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LED Display Product Data Sheet LTF-4805M

Spec No.: DS30-2000-260

Effective Date: 10/15/2000

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

FEATURES

- * 0.4 inch (10.16 mm) AND 0.3 inch (7.26 mm) DIGIT HEIGHT.
- * CONTINUOUS UNIFORM SEGMENTS.
- * LOW POWER REQUIREMENT.
- * EXCELLENT CHARACTERS APPEARANCE.
- * HIGH BRIGHTNESS & HIGH CONTRAST.
- * WIDE VIEWING ANGLE.
- * SOLID STATE RELIABILITY.

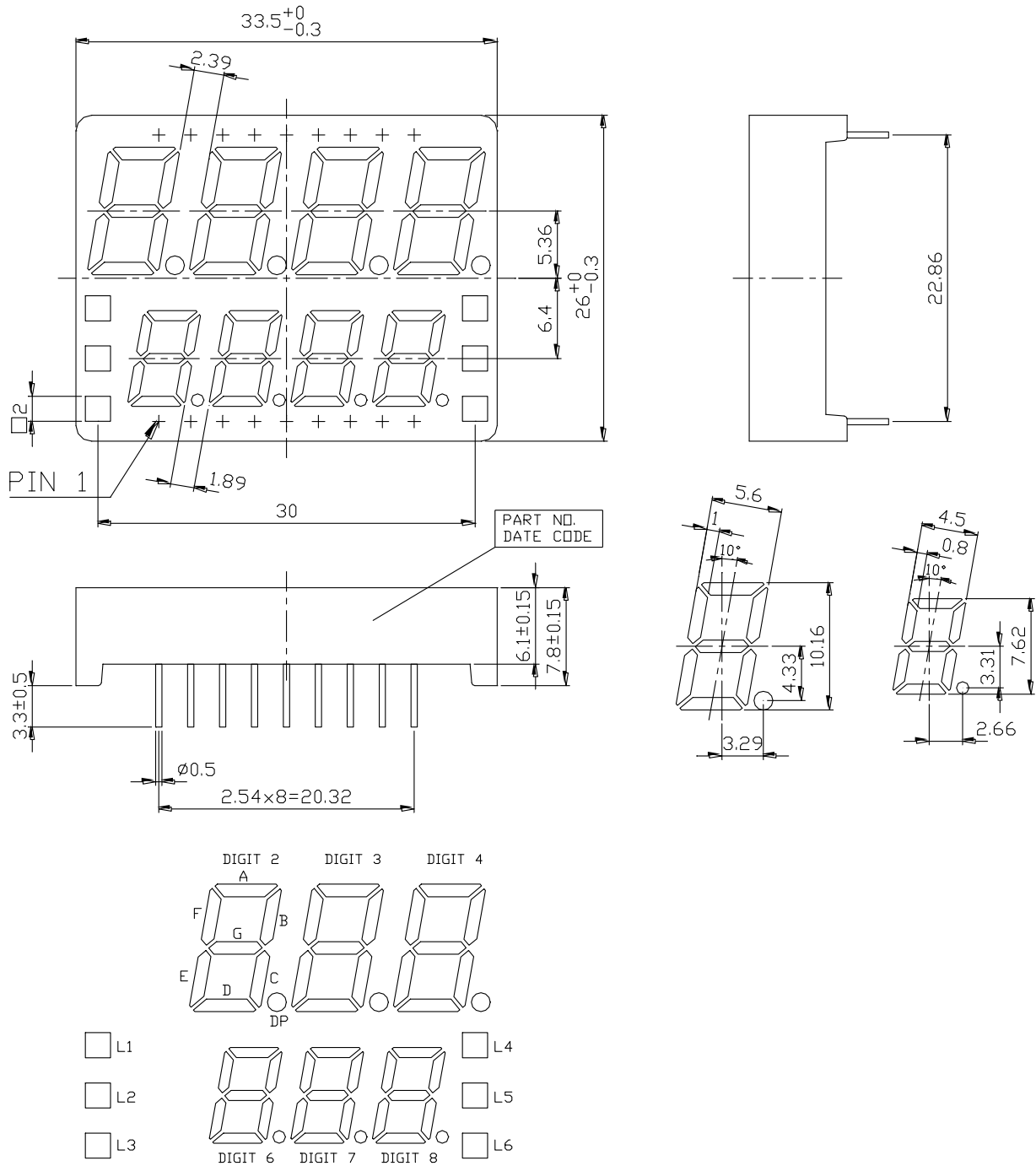
DESCRIPTION

The LTF-4805M is a 0.4 inch (10.16 mm) height (4 digits) and 0.3 inch (7.62 mm) height (4 digits) seven-segment display. This device utilizes high efficiency green LED chips which are made from GaP on GaP substrate. This device utilizes red orange & amber LED chips which are made from GaAsP on GaP substrate. The device has a gray face and white segments.

DEVICE

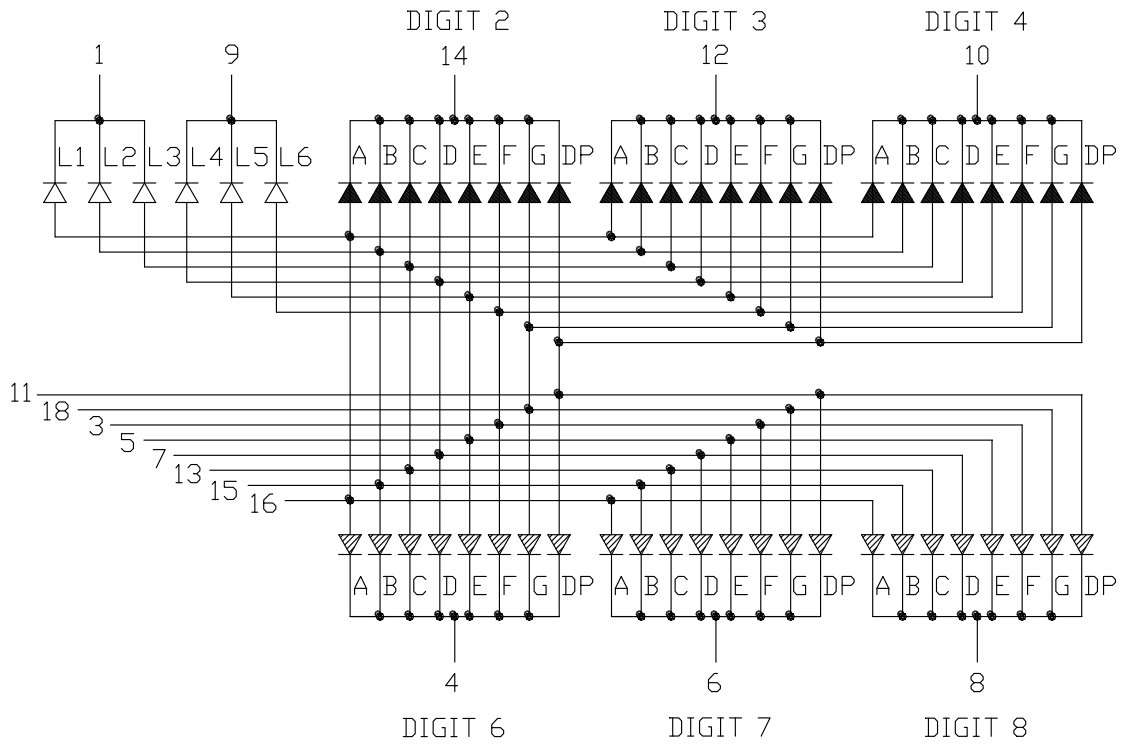
PART NO.	DESCRIPTION
MULTI-COLOR	MULTIPLEX
LTF-4805M	COMMON CATHODE

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 L1, L2, L3
2	NO CONNECTION
3	COMMON ANODE F & L6
4	COMMON CATHODE (DIGIT 6)
5	COMMON ANODE E & L5
6	COMMON CATHODE (DIGIT 7)
7	COMMON ANODE D & L4
8	COMMON CATHODE (DIGIT 8)
9	CATHODE L4, L5, L6
10	COMMON CATHODE (DIGIT 4)
11	COMMON ANODE DP
12	COMMON CATHODE (DIGIT 3)
13	COMMON ANODE C & L3
14	COMMON CATHODE (DIGIT 2)
15	COMMON ANODE B & L2
16	COMMON ANODE A & L1
17	COMMON CATHODE DIGIT 1
18	COMMON ANODE G

ABSOLUTE MAXIMUM RATING AT Ta=25°C

PARAMETER	Hi-EFF. Green	Red Orange	Amber	UNIT
Power Dissipation Per Segment	75	75	75	mW
Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width)	100	100	100	mA
Continuous Forward Current Per Segment	25	25	25	mA
Derating Linear From 25°C Per Segment	0.28	0.28	0.28	mA/°C
Reverse Voltage Per Segment	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[1/16inch] below seating plane.				

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

Hi-EFF. GREEN (DIGIT 2~4)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v	1300	3100		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 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.

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C**RED ORANGE**

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v	800	2200		μcd	I _F =10mA
Peak Emission Wavelength	λ _p		630		nm	I _F =20mA
Spectral Line Half-Width	Δλ		40		nm	I _F =20mA
Dominant Wavelength	λ _d		621		nm	I _F =20mA
Forward Voltage Per Segment	V _F		2	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

AMBER (DIGIT 6~8)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I _v	200	650		μcd	I _F =10mA
Peak Emission Wavelength	λ _p		610		nm	I _F =20mA
Spectral Line Half-Width	Δλ		35		nm	I _F =20mA
Dominant Wavelength	λ _d		602		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 filters 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)

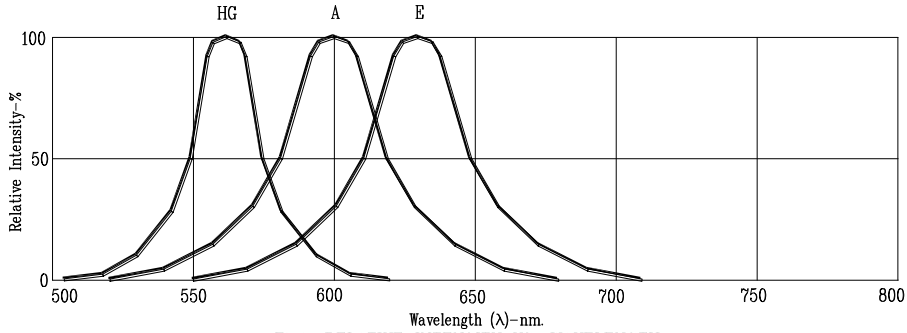


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

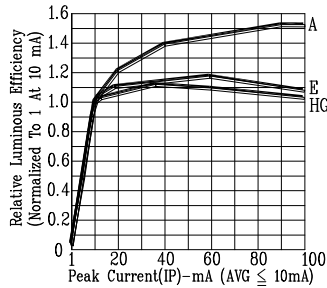


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

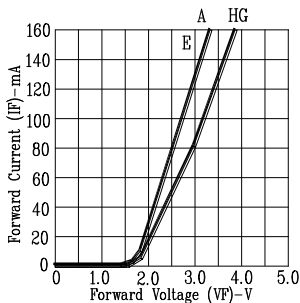


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

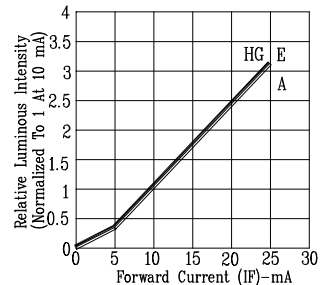


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

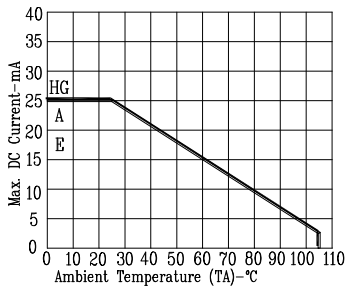


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

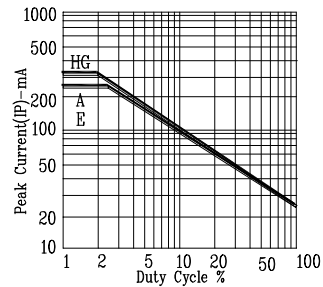


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: HG=HI-EFF. GREEN & A=AMBER & E=RED ORANGE