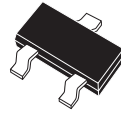


CMPDM7002A

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



SOT-23 CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPDM7002A is special version of the 2N7002 Enhancement-mode N-Channel Field Effect Transistor, manufactured by the N-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. This special device offers low $r_{DS(ON)}$ and low $V_{DS(ON)}$.

Marking Code is C702A.

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$)

	SYMBOL		UNITS
Drain-Source Voltage	V_{DS}	60	V
Drain-Gate Voltage	V_{DG}	60	V
Gate-Source Voltage	V_{GS}	40	V
Continuous Drain Current	I_D	280	mA
Continuous Source Current (Body Diode)	I_S	280	mA
Maximum Pulsed Drain Current	I_{DM}	1.5	A
Maximum Pulsed Source Current	I_{SM}	1.5	A
Power Dissipation	P_D	350	mW
Operating and Storage	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Junction Temperature	θ_{JA}	357	$^\circ\text{C/W}$
Thermal Resistance			

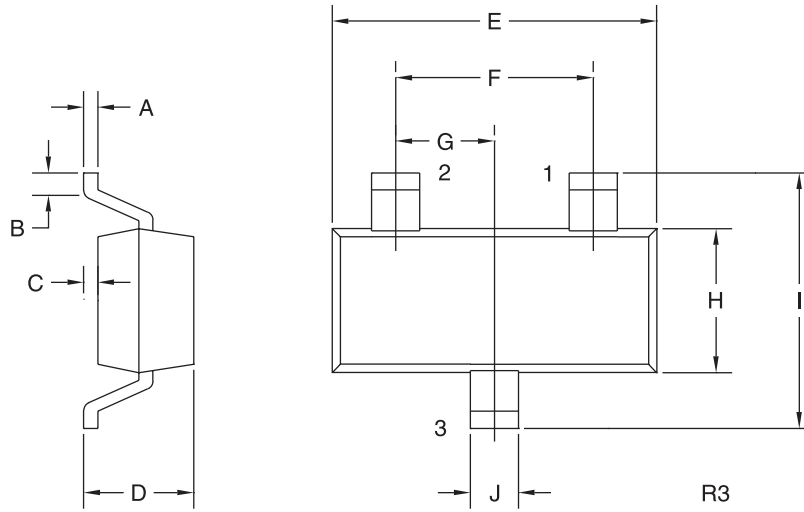
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{GSSF}	$V_{GS}=20\text{V}, V_{DS}=0\text{V}$		100	nA
I_{GSSR}	$V_{GS}=20\text{V}, V_{DS}=0\text{V}$		100	nA
I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0\text{V}$		1.0	μA
I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0\text{V}, T_J=125^\circ\text{C}$		500	μA
$I_{D(ON)}$	$V_{GS}=10\text{V}, V_{DS} \geq 2V_{DS(ON)}$	500		mA
BV_{DSS}	$V_{GS}=0\text{V}, I_D=10\mu\text{A}$	60		V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1.0	2.5	V
$V_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$		1.0	V
$V_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$		0.15	V
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$		2.0	Ω
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}, T_J=125^\circ\text{C}$		3.5	Ω
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$		3.0	Ω
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}, T_J=125^\circ\text{C}$		5.0	Ω
g_{FS}	$V_{DS} \geq 2V_{DS(ON)}, I_D=200\text{mA}$	80		mmhos
C_{rss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		5.0	pF
C_{iss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		50	pF
C_{oss}	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		25	pF
t_{on}	$V_{DD}=30\text{V}, V_{GS}=10\text{V}, I_D=200\text{mA}$		20	ns
t_{off}	$R_G=25\Omega, R_L=150\Omega$		20	ns
V_{SD}	$V_{GS}=0\text{V}, I_S=400\text{mA}$		1.2	V

R0 (05-December 2001)

**N-CHANNEL
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SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Gate
- 2) Source
- 3) Drain

Marking Code: C702A

SYMBOL	DIMENSIONS			
	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 (05-December 2001)