CMPDM7003

SURFACE MOUNT
N-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET

SOT-23 CASE

www.centralsemi.com

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°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	P_D	350	mW
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C
Thermal Resistance	Θ_{JA}	357	°C/W

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

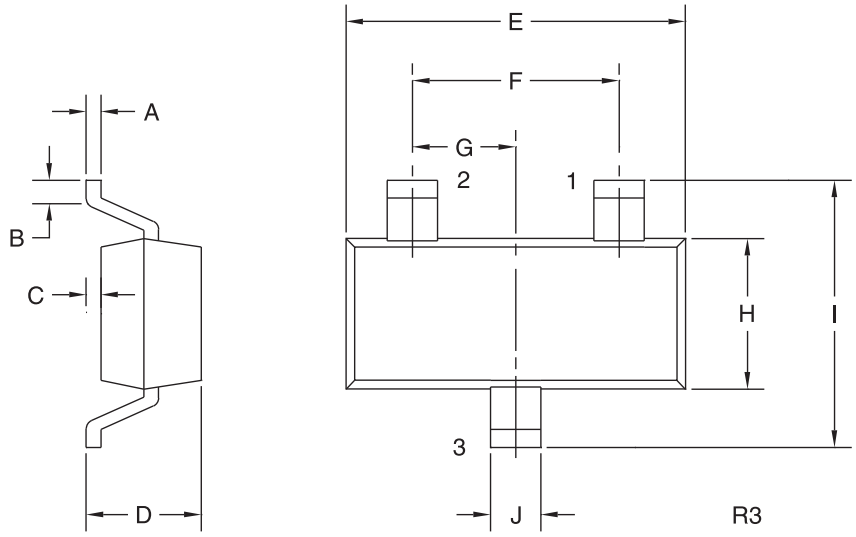
SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=5.0V			100	nA
I_{GSSF}, I_{GSSR}	V_{GS}=10V			2.0	μA
I_{GSSF}, I_{GSSR}	V_{GS}=12V			2.0	μA
I_{DSS}	V_{DS}=50V, V_{GS}=0			50	nA
BV_{DSS}	V_{GS}=0, I_D=10μA	50			V
$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.49		1.0	V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

R1 (27-January 2010)

CMPDM7003

SURFACE MOUNT
N-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:
1) Gate
2) Source
3) Drain

MARKING CODE: C7003

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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)