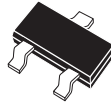




CMPDM7003

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



SOT-23 CASE

**Central™
Semiconductor Corp.**

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPDM7003 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. This MOSFET offers low ($r_{DS(ON)}$) and ESD protection up to 2kV.

MARKING CODE: C7003

FEATURES:

- ESD protection up to 2kV
- Low $r_{DS(ON)}$
- Low $V_{DS(ON)}$
- Low threshold voltage
- Fast switching
- Logic level compatibility

APPLICATIONS:

- Load/Power switches
- Power supply converter circuits
- Battery powered portable equipment

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
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

UNITS

V
V
V
mA
A
mW

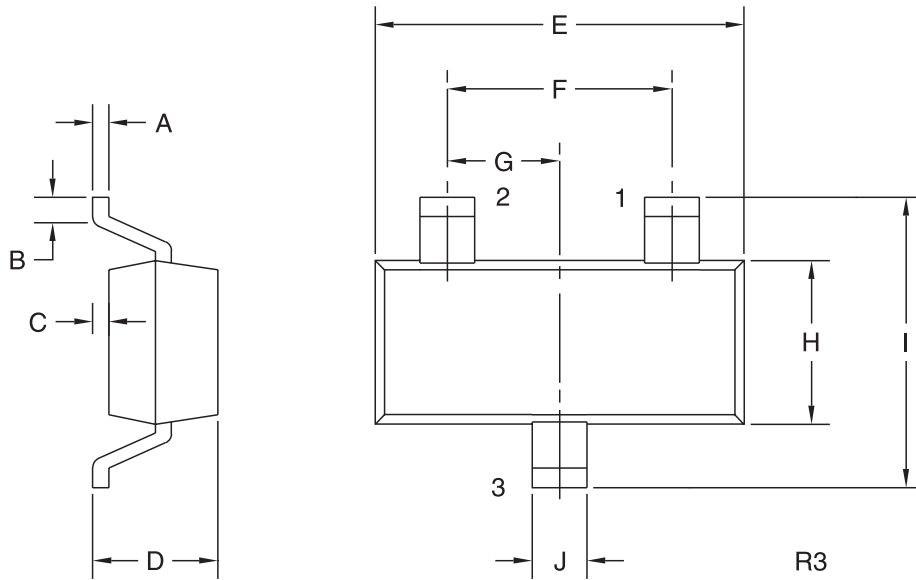
T_J, T_{stg} -65 to +150
 θ_{JA} 357

$^\circ\text{C}$
 $^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=5V$			100	nA
I_{GSSF}, I_{GSSR}	$V_{GS}=10V$			2.0	μA
I_{GSSF}, I_{GSSR}	$V_{GS}=12V$			2.0	μA
I_{DSS}	$V_{DS}=50V, V_{GS}=0V$			50	nA
BV_{DSS}	$V_{GS}=0V, I_D=10\mu\text{A}$	50			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.49		1.0	V
V_{SD}	$V_{GS}=0V, I_S=115\text{mA}$			1.4	V
$r_{DS(ON)}$	$V_{GS}=1.8V, I_D=50\text{mA}$		1.6	3.0	Ω
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=50\text{mA}$		1.3	2.5	Ω
$r_{DS(ON)}$	$V_{GS}=5.0V, I_D=50\text{mA}$		1.1	2.0	Ω
g_{FS}	$V_{DS}=10V, I_D=200\text{mA}$	200			mmhos
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

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) GATE
- 2) SOURCE
- 3) DRAIN

MARKING CODE: C7003

DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

R0 (24-July 2007)