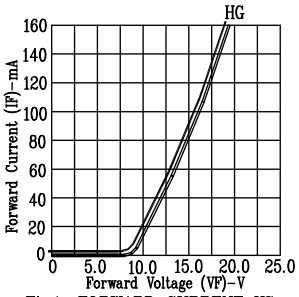


Fig4. FORWARD CURRENT VS. FORWARD VOLTAGE

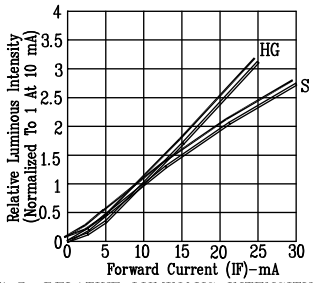


Fig5. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

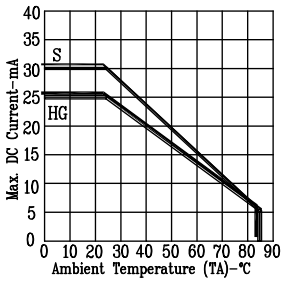


Fig6. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

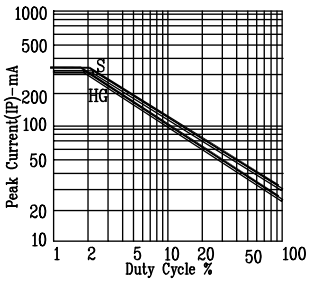


Fig7. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: SR=AlGaAs Red HG=HI-EFF. GREEN