

FEATURES

- * 0.43INCH (10.5mm) DIGIT HEIGHT
- * CONTINUOUS UNIFORM SEGMENTS
- * LOW POWER REQUIREMENT
- * EXCELLENT CHARACTERS APPEARANCE
- * HIGH BRIGHTNESS & HIGH CONTRAST
- * WIDE VIEWING ANGLE
- * SOLID STATE RELIABILITY

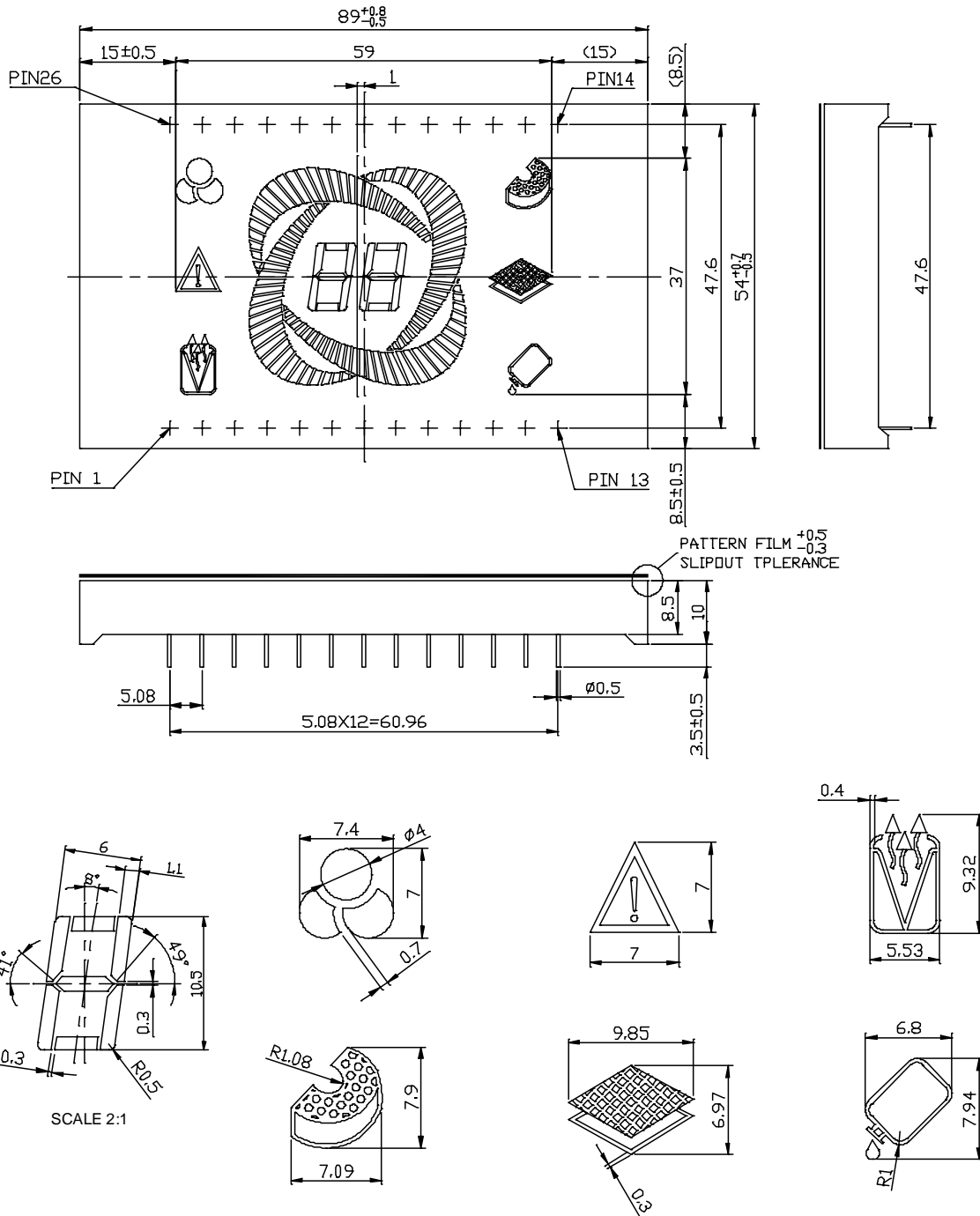
DESCRIPTION

The LTG-0125M is a 0.43inch (10.5mm) digit height seven-segment display. The device is a multi-color applicable display. The amber and red orange LED chips, which are made from GaAsP on a transparent GaP substrate. The green LED chips, which are made from GaP on a transparent GaP substrate. This device has a black face and white segments with pattern tape.

DEVICE

PART NO.	DESCRIPTION
MULTI-COLOR	Multiplex Common Cathode
LTG-0125M	

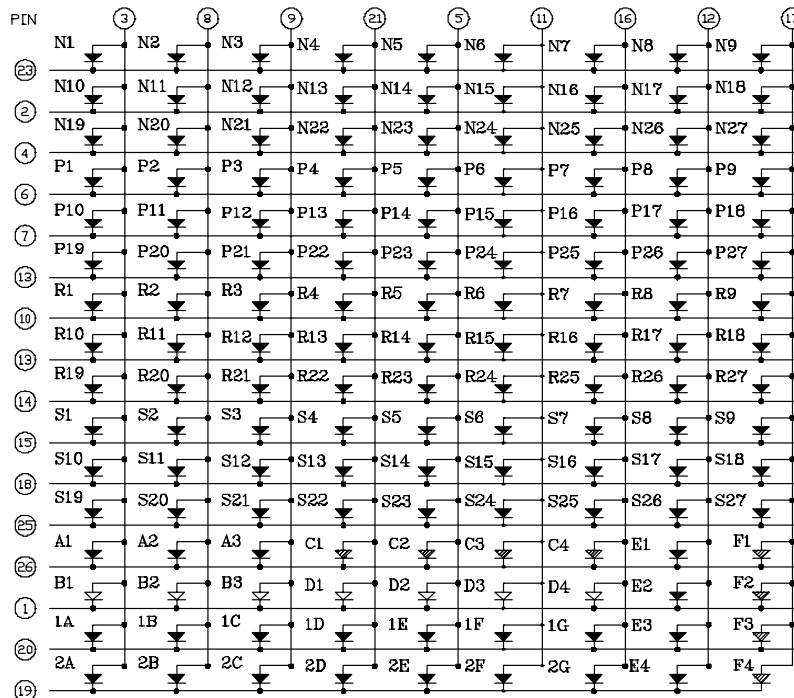
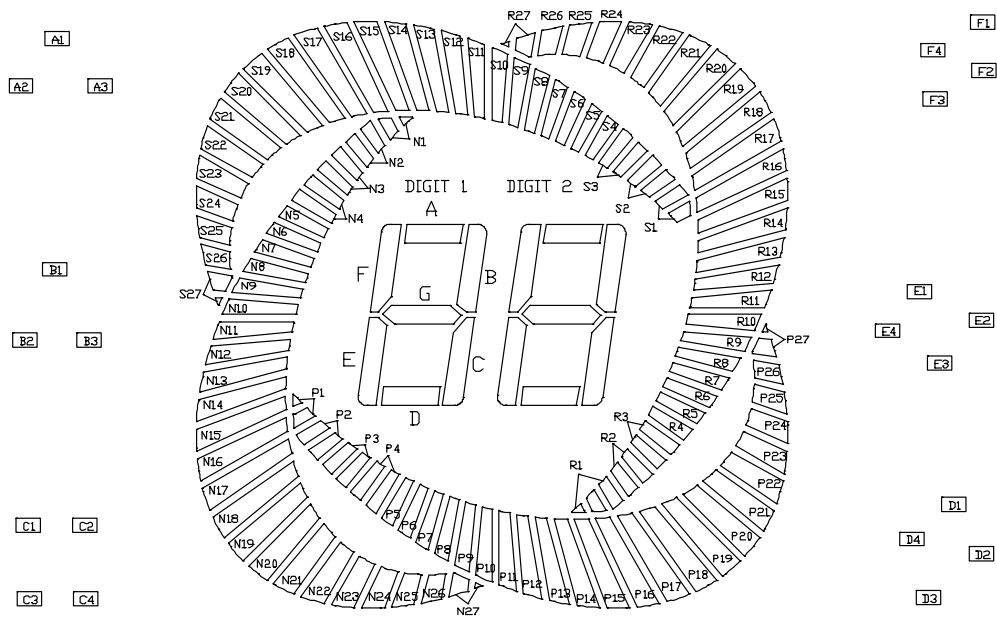
PACKAGE DIMENSIONS






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

Property of Lite-On Only

INTERNAL CIRCUIT DIAGRAM



THE SIGN "  " IS STANDARD FOR GREEN CHIP.
 THE SIGN "  " IS STANDARD FOR RED ORANGE CHIP.
 THE SIGN "  " IS STANDARD FOR AMBER CHIP.

PIN CONNECTION

No.	CONNECTION	No.	CONNECTION
1	Common Cathode B1~B3 , D1~D4 , E2 , F2	14	Common Cathode R19~R27
2	Common Cathode N1~N18	15	Common Cathode S1~S9
3	Anode N1,N10,N19,P1,P10,P19,R1,R10,R19 S1,S10,S19,A1,B1,1A,2A	16	Anode N7,N16,N25,P7,P16,P25,R7,R16,R25 S7,S16,S25,C4,D4,1G,2G
4	Common Cathode N19~N27	17	Anode N9,N18,N27,P9,P18,P27,R9,R18,R27 S9,S18,S27,F1~F4
5	Anode N5,N14,N23,P5,P14,P23,R5,R14,R23 S5,S14,S23,C2,D2,1E,2E	18	Common Cathode S10~S18
6	Common Cathode P1~P9	19	Common Cathode Digit 2 , E4 , F4
7	Common Cathode P10~P18	20	Common Cathode Digit 1 , E3 , F3
8	Anode N2,N11,N20,P2,P11,P20,R2,R11,R20 S2,S11,S20,A2,B2,1B,2B	21	Anode N4,N13,N22,P4,P13,P22,R4,R13,R22 S4,S13,S22,C1,D1,1D,2D
9	Anode N3,N12,N21,P3,P12,P21,R3,R12,R21 S3,S12,S21,A3,B3,1C,2C	22	Cathode Digit 9~14 A,A1,B1
10	Common Cathode R1~R9	23	Cathode Digit 9~14 B,A2,B2
11	Anode N6,N15,N24,P6,P15,P24,R6,R15,R24 S6,S15,S24,C3,D3,1F,2F	24	Common Cathode R10~R18
12	Common Anode Digit 12 ,D3	25	Common Cathode S19~S27
13	Common Cathode P19~P27	26	Common Cathode A1~A3 , C1~C4 , E1 , F1

ABSOLUTE MAXIMUM RATING AT T_A=25°C

PARAMETER	GREEN	AMBER	RED ORANGE	UNIT
Power Dissipation Per Chip	75	75	75	mW
Peak Forward Current Per Chip (1/10 Duty Cycle, 0.1ms Pulse Width)	100	100	100	mA
Continuous Forward Current Per Chip	25	25	25	mA
Derating Linear From 25°C Per Chip	0.28	0.28	0.28	mA/°C
Reverse Voltage Per Chip	5	5	5	V
Operating Temperature Range	-35°C to +105°C			
Storage Temperature Range	-35°C to +105°C			
Solder Temperature: max 260°C for max 3sec at 1.6mm below seating plane				

TRICAL / OPTICAL CHARACTERISTICS AT T_A=25°C

GREEN (DIGIT)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v		1950		μcd	I _F =10mA
Peak Emission Wavelength	λ _p		565		nm	I _F =20mA
Spectral Line Half-Width	Δλ		30		nm	I _F =20mA
Dominant Wavelength	λ _d		569		nm	I _F =20mA
Forward Voltage Per Chip	V _F		2.1	2.6	V	I _F =20mA
Reverse Current Per Chip	I _R			100	μA	V _R =5V
Luminous Intensity Matching Ratio	I _v -m			2:1		I _F =10mA

GREEN (ICON)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v		2220		μcd	I _F =10mA
Peak Emission Wavelength	λ _p		565		nm	I _F =20mA
Spectral Line Half-Width	Δλ		30		nm	I _F =20mA
Dominant Wavelength	λ _d		569		nm	I _F =20mA
Forward Voltage Per Chip	V _F		2.1	2.6	V	I _F =20mA
Reverse Current Per Chip	I _R			100	μA	V _R =5V
Luminous Intensity Matching Ratio	I _v -m			2:1		I _F =10mA

AMBER (ICON)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_v		950		μcd	$I_F=10\text{mA}$
Peak Emission Wavelength	λ_p		610		nm	$I_F=20\text{mA}$
Spectral Line Half-Width	$\Delta\lambda$		35		nm	$I_F=20\text{mA}$
Dominant Wavelength	λ_d		602		nm	$I_F=20\text{mA}$
Forward Voltage Per Chip	V_F		2.1	2.6	V	$I_F=20\text{mA}$
Reverse Current Per Chip	I_R			100	μA	$V_R=5\text{V}$
Luminous Intensity Matching Ratio	$I_v\text{-m}$			2:1		$I_F=10\text{mA}$

RED ORANGE (ICON)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_v		1400		μcd	$I_F=10\text{mA}$
Peak Emission Wavelength	λ_p		630		nm	$I_F=20\text{mA}$
Spectral Line Half-Width	$\Delta\lambda$		40		nm	$I_F=20\text{mA}$
Dominant Wavelength	λ_d		621		nm	$I_F=20\text{mA}$
Forward Voltage Per Chip	V_F		2.0	2.6	V	$I_F=20\text{mA}$
Reverse Current Per Chip	I_R			100	μA	$V_R=5\text{V}$
Luminous Intensity Matching Ratio	$I_v\text{-m}$			2:1		$I_F=10\text{mA}$

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)

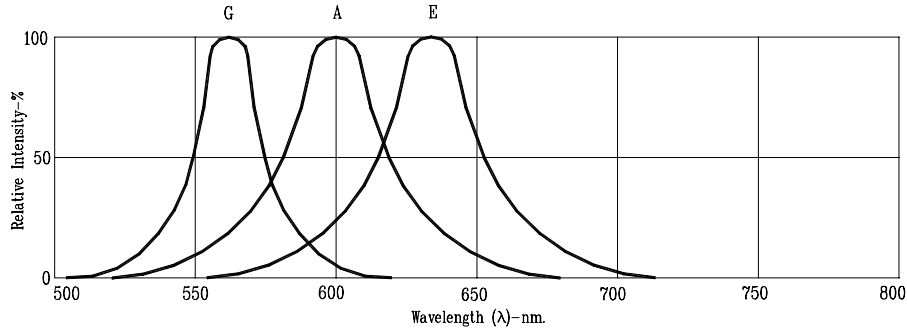


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

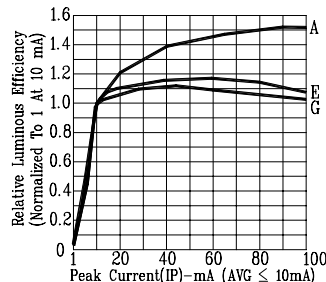


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

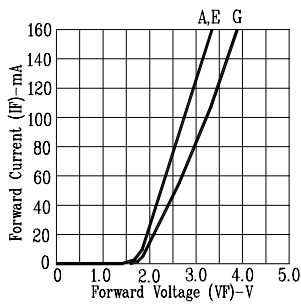


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

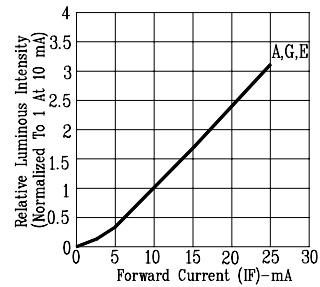


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

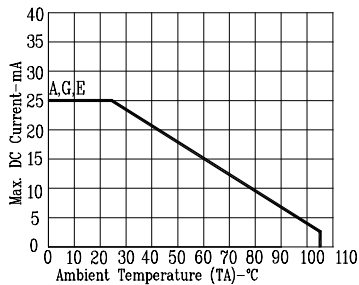


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

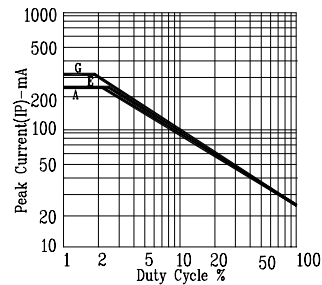


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: A=AMBER G=GREEN E=RED ORANGE