CMLDM7003TG

SURFACE MOUNT SILICON DUAL N-CHANNEL ENHANCEMENT-MODE MOSFET

SOT-563 CASE

• Device is ***Halogen Free*** by design

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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°C)	**SYMBOL**		**UNITS**
Drain-Source Voltage	V_{DS}	50	V
Drain-Gate Voltage	V_{DG}	50	V
Gate-Source Voltage	V_{GS}	12	V
Continuous Drain Current	I_D	280	mA
Maximum Pulsed Drain Current	I_{DM}	1.5	A
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	Θ_{JA}	357	°C/W

ELECTRICAL CHARACTERISTICS PER TRANSISTOR: (T_A=25°C unless otherwise noted)

SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=5.0V			50	nA
I_{GSSF}, I_{GSSR}	V_{GS}=10V			0.5	µA
I_{GSSF}, I_{GSSR}	V_{GS}=12V			1.0	µA
I_{DSS}	V_{DS}=50V, V_{GS}=0			50	nA
BV_{DSS}	V_{GS}=0, I_D=10µA	50			V
$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250µA	0.7		1.2	V
V_{SD}	V_{GS}=0, I_S=115mA			1.4	V
$r_{DS(ON)}$	V_{GS}=1.8V, I_D=50mA		1.6	2.3	Ω
$r_{DS(ON)}$	V_{GS}=2.5V, I_D=50mA		1.3	1.9	Ω
$r_{DS(ON)}$	V_{GS}=5.0V, I_D=50mA		1.1	1.5	Ω
g_{FS}	V_{DS}=10V, I_D=200mA	200			mS
C_{rss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz			5.0	pF
C_{iss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz			60	pF
C_{oss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz			25	pF
$Q_{g(tot)}$	V_{DS}=25V, V_{GS}=4.5V, I_D=100mA		0.764		nC
Q_{gs}	V_{DS}=25V, V_{GS}=4.5V, I_D=100mA		0.148		nC
Q_{gd}	V_{DS}=25V, V_{GS}=4.5V, I_D=100mA		0.156		nC

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

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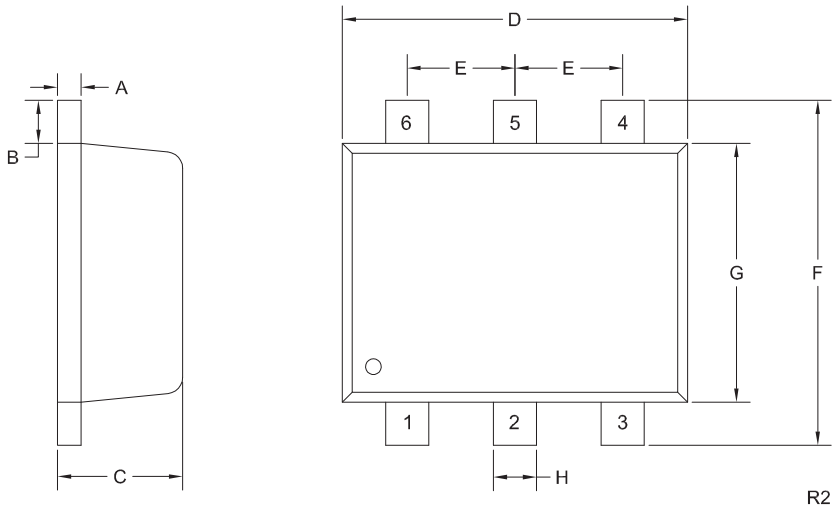
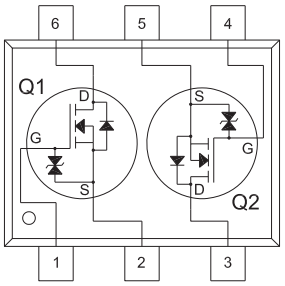
SOT-563 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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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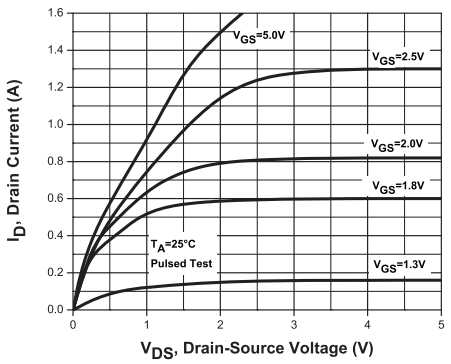
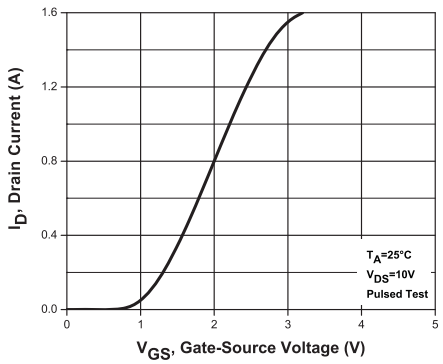
TYPICAL ELECTRICAL CHARACTERISTICS

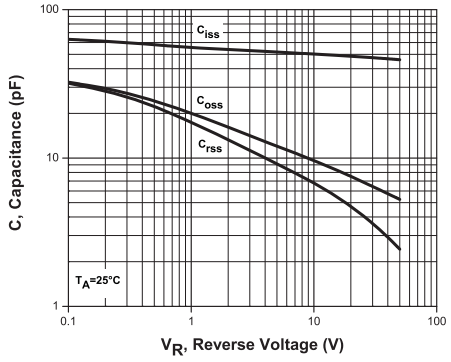
Output Characteristics



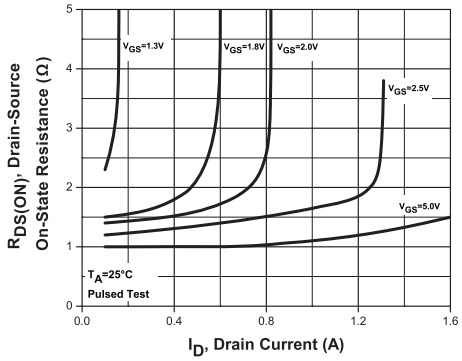
Transfer Characteristics



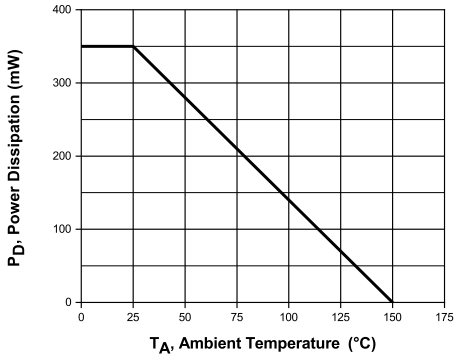
Capacitance



Drain Source On Resistance



Power Derating



R6 (28-September 2021)

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).

CONTACT US

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