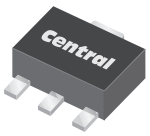
**CXDM6053N**

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




**SOT-89 CASE**

Central Semiconductor Corp.

www.centralsemi.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 $r_{DS(ON)}$ (52mΩ MAX @ $V_{GS}$=4.5V)
- High current ($I_D$=5.3A)
- Logic level compatibility

| **MAXIMUM RATINGS:** ($T_A$=25°C) | **SYMBOL** | | **UNITS** |
|---|---|---|---|
| Drain-Source Voltage | $V_{DS}$ | 60 | V |
| Gate-Source Voltage | $V_{GS}$ | 20 | V |
| Continuous Drain Current (Steady State) | $I_D$ | 5.3 | A |
| Maximum Pulsed Drain Current, tp=10μs | $I_{DM}$ | 30 | A |
| Power Dissipation | $P_D$ | 1.2 | W |
| Operating and Storage Junction Temperature | $T_J$, $T_{stg}$ | -55 to +150 | °C |
| Thermal Resistance | $\Theta_{JA}$ | 104 | °C/W |

**ELECTRICAL CHARACTERISTICS:** ($T_A$=25°C unless otherwise noted)

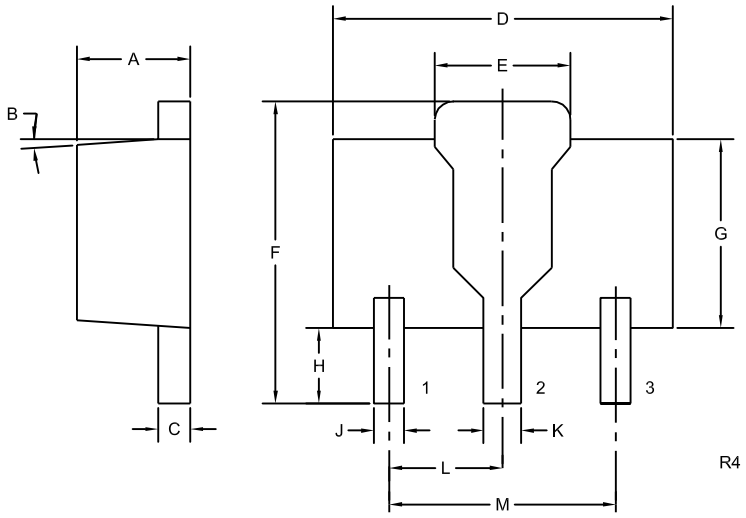
| **SYMBOL** | **TEST CONDITIONS** | **MIN** | **TYP** | **MAX** | **UNITS** |
|---|---|---|---|---|---|
| $I_{GSSF}$, $I_{GSSR}$ | $V_{GS}$=20V, $V_{DS}$=0 | | | 100 | nA |
| $I_{DSS}$ | $V_{DS}$=60V, $V_{GS}$=0 | | | 1.0 | μA |
| $BV_{DSS}$ | $V_{GS}$=0, $I_D$=250μA | 60 | | | V |
| $V_{GS(th)}$ | $V_{GS}$=$V_{DS}$, $I_D$=250μA | 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 | mΩ |
| $r_{DS(ON)}$ | $V_{GS}$=4.5V, $I_D$=4.7A | | 33 | 52 | mΩ |
| $Q_{g(tot)}$ | $V_{DS}$=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 | | | | |
| | $R_G$=1.0Ω, $R_L$=6.8Ω | | 33 | | ns |
| $t_{off}$ | $V_{DD}$=30V, $V_{GS}$=4.5V, $I_D$=4.4A | | | | |
| | $R_G$=1.0Ω, $R_L$=6.8Ω | | 42 | | ns |

R1 (9-August 2012)

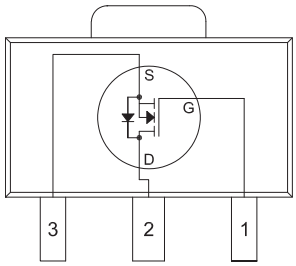
**CXDM6053N**

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## SOT-89 CASE - MECHANICAL OUTLINE




**PIN CONFIGURATION**




(Top View)
Tab is common to pin 2

| DIMENSIONS | | | | |
|---|---|---|---|---|
| | INCHES | | MILLIMETERS | |
| SYMBOL | 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)

**LEAD CODE:**
1) Gate
2) Drain
3) Source

**MARKING: FULL PART NUMBER**

R1 (9-August 2012)

## 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).

### CONTACT US

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