

CMLDM7484

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



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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

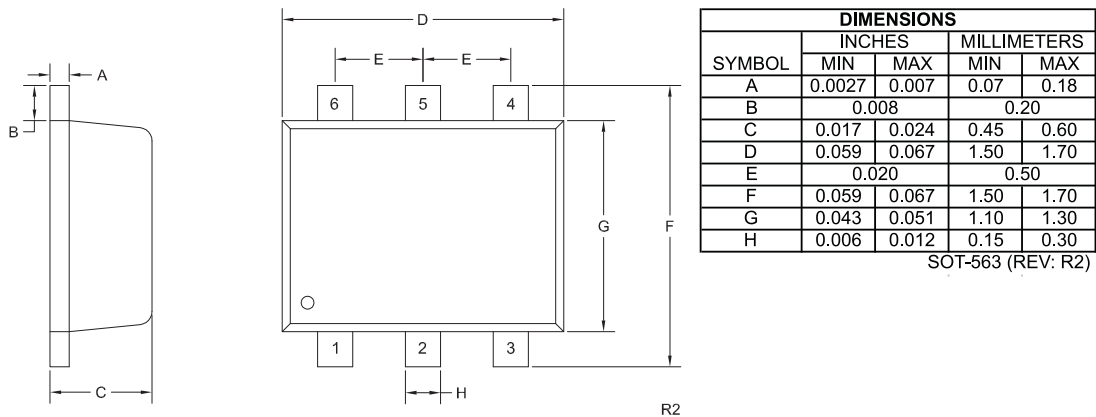
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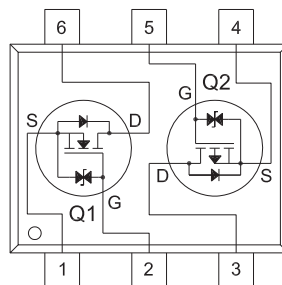
ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$)

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).

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