CMLDM7003TEG

ENHANCED SPECIFICATION
SURFACE MOUNT PICOmini™
DUAL N-CHANNEL
SILICON MOSFET

PICOmini™

SOT-563 CASE

Central™
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLDM7003TEG is an Enhancement-mode N-Channel Field Effect Transistor, manufactured by the N-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. These special Dual Transistor devices offer low drain-source on state resistance ($r_{DS(ON)}$) and ESD protection up to 2kV, and a Gate-Source Threshold Voltage ($V_{GS(th)}$) of 0.75V MIN to 1.0V MAX.

MARKING CODE: TEG

ENHANCED SPECIFICATION: $V_{GS(th)}$ = 1.0V MAX

FEATURES:

- **ESD protection up to 2kV**
- Device is ***Halogen Free*** by design

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}=5V			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}=0V			50	nA

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

R0 (3-June 2008)

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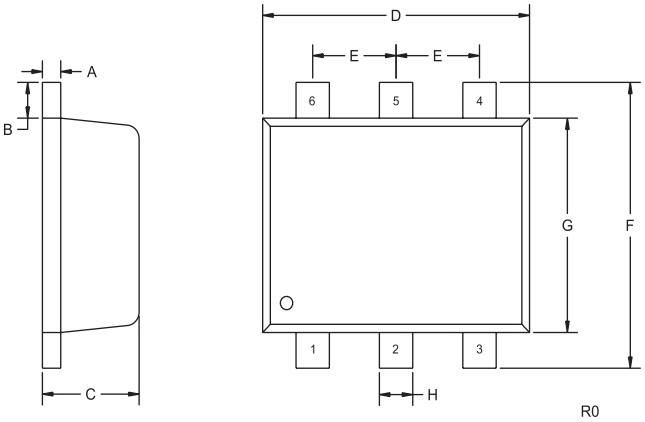
ELECTRICAL CHARACTERISTICS PER TRANSISTOR - Continued: (T_A=25°C unless otherwise noted)

	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
	BV_{DSS}	V_{GS}=0V, I_D=10μA	50			V
♦	**$V_{GS(th)}$**	**V_{DS}=V_{GS}, I_D=250μA**	**0.75**		**1.0**	**V**
	V_{SD}	V_{GS}=0V, 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			50	pF
	C_{oss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz			25	pF

♦ Enhanced specification.

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

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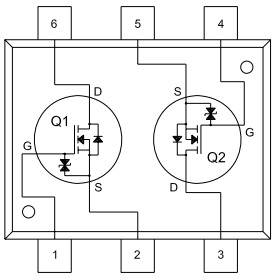

LEAD CODE:
1) GATE Q1
2) SOURCE Q1
3) DRAIN Q2
4) GATE Q2
5) SOURCE Q2
6) DRAIN Q1

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R0 (3-June 2008)