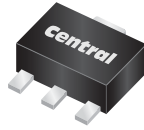




**THE DATASHEET OF
CXDM1002N TR PBFREE**



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)

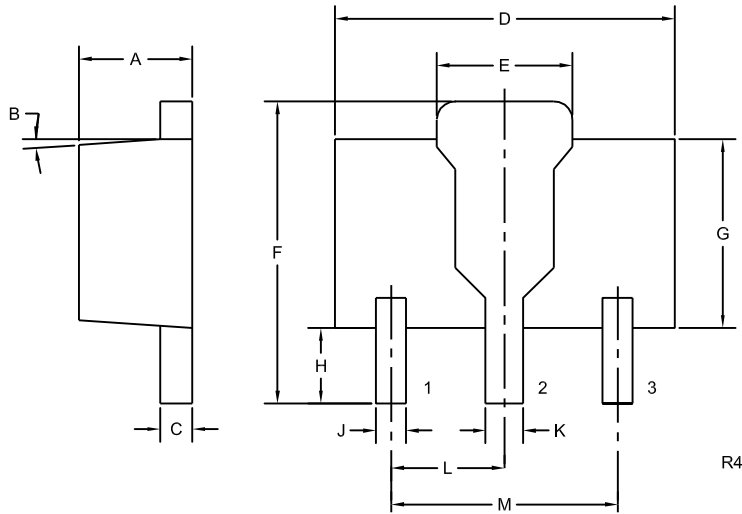
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=20V, V_{DS}=0$			15	μA
I_{DSS}	$V_{DS}=100V, V_{GS}=0$			100	nA
BV_{DSS}	$V_{GS}=0, I_D=250\mu A$	100			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	1.5	2.1	2.5	V
V_{SD}	$V_{GS}=0, I_S=1.0A$			1.1	V
$r_{DS(ON)}$	$V_{GS}=10V, I_D=2.0A$		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

R2 (28-November 2017)

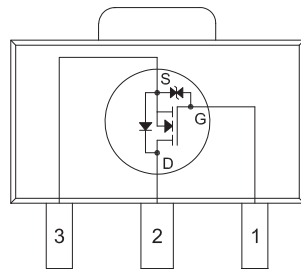
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SOT-89 CASE - MECHANICAL OUTLINE



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	

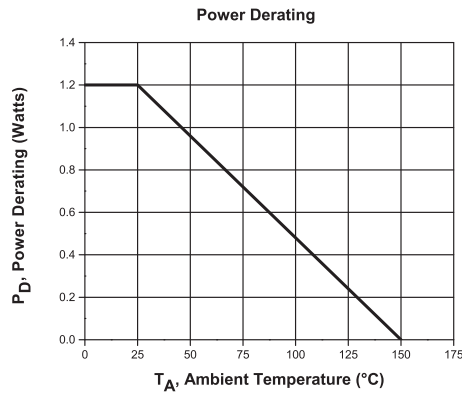
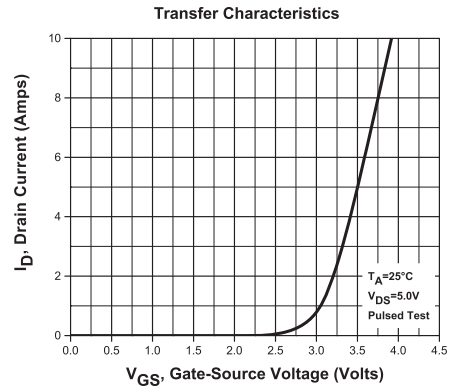
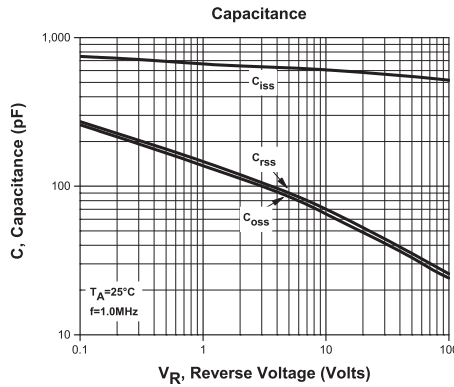
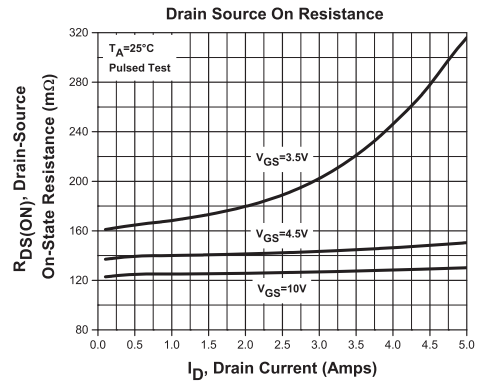
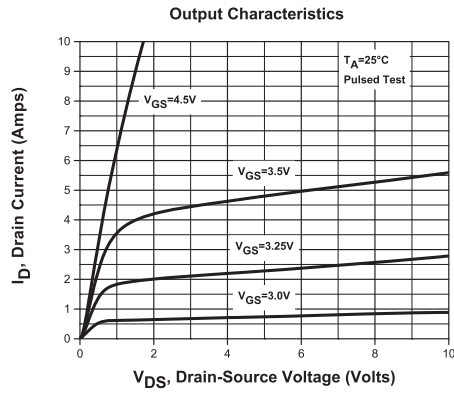
SOT-89 (REV: R4)

R2 (28-November 2017)

CXDM1002N
SURFACE MOUNT SILICON
N-CHANNEL
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MOSFET



TYPICAL ELECTRICAL CHARACTERISTICS



R2 (28-November 2017)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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- [⊖ Central Semiconductor Corp Information](#)

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- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management