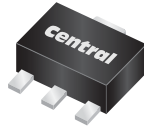


**CXDM1002N**  
**SURFACE MOUNT SILICON**  
**N-CHANNEL**  
**ENHANCEMENT-MODE**  
**MOSFET**



**SOT-89 CASE**



[www.centrasemi.com](http://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 $\Omega$  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	$V_{DS}$	100	V
Gate-Source Voltage	$V_{GS}$	20	V
Continuous Drain Current (Steady State)	$I_D$	2.0	A
Maximum Pulsed Drain Current, $t_p=10\mu s$	$I_{DM}$	7.0	A
Power Dissipation	$P_D$	1.2	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-55 to +150	$^\circ C$
Thermal Resistance	$\theta_{JA}$	104	$^\circ C/W$

**SYMBOL**

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	$^\circ C$
$\theta_{JA}$	104	$^\circ C/W$

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

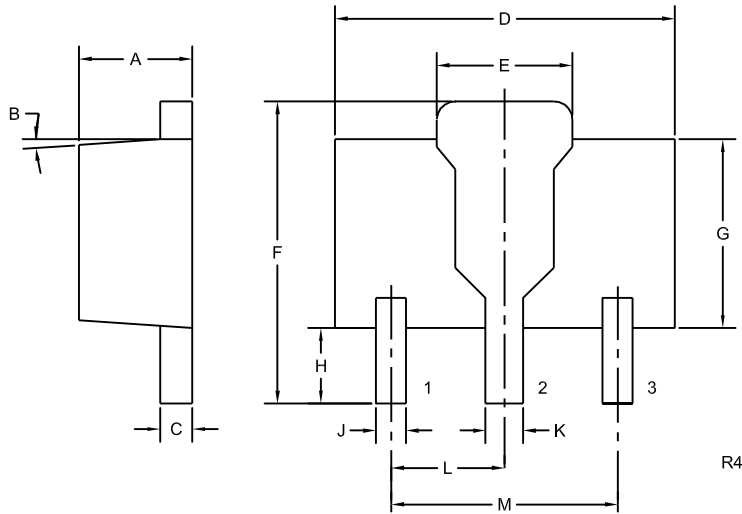
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=20V, V_{DS}=0$			15	$\mu A$
$I_{DSS}$	$V_{DS}=100V, V_{GS}=0$			100	nA
$BV_{DSS}$	$V_{GS}=0, I_D=250\mu A$	100			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	1.5	2.1	2.5	V
$V_{SD}$	$V_{GS}=0, I_S=1.0A$			1.1	V
$r_{DS(ON)}$	$V_{GS}=10V, I_D=2.0A$		125	300	m $\Omega$
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=1.0A$		140	350	m $\Omega$
$C_{rss}$	$V_{DS}=25V, V_{GS}=0, f=1.0MHz$		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)

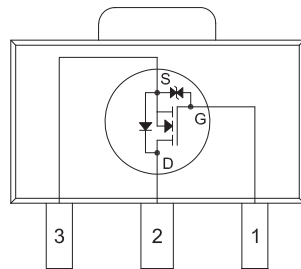
**CXDM1002N**  
**SURFACE MOUNT SILICON**  
**N-CHANNEL**  
**ENHANCEMENT-MODE**  
**MOSFET**



**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	

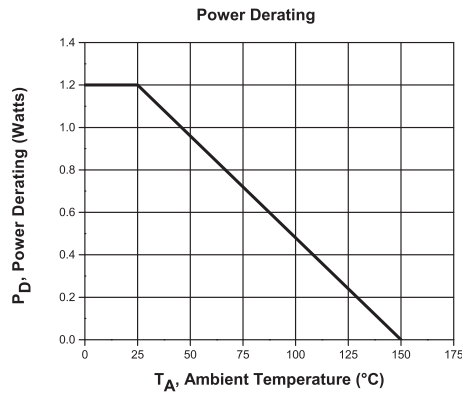
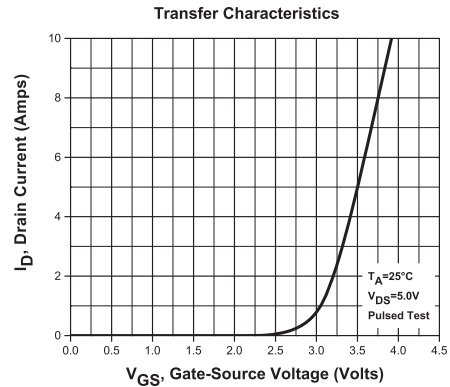
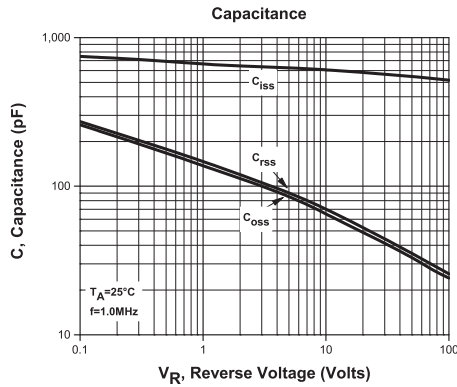
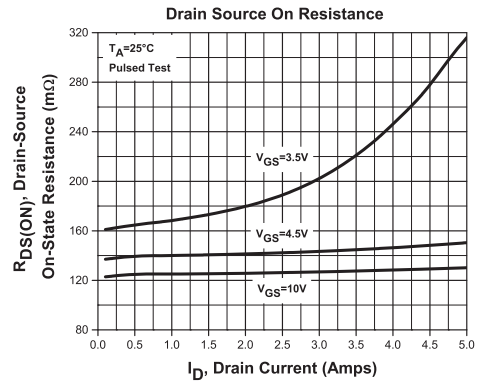
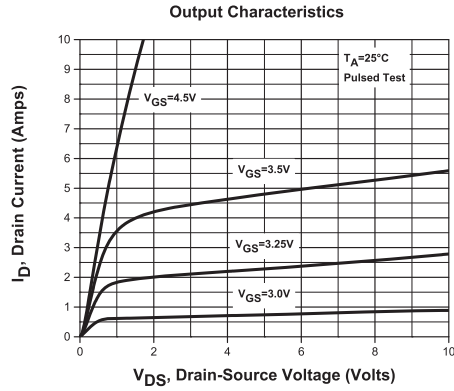
SOT-89 (REV: R4)

R2 (28-November 2017)

**CXDM1002N**  
**SURFACE MOUNT SILICON**  
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**TYPICAL ELECTRICAL CHARACTERISTICS**



R2 (28-November 2017)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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### 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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### CONTACT US

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[www.centrasemi.com/wwdistributors](http://www.centrasemi.com/wwdistributors)

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