LITEON®
OPTOELECTRONICS

LED Display

Product Data Sheet

LTG-1163M

Spec No.: DS30-2011-0177

Effective Date: 10/12/2011

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

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LED DISPLAY

LTG-1163M
DATA SHEET

ITEM	DESCRIPTION	ISSUER	DATE
1	New spec	Erin Cheng	07/11/2011
2	Add Iv data and modify pin	Erin Cheng	07/15/2011
3	Modify REF	Erin Cheng	09/20/2011

FEATURES

- ∗0.32 inch (8.14 mm) DIGIT HEIGHT
- ∗CONTINUOUS UNIFORM SEGMENTS
- ∗LOW POWER REQUIREMENT
- ∗EXCELLENT CHARACTERS APPEARANCE
- ∗HIGH BRIGHTNESS & HIGH CONTRAST
- ∗WIDE VIEWING ANGLE
- ∗SOLID STATE RELIABILITY
- ∗**LEAD-FREE PACKAGE(ACCORDING TO ROHS)**

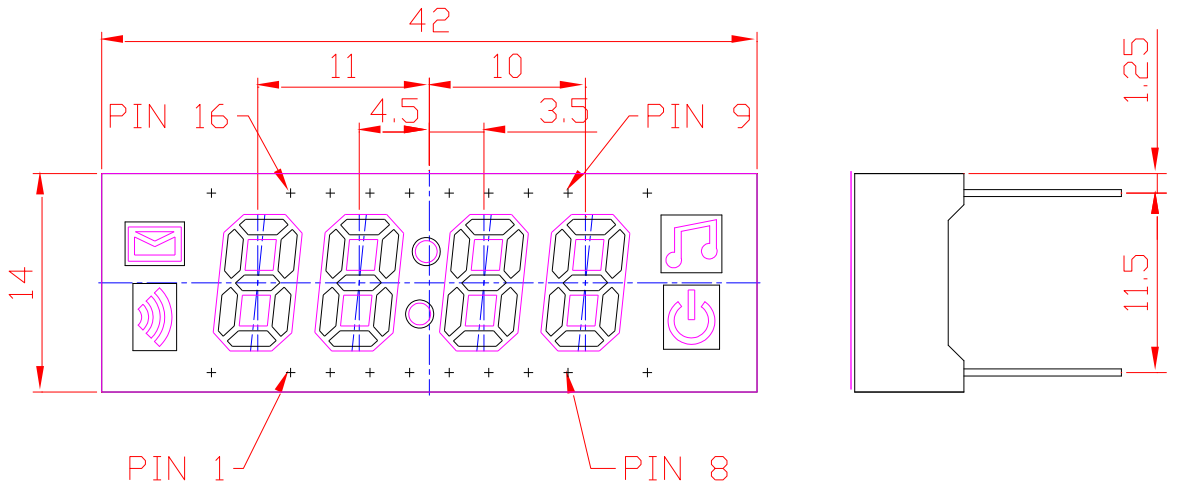
DESCRIPTION

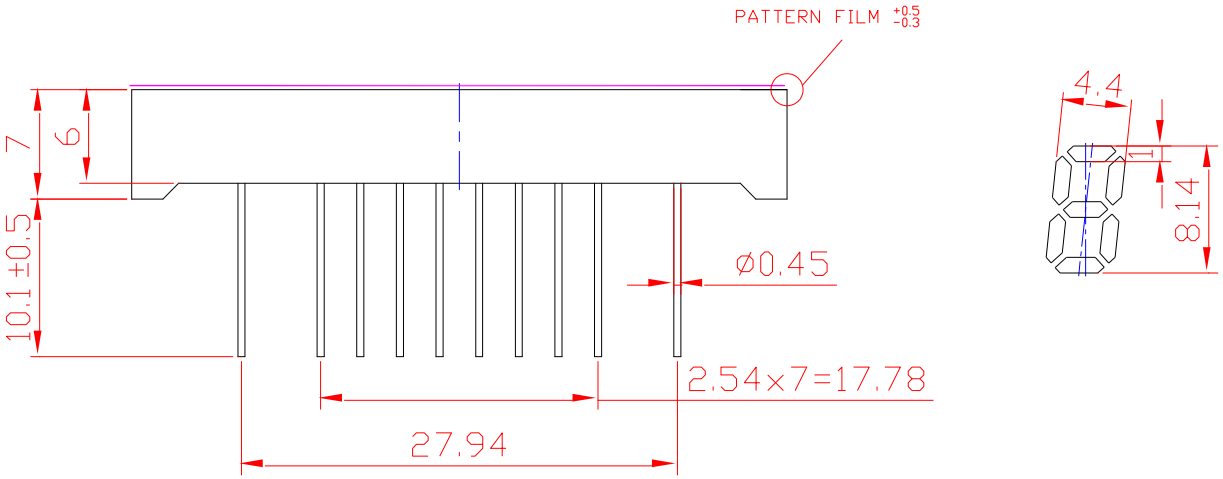
The LTG-1163M is a 0.32 inch (8.14 mm) height multiplex digit seven-segment with several icon graphics display. This device uses AS-AlInGaP SUPER RED LED chips (AlInGaP epi on GaAs substrate), and AS-AlInGaP YELLOW chips (AlInGaP epi on GaAs substrate). The display is covered with black pattern film and white segments.

DEVICE

PART NO.	DESCRIPTION
MULIT-COLOR	COMMON ANODE
LTG-1163M	

PACKAGE DIMENSIONS

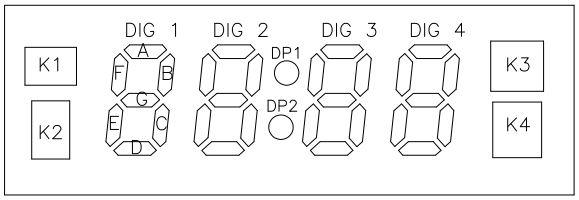


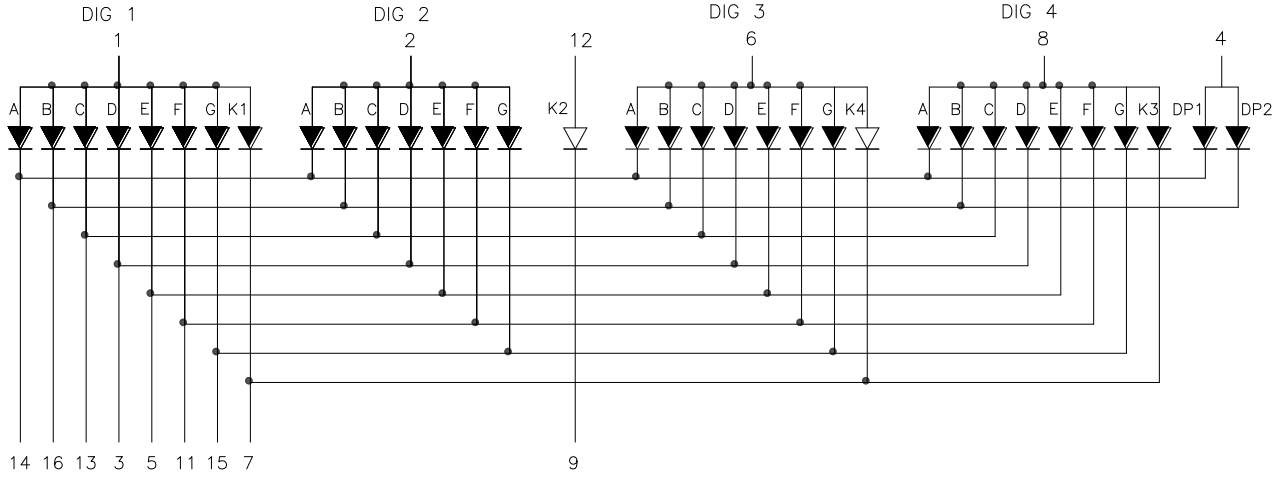


TAPE

NOTES: 1.All dimensions are in millimeters. Tolerances are :± 0.25 mm unless otherwise noted.
2. Pin tip's shift tolerance is +/- 0.4 mm.

INTERNAL CIRCUIT DIAGRAM





PIN 10 no connection

THE SING" ▽ " IS STANDARD FOR AlInGaP SUPER RED CHIP (λD:631nm)

THE SING" ▼ " IS STANDARD FOR AlInGaP YEELOW CHIP (λD:587nm)

PIN CON NECTION

NO	CONNECTION
1	COMMON ANODE DIG1,K1
2	COMMON ANODE DIG2
3	CATHODE D
4	COMMON ANODE DP1,DP2
5	CATHODE E
6	COMMON ANODE DIG3,K4
7	CATHODE K1,K4,K3
8	COMMON ANODE DIG4,K3
9	CATHODE K2
10	NO CONNECTION
11	CATHODE F
12	ANODE K2
13	CATHODE C
14	CATHODE A
15	CATHODE G
16	CATHODE B

ABSOLUTE MAXIMUM RATINGS

PARAMETER	RED	YELLOW	UNIT
Power Dissipation Per Segment	70	70	mW
Peak Forward Current Per Segment (Frequency 1Khz, 10% duty cycle)	90	60	mA
Continuous Forward Current Per Segment	25	25	mA
Forward Current Derating from 25^0C	0.33	0.33	mA/^{0}C
Operating Temperature Range	-35^{0}C to +85^{0}C		
Storage Temperature Range	-35^{0}C to +85^{0}C		
Solder Conditions: 1/16 inch below seating plane for 5seconds at 260^{0}C,or temperature of unit (during assembly) not over max. temperature rating above			

ELECTRICAL/OPTICAL CHARACTERISTICS AT Ta=25 ^{o}C

RED

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity Per Icon	I_V		12675		μcd	I_F=10mA
Peak Emission Wavelength	λp		639		nm	I_F=20mA
Spectral Line Half-Width	Δλ		20		nm	I_F=20mA
Dominant Wavelength	λd		631		nm	I_F=20mA
Forward Voltage Per Segment	V_F		2	2.6	V	I_F=20mA
Reverse Current Per Segment* NOTE 2	I_R			100	μA	V_R=5V
Luminous Intensity Matching Ratio (Similar Light Area)	I_V-m			2:1		I_F=10mA

YELLOW

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity Per Segment	I_V		16900		μcd	I_F=10mA
Peak Emission Wavelength	λp		588		nm	I_F=20mA
Spectral Line Half-Width	Δλ		15		nm	I_F=20mA
Dominant Wavelength	λd		587		nm	I_F=20mA
Forward Voltage Per Segment	V_F		2.05	2.6	V	I_F=20mA
Reverse Current Per Segment* NOTE 2	I_R			100	μA	V_R=5V
Luminous Intensity Matching Ratio (Similar Light Area)	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.

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

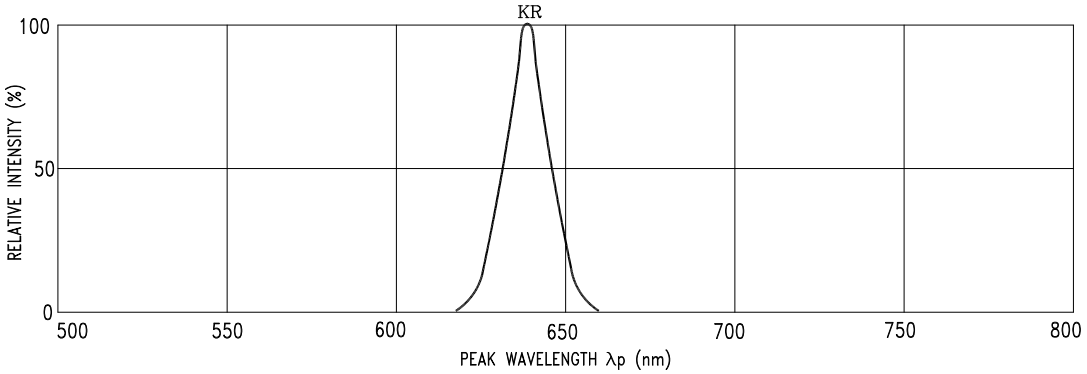


Fig1.Spectral Emission

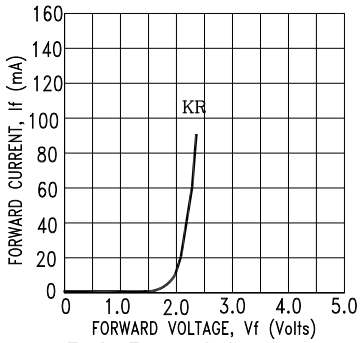


Fig2. Forward Current vs. Forward Voltage

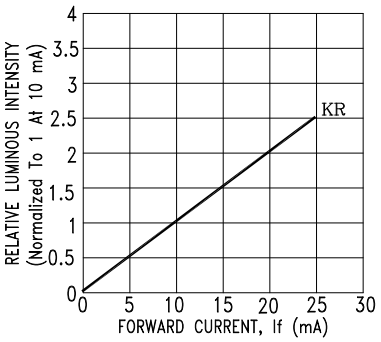


Fig3. Relative Luminous Intensity vs. DC Forward Current

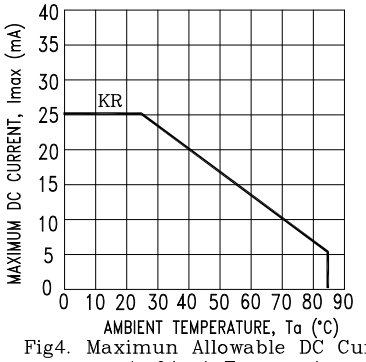


Fig4. Maximun Allowable DC Current vs. Ambient Temperature

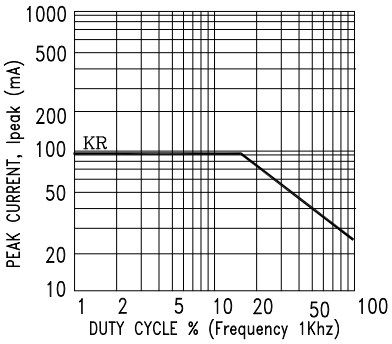


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE : KR= AlInGaP SUPER RED

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

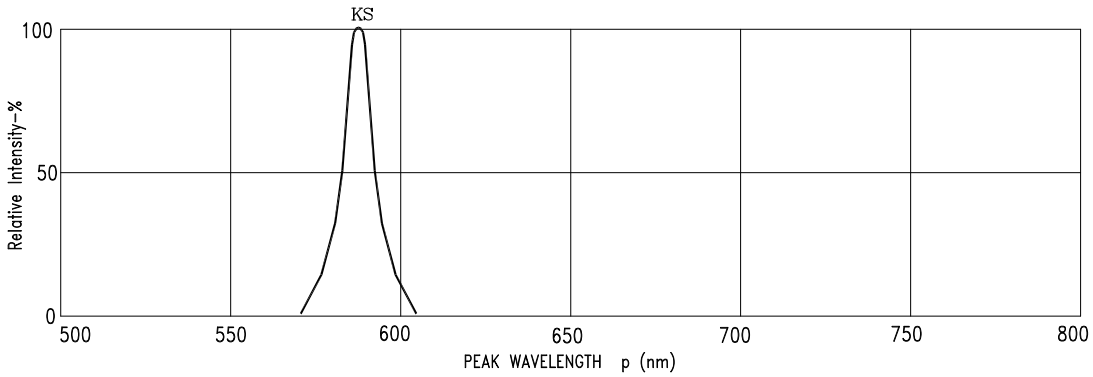


Fig1.Spectral Emission

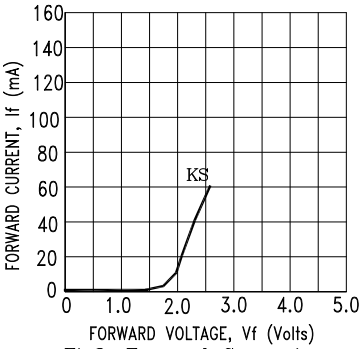
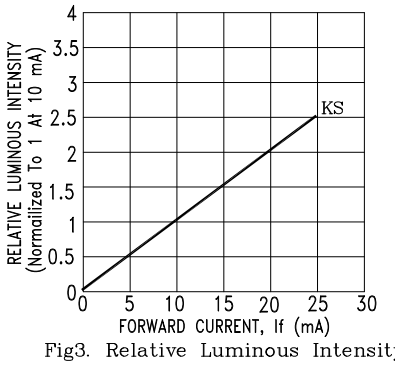


Fig2. Forward Current vs. Forward Voltage



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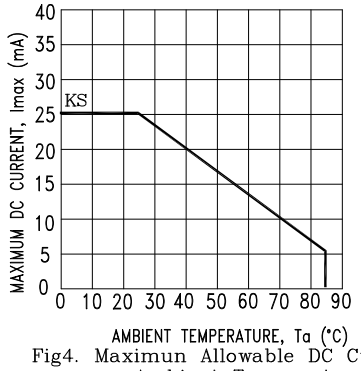

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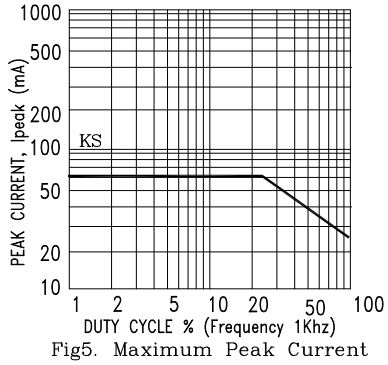

Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE : KS=AlInGaP YELLOW