

CMLDM7003TG
SURFACE MOUNT SILICON
DUAL N-CHANNEL
ENHANCEMENT-MODE
MOSFET



SOT-563 CASE

• Device is **Halogen Free** by design



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLDM7003TG is a dual N-Channel enhancement-mode MOSFET, manufactured by the N-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. This device offers low $r_{DS(ON)}$, low $V_{GS(th)}$, and ESD protection up to 2kV.

MARKING CODE: CTG

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

Drain-Source Voltage
 Drain-Gate Voltage
 Gate-Source Voltage
 Continuous Drain Current
 Maximum Pulsed Drain Current
 Power Dissipation (Note 1)
 Power Dissipation (Note 2)
 Power Dissipation (Note 3)
 Operating and Storage Junction Temperature
 Thermal Resistance

SYMBOL

V_{DS}	50
V_{DG}	50
V_{GS}	12
I_D	280
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
 V
 mA
 A
 mW
 mW
 mW
 $^{\circ}\text{C}$
 $^{\circ}\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=5.0\text{V}$			50	nA
I_{GSSF}, I_{GSSR}	$V_{GS}=10\text{V}$			0.5	μA
I_{GSSF}, I_{GSSR}	$V_{GS}=12\text{V}$			1.0	μA
I_{DSS}	$V_{DS}=50\text{V}, V_{GS}=0$			50	nA
BV_{DSS}	$V_{GS}=0, I_D=10\mu\text{A}$	50			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.7		1.2	V
V_{SD}	$V_{GS}=0, I_S=115\text{mA}$			1.4	V
$r_{DS(ON)}$	$V_{GS}=1.8\text{V}, I_D=50\text{mA}$		1.6	2.3	Ω
$r_{DS(ON)}$	$V_{GS}=2.5\text{V}, I_D=50\text{mA}$		1.3	1.9	Ω
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$		1.1	1.5	Ω
gFS	$V_{DS}=10\text{V}, I_D=200\text{mA}$	200			mS
C_{rss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$			5.0	pF
C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$			50	pF
C_{oss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$			25	pF
$Q_g(\text{tot})$	$V_{DS}=25\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.764		nC
Q_{gs}	$V_{DS}=25\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.148		nC
Q_{gd}	$V_{DS}=25\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.156		nC

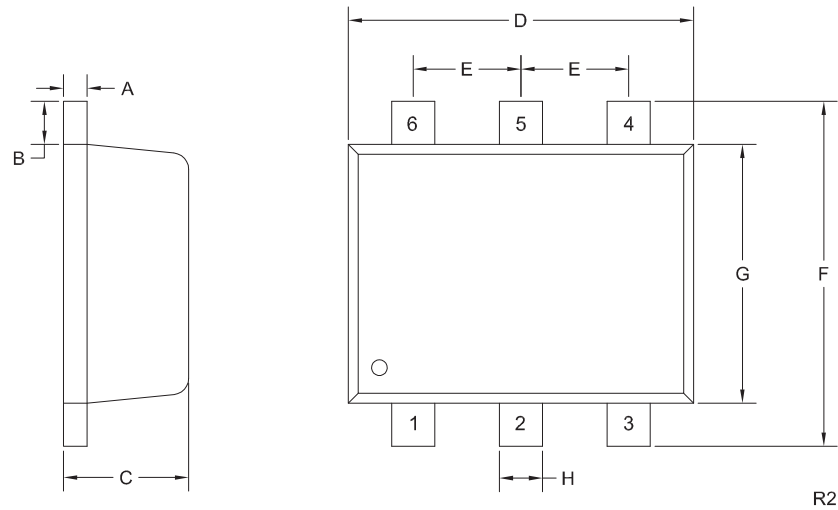
Notes: (1) Ceramic or aluminum core PC Board with copper mounting pad area of 4.0mm²
 (2) FR-4 Epoxy PC Board with copper mounting pad area of 4.0mm²
 (3) FR-4 Epoxy PC Board with copper mounting pad area of 1.4mm²

R5 (8-June 2015)

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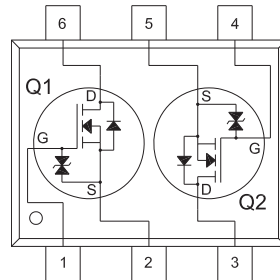


SOT-563 CASE - MECHANICAL OUTLINE



R2

PIN CONFIGURATION



DIMENSIONS

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.0027	0.007	0.07	0.18
B	0.008		0.20	
C	0.017	0.024	0.45	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.059	0.067	1.50	1.70
G	0.043	0.051	1.10	1.30
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R2)

LEAD CODE:

- 1) Gate Q1
- 2) Source Q1
- 3) Drain Q2
- 4) Gate Q2
- 5) Source Q2
- 6) Drain Q1

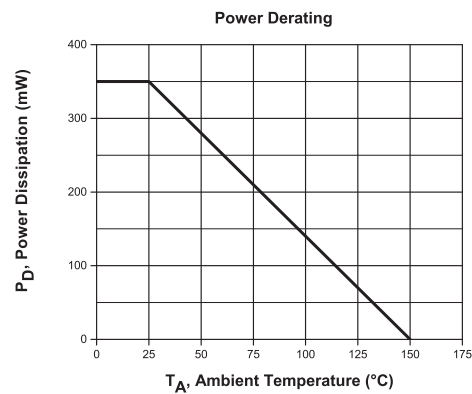
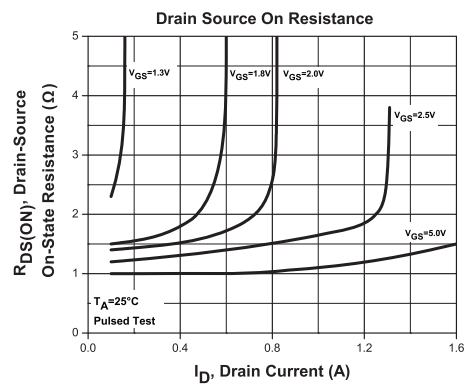
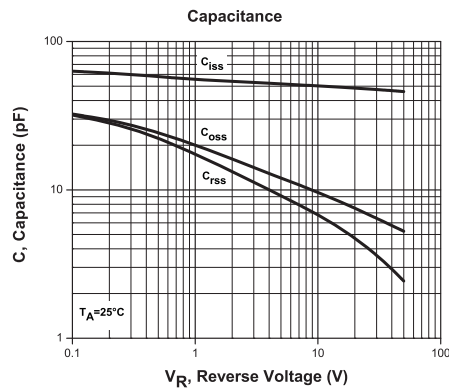
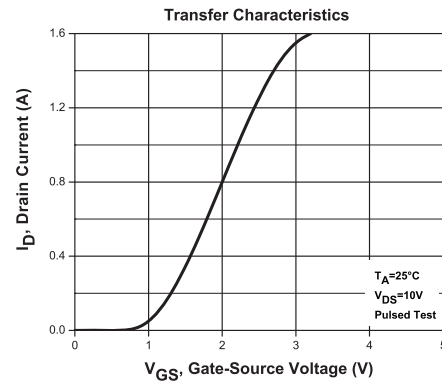
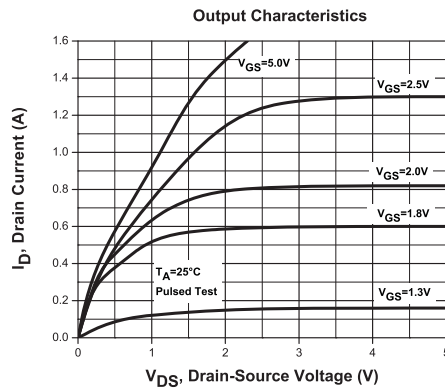
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TYPICAL ELECTRICAL CHARACTERISTICS



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SERVICES

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