



Spec No.: DS30-2000-260 Effective Date: 10/15/2000

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

LITEON

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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

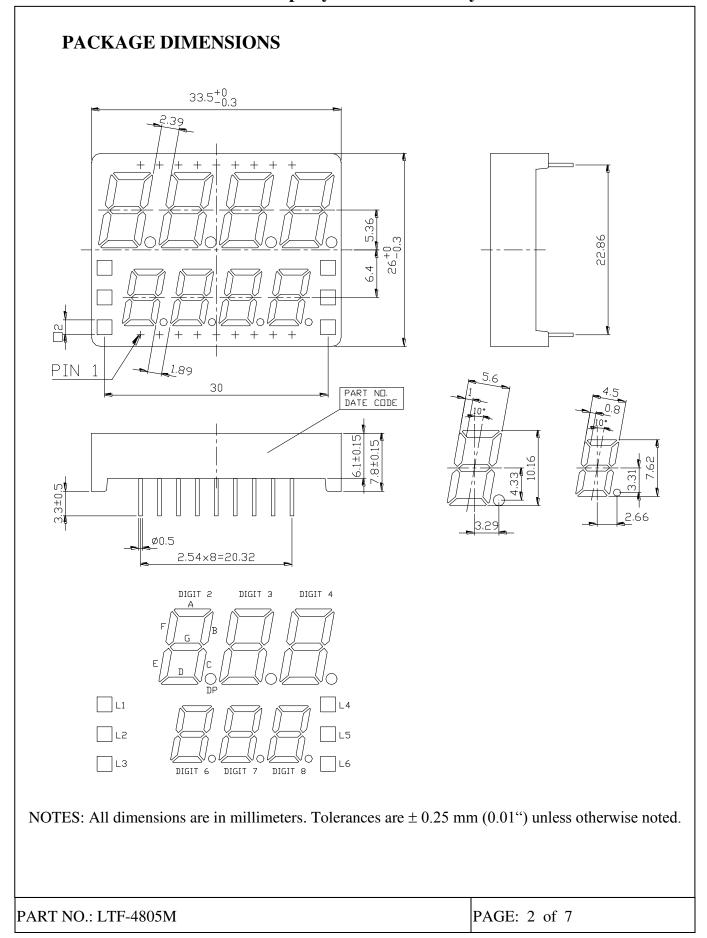
| PART NO. | DESCRIPTION |
|-------------|----------------|
| MULTI-COLOR | MULTIPLEX |
| LTF-4805M | COMMON CATHODE |

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LITEON

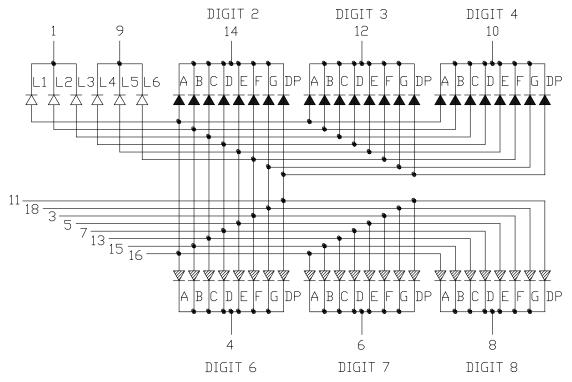
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INTERNAL CIRCUIT DIAGRAM



The " \star " stands for Hi-EFF, green chips.

The "本" stands for amber chips.

The "abla" stands for red orange chips.

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PIN CONNECTION

| CONNECTION |
|--------------------------|
| CATHODE L1, L2, L3 |
| NO CONNECTION |
| COMMON ANODE F & L6 |
| COMMON CATHODE (DIGIT 6) |
| COMMON ANODE E & L5 |
| COMMON CATHODE (DIGIT 7) |
| COMMON ANODE D & L4 |
| COMMON CATHODE (DIGIT 8) |
| CATHODE L4, L5, L6 |
| COMMON CATHODE (DIGIT 4) |
| COMMON ANODE DP |
| COMMON CATHODE (DIGIT 3) |
| COMMON ANODE C & L3 |
| COMMON CATHODE (DIGIT 2) |
| COMMON ANODE B & L2 |
| COMMON ANODE A & L1 |
| COMMON CATHODE DIGIT 1 |
| COMMON ANODE G |
| |

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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 | Iv | 1300 | 3100 | | μcd | I _F =10mA |
| Peak Emission Wavelength | λр | | 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 | VF | | 2.1 | 2.6 | V | I _F =20mA |
| Reverse Current Per Segment | Ir | | | 100 | μΑ | V _R =5V |
| Luminous Intensity Matching Ratio | Iv-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.

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ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta=25°C

RED ORANGE

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|-----------------------------------|--------|------|------|------|------|----------------------|
| Average Luminous Intensity | Iv | 800 | 2200 | | μcd | I _F =10mA |
| Peak Emission Wavelength | λρ | | 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 | VF | | 2 | 2.6 | V | I _F =20mA |
| Reverse Current Per Segment | Ir | | | 100 | μΑ | V _R =5V |
| Luminous Intensity Matching Ratio | Iv-m | | | 2:1 | | I=10mA |

AMBER (DIGIT 6~8)

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|-----------------------------------|--------|------|------|------|------|----------------------|
| Average Luminous Intensity | Iv | 200 | 650 | | μcd | IF=10mA |
| Peak Emission Wavelength | λр | | 610 | | nm | IF=20mA |
| Spectral Line Half-Width | Δλ | | 35 | | nm | I _F =20mA |
| Dominant Wavelength | λd | | 602 | | nm | I _F =20mA |
| Forward Voltage Per Segment | VF | | 2.1 | 2.6 | V | I _F =20mA |
| Reverse Current Per Segment | Ir | | | 100 | μΑ | V _R =5V |
| Luminous Intensity Matching Ratio | Iv-m | | | 2:1 | | I _F =10mA |

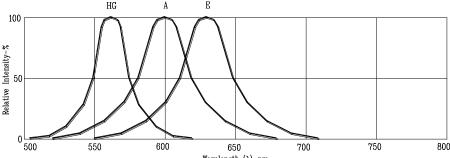
Note: Luminous intensity is measured with a light sensor and filters combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.

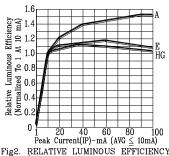
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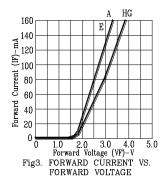
TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

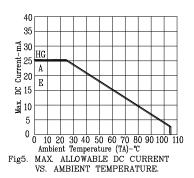
(25°C Ambient Temperature Unless Otherwise Noted)

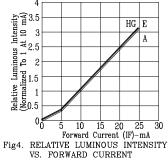




0 1 20 40 60 80 100 Peak Current(IP)-mA (AVG ≤ 10mA) RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHZ)







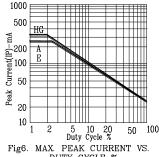


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

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

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