

CMLDM5757
SURFACE MOUNT SILICON
DUAL P-CHANNEL
ENHANCEMENT-MODE
MOSFET



www.centrasemi.com



SOT-563 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLDM5757 consists of dual 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: 77C

FEATURES:

- ESD protection up to 1800V (Human Body Model)
- 350mW power dissipation
- Very low $r_{DS(ON)}$
- Low threshold voltage
- Logic level compatible
- Small, SOT-563 surface mount package
- Complementary dual N-Channel device: CMLDM3737

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	430
I_{DM}	750
P_D	350
P_D	300
P_D	150
T_J, T_{stg}	-65 to +150
θ_{JA}	357

UNITS

V
V
mA
mA
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}	$V_{GS}=4.5V, V_{DS}=0$		2.0	μA
I_{DSS}	$V_{DS}=16V, V_{GS}=0$		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
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=430\text{mA}$		0.9	Ω
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=300\text{mA}$		1.2	Ω
$r_{DS(ON)}$	$V_{GS}=1.8V, I_D=150\text{mA}$		2.0	Ω
C_{rss}	$V_{DS}=16V, V_{GS}=0, f=1.0\text{MHz}$		20	pF
C_{iss}	$V_{DS}=16V, V_{GS}=0, f=1.0\text{MHz}$		175	pF
C_{oss}	$V_{DS}=16V, V_{GS}=0, f=1.0\text{MHz}$		30	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

R2 (5-June 2013)

CMLDM5757

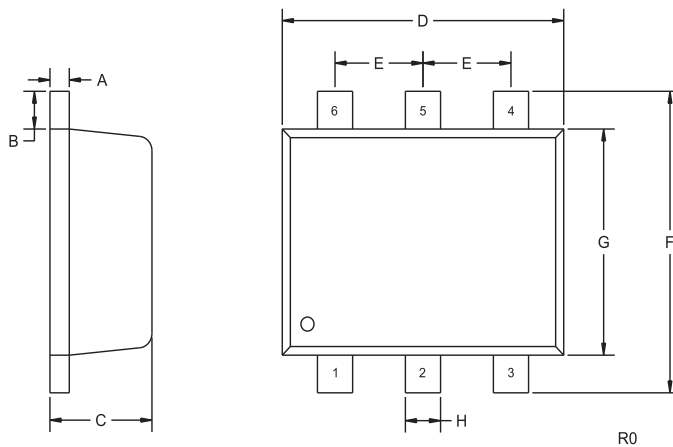
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ELECTRICAL CHARACTERISTICS PER TRANSISTOR - Continued: ($T_A=25^\circ\text{C}$)

SYMBOL	TEST CONDITIONS	TYP	MAX	UNITS
$Q_{g(\text{tot})}$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}$	1.2		nC
Q_{gs}	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}$	0.24		nC
Q_{gd}	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}$	0.36		nC
t_{on}	$V_{DD}=10\text{V}, V_{GS}=4.5\text{V}, I_D=215\text{mA}, R_G=10\Omega$	38		ns
t_{off}	$V_{DD}=10\text{V}, V_{GS}=4.5\text{V}, I_D=215\text{mA}, R_G=10\Omega$	48		ns

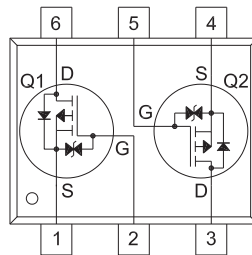
SOT-563 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	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

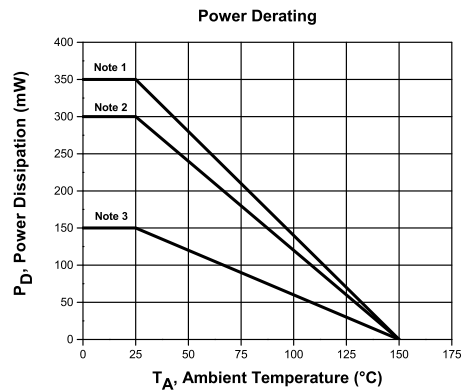
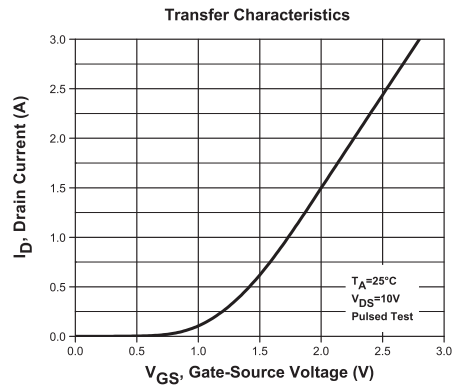
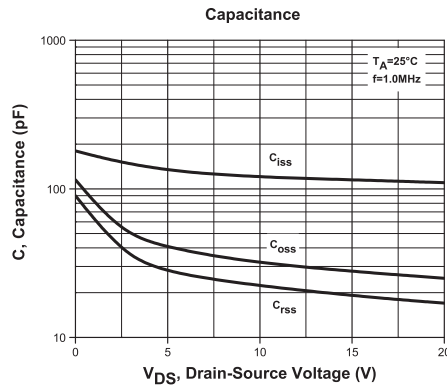
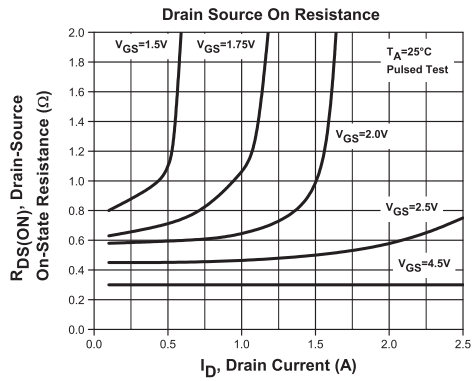
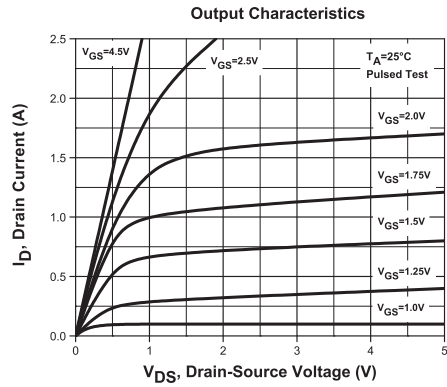
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TYPICAL ELECTRICAL CHARACTERISTICS



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