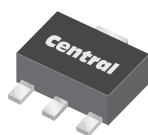


CXDM1002N
SURFACE MOUNT SILICON
N-CHANNEL
ENHANCEMENT-MODE
MOSFET



SOT-89 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CXDM1002N is a high voltage silicon N-Channel enhancement-mode MOSFET designed for high speed pulsed amplifier and driver applications. This MOSFET offers high voltage, low $r_{DS(ON)}$, low threshold voltage, and low leakage current.

MARKING: FULL PART NUMBER

FEATURES:

- Low $r_{DS(ON)}$ (140m Ω TYP @ $V_{GS}=4.5V$)
- High voltage ($V_{DS}=100V$)
- Logic level compatibility
- 2kV ESD protection

APPLICATIONS:

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

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

Drain-Source Voltage
Gate-Source Voltage
Continuous Drain Current (Steady State)
Maximum Pulsed Drain Current, $t_p=10\mu s$
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL		UNITS
V_{DS}	100	V
V_{GS}	20	V
I_D	2.0	A
I_{DM}	7.0	A
P_D	1.2	W
T_J, T_{stg}	-55 to +150	$^\circ C$
θ_{JA}	104	$^\circ C/W$

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

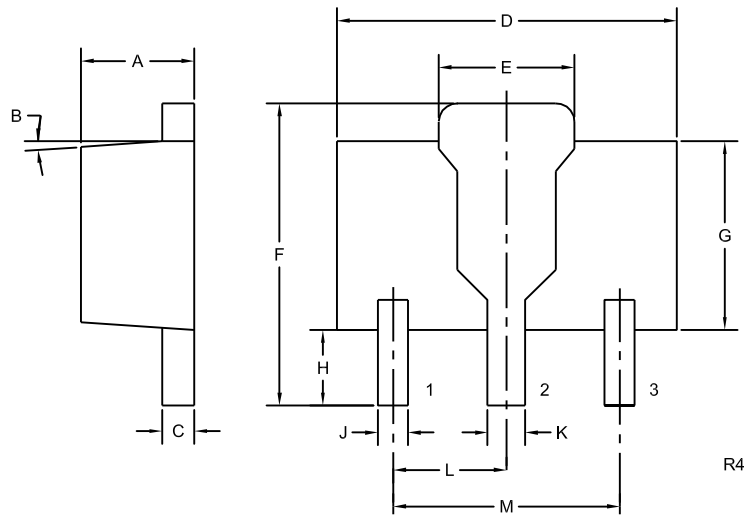
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=20V, V_{DS}=0$			100	nA
I_{DSS}	$V_{DS}=100V, V_{GS}=0$			100	nA
BV_{DSS}	$V_{GS}=0, I_D=250\mu A$	100			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	1.5	2.1	2.5	V
V_{SD}	$V_{GS}=0, I_S=1.0A$			1.1	V
$r_{DS(ON)}$	$V_{GS}=10V, I_D=2.0A$		125	300	m Ω
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=1.0A$		140	350	m Ω
C_{rss}	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$		48		pF
C_{iss}	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$		550		pF
C_{oss}	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$		45		pF
$Q_{g(tot)}$	$V_{DS}=80V, V_{GS}=5.0V, I_D=2.0A$		6.0		nC
Q_{gs}	$V_{DS}=80V, V_{GS}=5.0V, I_D=2.0A$		1.2		nC
Q_{gd}	$V_{DS}=80V, V_{GS}=5.0V, I_D=2.0A$		3.0		nC
t_{on}	$V_{DD}=50V, V_{GS}=5.0V, I_D=3.5A$		32		ns
t_{off}	$R_G=4.7\Omega$		50		ns

R1 (19-March 2013)

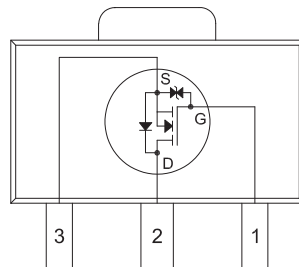
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SOT-89 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



(Top View)

Tab is common to pin 2

LEAD CODE:

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

MARKING: FULL PART NUMBER

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.067	1.40	1.70
B	4°		4°	
C	0.014	0.018	0.35	0.46
D	0.173	0.185	4.40	4.70
E	0.064	0.074	1.62	1.87
F	0.146	0.177	3.70	4.50
G	0.090	0.106	2.29	2.70
H	0.028	0.051	0.70	1.30
J	0.014	0.019	0.36	0.48
K	0.017	0.023	0.44	0.58
L	0.059		1.50	
M	0.118		3.00	

SOT-89 (REV: R4)

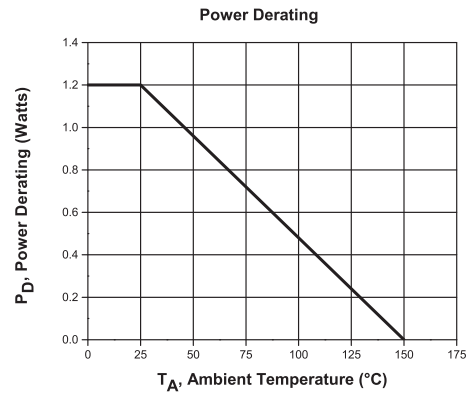
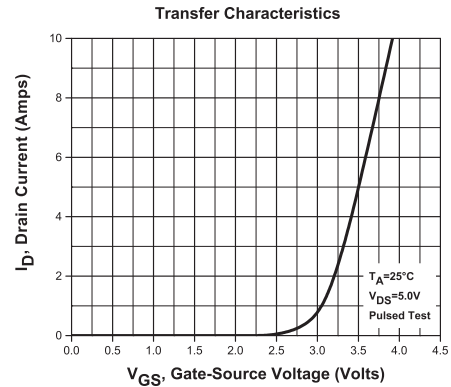
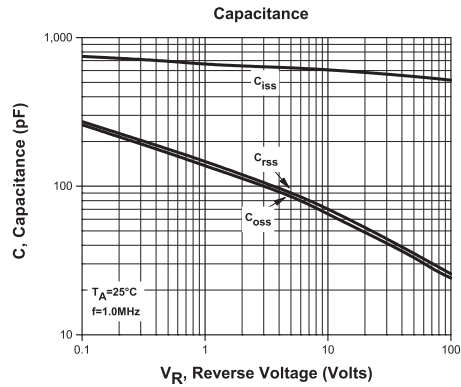
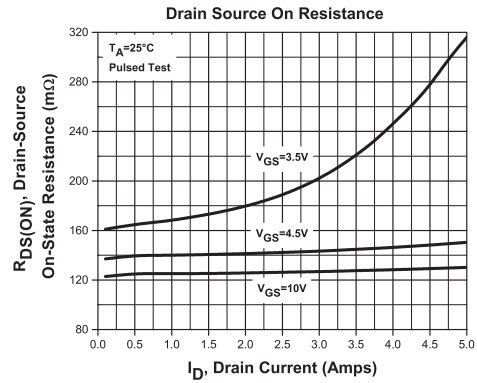
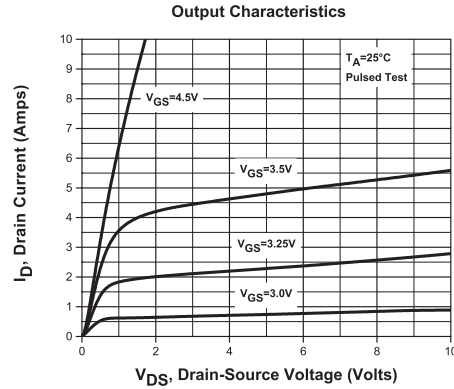
R1 (19-March 2013)

CXDM1002N

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TYPICAL ELECTRICAL CHARACTERISTICS



R1 (19-March 2013)