CMLDM7484

SURFACE MOUNT
N-CHANNEL AND P-CHANNEL
ENHANCEMENT-MODE
COMPLEMENTARY MOSFETS

PICOmini™

SOT-563 CASE

Central Semiconductor Corp.

www.centralsemi.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

APPLICATIONS:

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

MAXIMUM RATINGS: (T_A=25°C)

	SYMBOL		UNITS
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	8.0	V
Continuous Drain Current	I_D	450	mA
Power Dissipation (Note 1)	P_D	350	mW
Power Dissipation (Note 2)	P_D	300	mW
Power Dissipation (Note 3)	P_D	150	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance (Note 1)	Θ_{JA}	357	°C/W

ELECTRICAL CHARACTERISTICS: (T_A=25°C)

		N-CH (Q1)		P-CH (Q2)		
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**MIN**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=8.0V, V_{DS}=0	-	3.0	-	3.0	μA
I_{DSS}	V_{DS}=30V, V_{GS}=0	-	1.0	-	1.0	μA
BV_{DSS}	V_{GS}=0, I_D=10μA	30	-	-	-	V
BV_{DSS}	V_{GS}=0, I_D=100μA	-	-	30	-	V
$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.5	1.0	0.5	1.0	V
V_{SD}	V_{GS}=0, I_S=400mA	0.5	1.1	-	-	V
V_{SD}	V_{GS}=0, I_S=100mA	-	-	0.5	1.1	V
$r_{DS(ON)}$	V_{GS}=4.5V, I_D=200mA	-	0.46	-	-	Ω
$r_{DS(ON)}$	V_{GS}=4.5V, I_D=430mA	-	-	-	1.1	Ω
$r_{DS(ON)}$	V_{GS}=2.5V, I_D=100mA	-	0.56	-	-	Ω
$r_{DS(ON)}$	V_{GS}=2.5V, I_D=200mA	-	-	-	2.0	Ω
$r_{DS(ON)}$	V_{GS}=1.8V, I_D=75mA	-	0.73	-	-	Ω
$r_{DS(ON)}$	V_{GS}=1.8V, I_D=100mA	-	-	-	3.3	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

R3 (2-August 2011)

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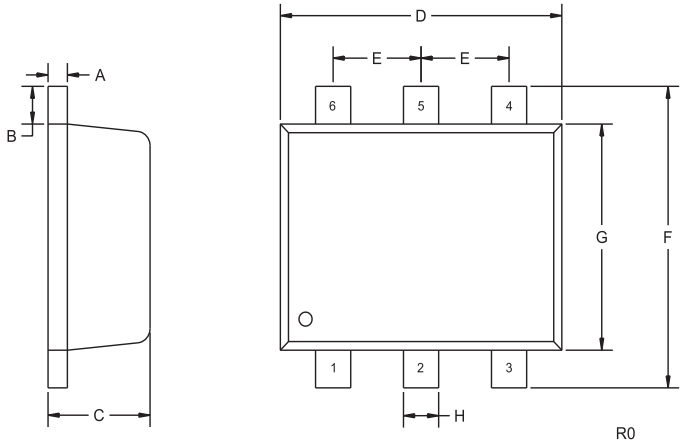
ELECTRICAL CHARACTERISTICS - Continued: (T_A=25°C)

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

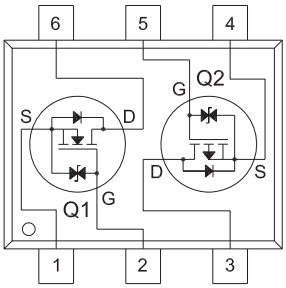
SOT-563 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.004	0.007	0.10	0.18
B	0.008		0.20	
C	0.022	0.024	0.56	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.061	0.067	1.55	1.70
G	0.047		1.20	
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R0)

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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