

**CMLDM7003E
CMLDM7003JE
ENHANCED SPECIFICATION**

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

PICOmini™



SOT-563 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMLDM7003E and CMLDM7003JE are Enhancement-mode N-Channel Field Effect Transistors, manufactured by the N-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. The CMLDM7003E utilizes the USA pinout configuration, while the CMLDM7003JE utilizes the Japanese pinout configuration. These special Dual Transistor devices offer low drain-source on state resistance ($r_{DS(ON)}$) and ESD protection up to 2kV.

**MARKING CODES: CMLDM7003E: C73
CMLDM7003JE: C7J**

FEATURES

- ESD protected up to 2kV

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

SYMBOL		UNITS
V_{DS}	50	V
V_{DG}	50	V
V_{GS}	12	V
I_D	280	mA
I_{DM}	1.5	A
P_D	350	mW
P_D	300	mW
P_D	150	mW
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	357	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
◆ I_{GSSF}, I_{GSSR}	$V_{GS}=5.0V$			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}	$V_{GS}=0, I_D=10\mu\text{A}$	50			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.49		1.2	V
V_{SD}	$V_{GS}=0, I_S=115\text{mA}$			1.4	V
◆ $r_{DS(ON)}$	$V_{GS}=1.8V, I_D=50\text{mA}$		1.6	2.3	Ω
◆ $r_{DS(ON)}$	$V_{GS}=2.5V, I_D=50\text{mA}$		1.3	1.9	Ω
◆ $r_{DS(ON)}$	$V_{GS}=5.0V, I_D=50\text{mA}$		1.1	1.5	Ω
g_{FS}	$V_{DS}=10V, I_D=200\text{mA}$	200			mS
C_{rss}	$V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$			5.0	pF
C_{iss}	$V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$			50	pF
C_{oss}	$V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$			25	pF

- ◆ Enhanced specification

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

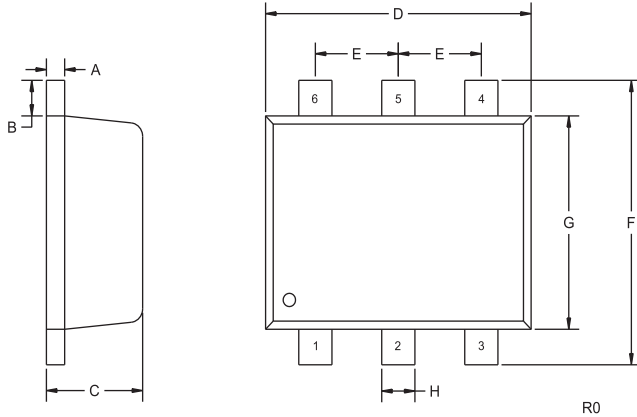
R2 (18-January 2010)

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SOT-563 CASE - MECHANICAL OUTLINE

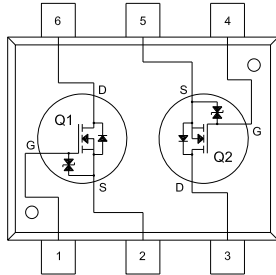


SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.10	0.18
B	0.008		0.20	
C	0.022	0.024	0.56	0.60
D	0.059	0.067	1.50	1.70
E	0.020		0.50	
F	0.061	0.067	1.55	1.70
G	0.047		1.20	
H	0.006	0.012	0.15	0.30

SOT-563 (REV: R0)

PIN CONFIGURATIONS

CMLDM7003E (USA Pinout)

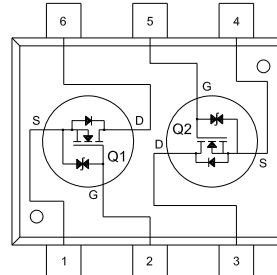


LEAD CODE:

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

MARKING CODE: C73

CMLDM7003JE (Japanese Pinout)



LEAD CODE:

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

MARKING CODE: C7J

R2 (18-January 2010)