

CMLDM7484

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



SOT-563 CASE

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) | |

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

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

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



www.centrasemi.com

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

SYMBOL

| SYMBOL | | UNITS |
|----------------|-------------|----------------------|
| V_{DS} | 30 | V |
| V_{GS} | 8.0 | V |
| I_D | 450 | mA |
| P_D | 350 | mW |
| P_D | 300 | mW |
| P_D | 150 | mW |
| T_J, T_{stg} | -65 to +150 | $^{\circ}\text{C}$ |
| Θ_{JA} | 357 | $^{\circ}\text{C/W}$ |

N-CH (Q1)

| MIN | MAX |
|-----|-----|
| - | 3.0 |
| - | 1.0 |

P-CH (Q2)

| MIN | MAX |
|-----|-----|
| - | 3.0 |
| - | 1.0 |

UNITS

| | | | | | | | | | | | |
|---------------|---------------|-----|-----|-----|-----|----------|----------|----------|----------|----------|----------|
| μA | μA | V | V | V | V | Ω | Ω | Ω | Ω | Ω | Ω |
| - | - | - | - | - | - | - | - | - | - | - | - |
| 0.5 | 1.0 | 0.5 | 1.0 | 0.5 | 1.1 | 0.5 | 1.1 | 0.46 | 1.1 | 0.56 | 2.0 |
| 0.5 | 1.1 | - | - | - | - | - | - | - | - | - | - |
| - | - | 0.5 | 1.1 | - | - | - | - | - | - | - | - |
| - | 0.46 | - | - | - | - | - | - | - | - | - | - |
| - | - | - | 1.1 | - | - | - | - | - | - | - | - |
| - | 0.56 | - | - | - | - | - | - | - | - | - | - |
| - | - | - | 2.0 | - | - | - | - | - | - | - | - |
| - | 0.73 | - | - | - | - | - | - | - | - | - | - |
| - | - | - | 3.3 | - | - | - | - | - | - | - | - |

R5 (8-June 2015)

CMLDM7484

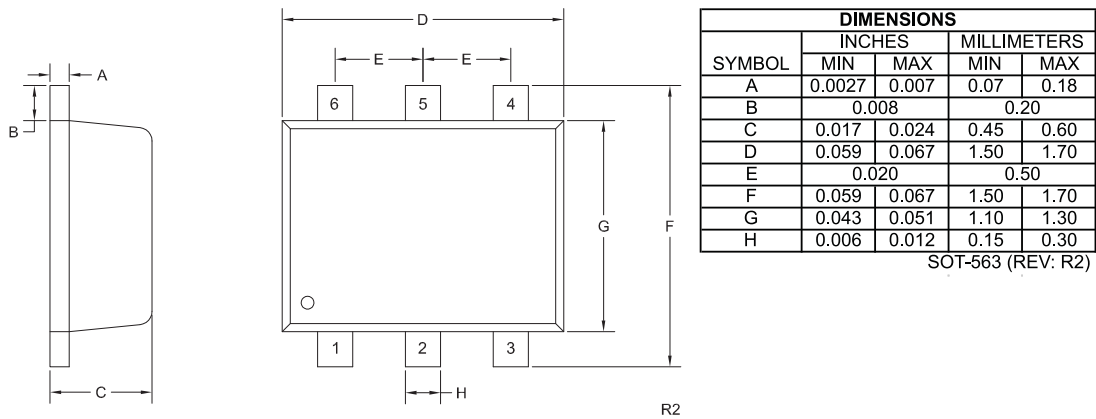
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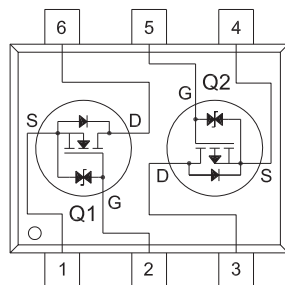
ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$)

| SYMBOL | TEST CONDITIONS | N-CH (Q1) | | | P-CH (Q2) | | | UNITS |
|---------------------|--|-----------|-------|-----|-----------|-------|-----|-------|
| | | MIN | TYP | MAX | MIN | TYP | MAX | |
| g _{FS} | $V_{DS}=10\text{V}$, $I_D=100\text{mA}$ | 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(tot)} | $V_{DS}=15\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=1.0\text{A}$ | - | 0.792 | - | - | - | - | nC |
| Q _{g(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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SERVICES

- Bonded Inventory
- Custom Electrical Screening
- Custom Electrical Characteristic Curves
- SPICE Models
- Custom Packaging
- Package Base Options
- Custom Device Development/ Multi Discrete Modules (MDM™)
- Bare Die Available for Hybrid Applications

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R5 (8-June 2015)