

CMLDM3737

**SURFACE MOUNT SILICON
DUAL N-CHANNEL
ENHANCEMENT-MODE
MOSFET**



SOT-563 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLDM3737 consists of dual silicon N-Channel enhancement-mode MOSFETs designed for high speed pulsed amplifier and driver applications. These MOSFETs offer very low $r_{DS(ON)}$ and low threshold voltage.

MARKING CODE: 7C3

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
- Complementary Dual P-Channel Device: CMLDM5757

APPLICATIONS:

- Load Switch / Level Shifting
- Battery Charging
- Boost Switch
- Electro-luminescent Backlighting

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

Drain-Source Voltage
Gate-Source Voltage
Continuous Drain Current (Steady State)
Maximum Pulsed Drain Current ($t_p=10\mu\text{s}$)
Power Dissipation (Note 1)
Power Dissipation (Note 2)
Power Dissipation (Note 3)
Operating and Storage Junction Temperature
Thermal Resistance (Note 1)

SYMBOL

V_{DS}	20
V_{GS}	8.0
I_D	540
I_{DM}	1.5
P_D	350
P_D	300
P_D	150
T_J, T_{stg}	-65 to +150
θ_{JA}	357

UNITS

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

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=4.5\text{V}, V_{DS}=0$		5.0	μA
I_{DSS}	$V_{DS}=16\text{V}, V_{GS}=0$		1.0	μA
BV_{DSS}	$V_{GS}=0, I_D=250\mu\text{A}$	20		V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.45	1.0	V
V_{SD}	$V_{GS}=0, I_S=350\text{mA}$		1.2	V
$r_{DS(ON)}$	$V_{GS}=4.5\text{V}, I_D=540\text{mA}$		0.55	Ω
$r_{DS(ON)}$	$V_{GS}=2.5\text{V}, I_D=500\text{mA}$		0.7	Ω
$r_{DS(ON)}$	$V_{GS}=1.8\text{V}, I_D=350\text{mA}$		0.9	Ω
C_{rss}	$V_{DS}=16\text{V}, V_{GS}=0, f=1.0\text{MHz}$		20	pF
C_{iss}	$V_{DS}=16\text{V}, V_{GS}=0, f=1.0\text{MHz}$		150	pF
C_{oss}	$V_{DS}=16\text{V}, V_{GS}=0, f=1.0\text{MHz}$		25	pF

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 (8-June 2015)

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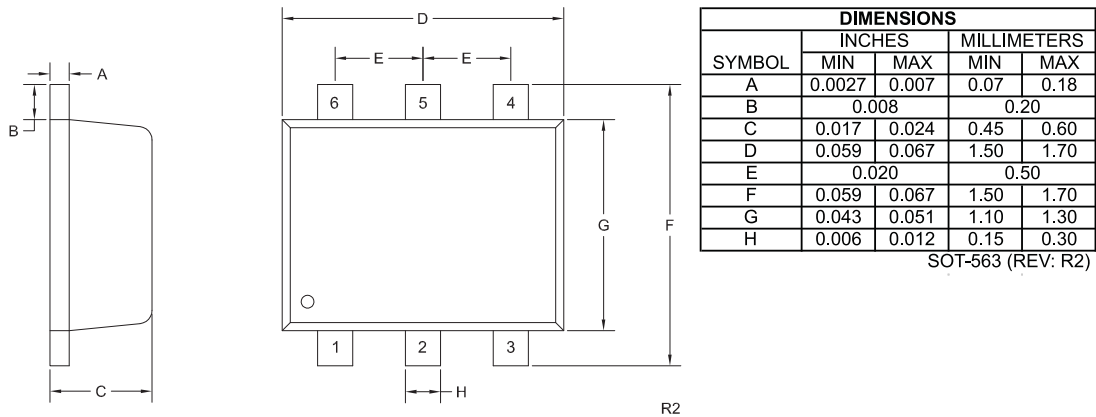
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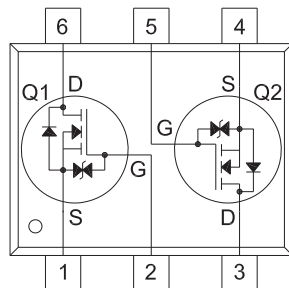
ELECTRICAL CHARACTERISTICS PER TRANSISTOR - Continued: ($T_A=25^\circ\text{C}$)

SYMBOL	TEST CONDITIONS	TYP	UNITS
$Q_{g(\text{tot})}$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=500\text{mA}$	1.58	nC
Q_{gs}	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=500\text{mA}$	0.17	nC
Q_{gd}	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=500\text{mA}$	0.24	nC
t_{on}	$V_{DD}=10\text{V}, V_{GS}=4.5\text{V}, I_D=540\text{mA}, R_G=10\Omega$	10	ns
t_{off}	$V_{DD}=10\text{V}, V_{GS}=4.5\text{V}, I_D=540\text{mA}, R_G=10\Omega$	25	ns

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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