

CMLDM7484

**SURFACE MOUNT SILICON
N-CHANNEL AND P-CHANNEL
ENHANCEMENT-MODE
COMPLEMENTARY MOSFET**



www.centrasemi.com



SOT-563 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLDM7484 consists of complementary N-Channel and P-Channel enhancement-mode silicon MOSFETs designed for high speed pulsed amplifier and driver applications. These MOSFETs offer very low $r_{DS(ON)}$ and low threshold voltage.

MARKING CODE: 8C7

FEATURES:

- ESD Protection up to 2kV
- 350mW Power Dissipation
- Very Low $r_{DS(ON)}$
- Low Threshold Voltage
- Logic Level Compatible
- Small, SOT-563 Surface Mount Package

APPLICATIONS:

- Load/Power Switches
- Power Supply Converter Circuits
- Battery Powered Portable Devices

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

| |
|--|
| Drain-Source Voltage |
| Gate-Source Voltage |
| Continuous Drain Current |
| Power Dissipation (Note 1) |
| Power Dissipation (Note 2) |
| Power Dissipation (Note 3) |
| Operating and Storage Junction Temperature |
| Thermal Resistance (Note 1) |

SYMBOL

| | |
|----------------|-------------|
| V_{DS} | 30 |
| V_{GS} | 8.0 |
| I_D | 450 |
| P_D | 350 |
| P_D | 300 |
| P_D | 150 |
| T_J, T_{stg} | -65 to +150 |
| θ_{JA} | 357 |

UNITS

| |
|--------------------|
| V |
| V |
| mA |
| mW |
| mW |
| mW |
| $^\circ\text{C}$ |
| $^\circ\text{C/W}$ |

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$)

SYMBOL TEST CONDITIONS

| | |
|----------------------|-------------------------------|
| I_{GSSF}, I_{GSSR} | $V_{GS}=8.0V, V_{DS}=0$ |
| I_{DSS} | $V_{DS}=30V, V_{GS}=0$ |
| BV_{DSS} | $V_{GS}=0, I_D=10\mu A$ |
| BV_{DSS} | $V_{GS}=0, I_D=100\mu A$ |
| $V_{GS(th)}$ | $V_{DS}=V_{GS}, I_D=250\mu A$ |
| V_{SD} | $V_{GS}=0, I_S=400mA$ |
| V_{SD} | $V_{GS}=0, I_S=100mA$ |
| $r_{DS(ON)}$ | $V_{GS}=4.5V, I_D=200mA$ |
| $r_{DS(ON)}$ | $V_{GS}=4.5V, I_D=430mA$ |
| $r_{DS(ON)}$ | $V_{GS}=2.5V, I_D=100mA$ |
| $r_{DS(ON)}$ | $V_{GS}=2.5V, I_D=200mA$ |
| $r_{DS(ON)}$ | $V_{GS}=1.8V, I_D=75mA$ |
| $r_{DS(ON)}$ | $V_{GS}=1.8V, I_D=100mA$ |

N-CH (Q1)

| MIN | MAX |
|-----|------|
| - | 3.0 |
| - | 1.0 |
| 30 | - |
| - | - |
| 0.5 | 1.0 |
| 0.5 | 1.1 |
| - | - |
| - | 0.46 |
| - | - |
| - | 0.56 |
| - | - |
| - | 0.73 |
| - | - |

P-CH (Q2)

| MIN | MAX |
|-----|-----|
| - | 3.0 |
| - | 1.0 |
| - | - |
| 30 | - |
| 0.5 | 1.0 |
| - | - |
| 0.5 | 1.1 |
| - | - |
| - | - |
| - | 1.1 |
| - | - |
| - | 2.0 |
| - | - |
| - | 3.3 |

UNITS

| |
|----------|
| μA |
| μA |
| V |
| V |
| V |
| V |
| V |
| Ω |
| Ω |
| Ω |
| Ω |
| Ω |
| Ω |
| Ω |

Notes: (1) Ceramic or aluminum core PC Board with copper mounting pad area of 4.0mm²
(2) FR-4 Epoxy PC Board with copper mounting pad area of 4.0mm²
(3) FR-4 Epoxy PC Board with copper mounting pad area of 1.4mm²

CMLDM7484

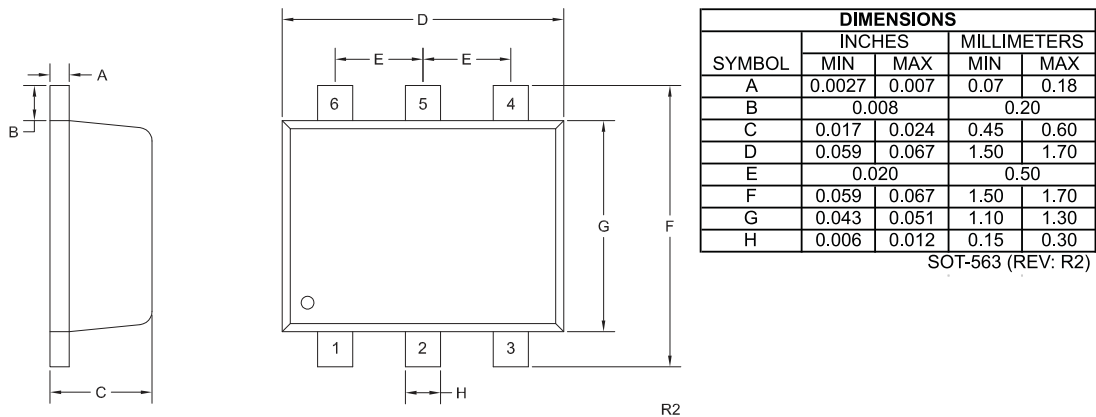
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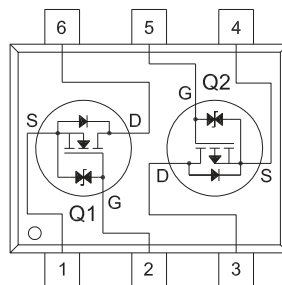
ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$)

| SYMBOL | TEST CONDITIONS | N-CH (Q1) | | | P-CH (Q2) | | | UNITS |
|---------------------|--|-----------|-------|-----|-----------|-------|-----|-------|
| | | MIN | TYP | MAX | MIN | TYP | MAX | |
| gFS | $V_{DS}=10\text{V}$, $I_D=100\text{mA}$ | 200 | - | - | 200 | - | - | mS |
| C_{rss} | $V_{DS}=25\text{V}$, $V_{GS}=0$, $f=1.0\text{MHz}$ | - | - | 10 | - | - | 10 | pF |
| C_{iss} | $V_{DS}=25\text{V}$, $V_{GS}=0$, $f=1.0\text{MHz}$ | - | - | 45 | - | - | 55 | pF |
| C_{oss} | $V_{DS}=25\text{V}$, $V_{GS}=0$, $f=1.0\text{MHz}$ | - | - | 15 | - | - | 15 | pF |
| $Q_{g(\text{tot})}$ | $V_{DS}=15\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=1.0\text{A}$ | - | 0.792 | - | - | - | - | nC |
| $Q_{g(\text{tot})}$ | $V_{DS}=10\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=1.0\text{A}$ | - | - | - | - | 0.88 | - | nC |
| Q_{gs} | $V_{DS}=15\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=1.0\text{A}$ | - | 0.15 | - | - | - | - | nC |
| Q_{gs} | $V_{DS}=10\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=1.0\text{A}$ | - | - | - | - | 0.35 | - | nC |
| Q_{gd} | $V_{DS}=15\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=1.0\text{A}$ | - | 0.23 | - | - | - | - | nC |
| Q_{gd} | $V_{DS}=10\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=1.0\text{A}$ | - | - | - | - | 0.128 | - | nC |

SOT-563 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



LEAD CODE:

- 1) Source Q1
- 2) Gate Q1
- 3) Drain Q2
- 4) Source Q2
- 5) Gate Q2
- 6) Drain Q1

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R5 (8-June 2015)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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