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CMXDM7002A

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



SOT-26 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMXDM7002A is special dual version of the 2N7002 enhancement-mode N-Channel MOSFET manufactured by the N-Channel DMOS Process, and designed for high speed pulsed amplifier and driver applications. This special dual transistor device offers low $r_{DS(ON)}$ and low $V_{DS(ON)}$.

MARKING CODE: X02A

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

Drain-Source Voltage
Drain-Gate Voltage
Gate-Source Voltage
Continuous Drain Current
Continuous Source Current (Body Diode)
Maximum Pulsed Drain Current
Maximum Pulsed Source Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL

V_{DS}	60
V_{DG}	60
V_{GS}	40
I_D	280
I_S	280
I_{DM}	1.5
I_{SM}	1.5
P_D	350
T_J, T_{stg}	-65 to +150
θ_{JA}	357

UNITS

V
V
V
mA
mA
A
A
mW
$^\circ\text{C}$
$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=20\text{V}, V_{DS}=0$		100	nA
I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0$		1.0	μA
I_{DSS}	$V_{DS}=60\text{V}, V_{GS}=0, T_J=125^\circ\text{C}$		500	μA
$I_{D(ON)}$	$V_{GS}=10\text{V}, V_{DS}=10\text{V}$	500		mA
BV_{DSS}	$V_{GS}=0, I_D=10\mu\text{A}$	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
V_{SD}	$V_{GS}=0, I_S=400\text{mA}$		1.2	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
gFS	$V_{DS}=10\text{V}, I_D=200\text{mA}$	80		mS
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

R3 (9-February 2015)

CMXDM7002A

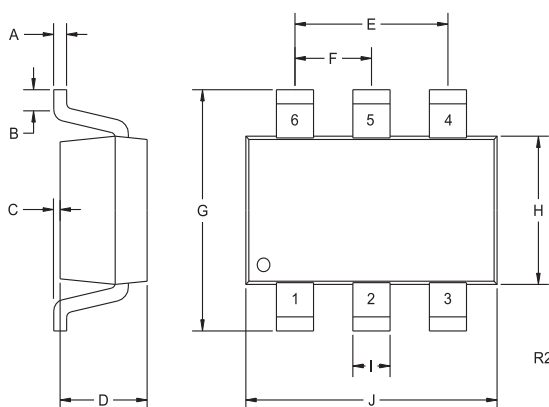
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ELECTRICAL CHARACTERISTICS PER TRANSISTOR - Continued: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	TYP	MAX	UNITS
$Q_{g(\text{tot})}$	$V_{DS}=30\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=100\text{mA}$	0.592		nC
Q_{gs}	$V_{DS}=30\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=100\text{mA}$	0.196		nC
Q_{gd}	$V_{DS}=30\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=100\text{mA}$	0.148		nC
t_{on} , t_{off}	$V_{DD}=30\text{V}$, $V_{GS}=10\text{V}$, $I_D=200\text{mA}$, $R_G=25\Omega$, $R_L=150\Omega$		20	ns

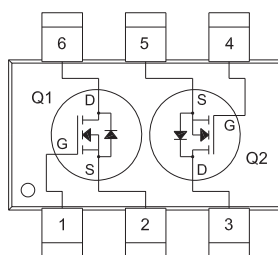
SOT-26 CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.007	0.11	0.19
B	0.016	-	0.40	-
C	-	0.004	-	0.10
D	0.039	0.047	1.00	1.20
E	0.074	0.075	1.88	1.92
F	0.037	0.038	0.93	0.97
G	0.102	0.118	2.60	3.00
H	0.059	0.067	1.50	1.70
I	0.016		0.41	
J	0.110	0.118	2.80	3.00

SOT-26 (REV: R2)

PIN CONFIGURATION



LEAD CODE:

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

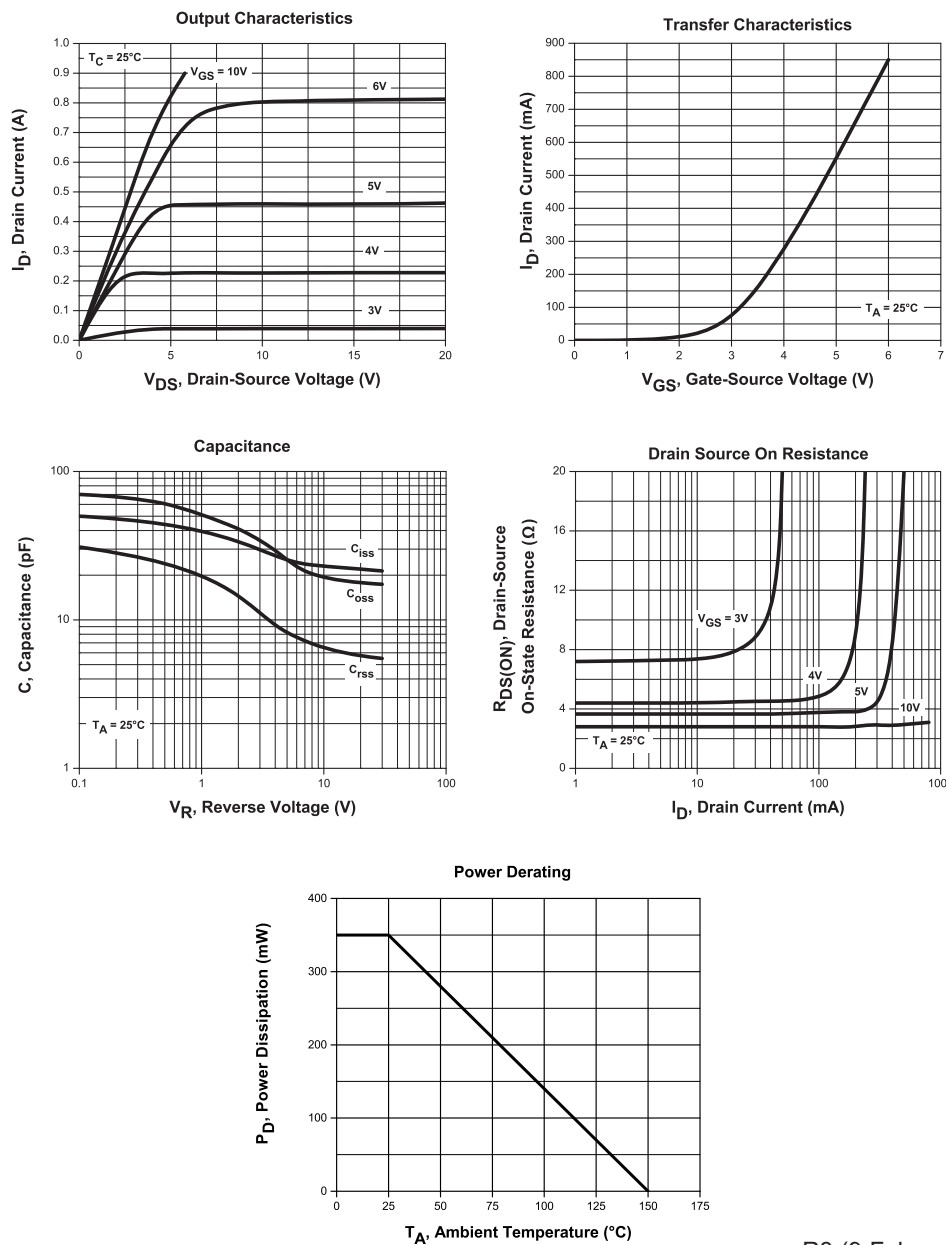
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TYPICAL ELECTRICAL CHARACTERISTICS



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- Customer specific screening
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- Special wafer diffusions
- PbSn plating options
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- Application notes
- Application and design sample kits
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