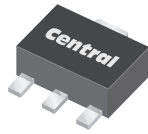


**CXDM6053N**  
**SURFACE MOUNT**  
**N-CHANNEL**  
**ENHANCEMENT-MODE**  
**SILICON MOSFET**



**SOT-89 CASE**



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CXDM6053N is a high current N-channel enhancement-mode silicon MOSFET, designed for high speed pulsed amplifier and driver applications. This MOSFET offers high current, low  $r_{DS(ON)}$ , low threshold voltage, and low leakage current.

**MARKING: FULL PART NUMBER**

**APPLICATIONS:**

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

**FEATURES:**

- Low  $r_{DS(ON)}$  (52m $\Omega$  MAX @  $V_{GS}=4.5V$ )
- High current ( $I_D=5.3A$ )
- Logic level compatibility

**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
$V_{DS}$	60	V
$V_{GS}$	20	V
$I_D$	5.3	A
$I_{DM}$	30	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)

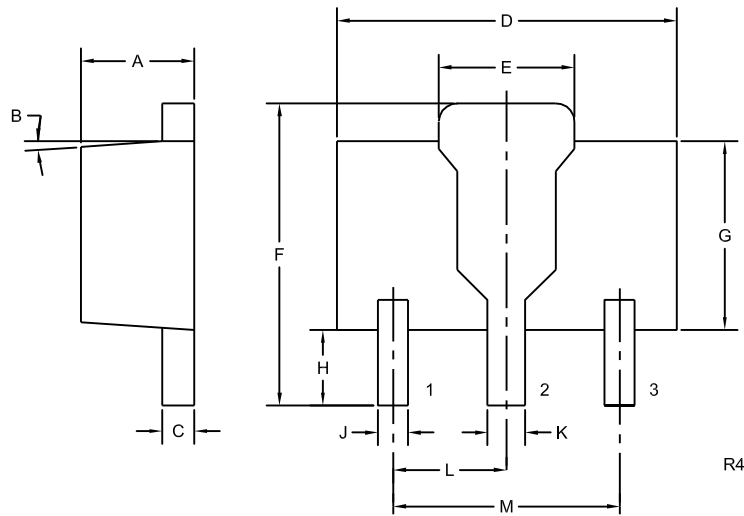
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=20V, V_{DS}=0$			100	nA
$I_{DSS}$	$V_{DS}=60V, V_{GS}=0$			1.0	$\mu A$
$BV_{DSS}$	$V_{GS}=0, I_D=250\mu A$	60			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	1.0	1.3	3.0	V
$V_{SD}$	$V_{GS}=0, I_S=2.0A$			1.2	V
$r_{DS(ON)}$	$V_{GS}=10V, I_D=5.3A$		30	41	m $\Omega$
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=4.7A$		33	52	m $\Omega$
$Q_g(tot)$	$V_{DS}=30V, V_{GS}=5.0V, I_D=5.3A$		8.8		nC
$Q_{gs}$	$V_{DS}=30V, V_{GS}=5.0V, I_D=5.3A$		1.9		nC
$Q_{gd}$	$V_{DS}=30V, V_{GS}=5.0V, I_D=5.3A$		3.6		nC
$C_{rss}$	$V_{DS}=30V, V_{GS}=0, f=1.0MHz$		53		pF
$C_{iss}$	$V_{DS}=30V, V_{GS}=0, f=1.0MHz$		920		pF
$C_{oss}$	$V_{DS}=30V, V_{GS}=0, f=1.0MHz$		49		pF
$t_{on}$	$V_{DD}=30V, V_{GS}=4.5V, I_D=4.4A$				
	$R_G=1.0\Omega, R_L=6.8\Omega$		33		ns
$t_{off}$	$V_{DD}=30V, V_{GS}=4.5V, I_D=4.4A$				
	$R_G=1.0\Omega, R_L=6.8\Omega$		42		ns

R1 (9-August 2012)

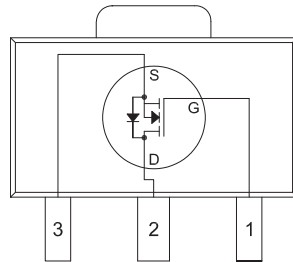
**CXDM6053N**  
**SURFACE MOUNT**  
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**SOT-89 CASE - MECHANICAL OUTLINE**



**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 (9-August 2012)

## 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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