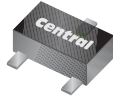


CMUDM7004**SURFACE MOUNT
N-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET**
www.centrasemi.com
ULTRAmi™**SOT-523 CASE****DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMUDM7004 is an Enhancement-mode N-Channel MOSFET, manufactured by the N-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications. This MOSFET offers Low $r_{DS(on)}$ and Low Theshold Voltage.

MARKING CODE: 74C**FEATURES:**

- ESD Protection up to 2kV
- Low $r_{DS(on)}$
- Low Threshold Voltage
- Logic Level Compatible
- Small, SOT-523 Surface Mount Package
- Complimentary P-Channel MOSFET: CMUDM8004

APPLICATIONS:

- Load/Power Switches
- Power Supply Converter Circuits
- Battery Powered Portable Devices

MAXIMUM RATING: ($T_A=25^\circ\text{C}$)

| | SYMBOL | | UNITS |
|--|----------------|-------------|------------------|
| Drain-Source Voltage | V_{DS} | 30 | V |
| Gate-Source Voltage | V_{GS} | 8.0 | V |
| Continuous Drain Current | I_D | 450 | mA |
| Power Dissipation | P_D | 250 | mW |
| Operating and Storage Junction Temperature | T_J, T_{stg} | -65 to +150 | $^\circ\text{C}$ |

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

| SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|----------------------|---|-----|-------|-----|------------------|
| I_{GSSF}, I_{GSSR} | $V_{GS}=8.0V, V_{DS}=0$ | | | 3.0 | μA |
| I_{DSS} | $V_{DS}=30V, V_{GS}=0$ | | | 1.0 | μA |
| BV_{DSS} | $V_{GS}=0, I_D=10\mu\text{A}$ | 30 | | | V |
| $V_{GS(th)}$ | $V_{DS}=V_{GS}, I_D=250\mu\text{A}$ | 0.5 | | 1.0 | V |
| V_{SD} | $V_{GS}=0, I_S=400\text{mA}$ | 0.5 | | 1.1 | V |
| $r_{DS(ON)}$ | $V_{GS}=4.5V, I_D=200\text{mA}$ | | 280 | 460 | $\text{m}\Omega$ |
| $r_{DS(ON)}$ | $V_{GS}=2.5V, I_D=100\text{mA}$ | | 390 | 560 | $\text{m}\Omega$ |
| $r_{DS(ON)}$ | $V_{GS}=1.8V, I_D=75\text{mA}$ | | 550 | 730 | $\text{m}\Omega$ |
| $Q_{g(tot)}$ | $V_{DS}=15V, V_{GS}=4.5V, I_D=1.0A$ | | 0.792 | | nC |
| Q_{gs} | $V_{DS}=15V, V_{GS}=4.5V, I_D=1.0A$ | | 0.15 | | nC |
| Q_{gd} | $V_{DS}=15V, V_{GS}=4.5V, I_D=1.0A$ | | 0.23 | | nC |
| g_{FS} | $V_{DS}=10V, I_D=100\text{mA}$ | 200 | | | mS |
| C_{rss} | $V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$ | | 5.0 | 10 | pF |
| C_{iss} | $V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$ | | 43 | 45 | pF |
| C_{oss} | $V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$ | | 8.0 | 15 | pF |
| t_{on} | $V_{DS}=5.0V, V_{GS}=4.0V, I_D=75\text{mA}, R_G=10\Omega$ | | 20 | | ns |
| t_{off} | $V_{DS}=5.0V, V_{GS}=4.0V, I_D=75\text{mA}, R_G=10\Omega$ | | 75 | | ns |

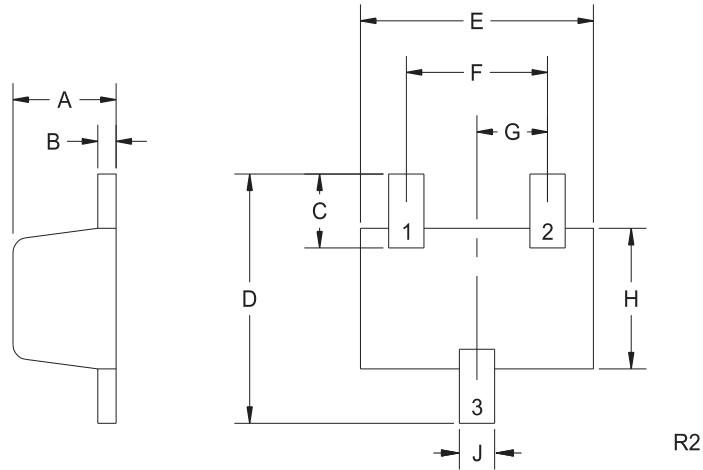
R2 (2-August 2011)

CMUDM7004

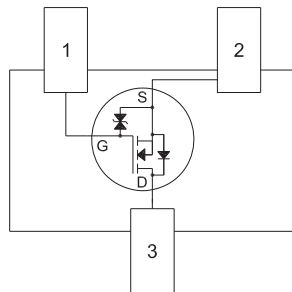
**SURFACE MOUNT
N-CHANNEL
ENHANCEMENT-MODE
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SOT-523 CASE - MECHANICAL OUTLINE



**PIN CONFIGURATION
(Bottom View)**



| SYMBOL | INCHES | | MILLIMETERS | |
|--------|--------|-------|-------------|------|
| | MIN | MAX | MIN | MAX |
| A | 0.023 | 0.031 | 0.58 | 0.78 |
| B | 0.002 | 0.008 | 0.04 | 0.20 |
| C | 0.013 | 0.021 | 0.34 | 0.54 |
| D | 0.059 | 0.067 | 1.50 | 1.70 |
| E | 0.059 | 0.067 | 1.50 | 1.70 |
| F | 0.035 | 0.043 | 0.90 | 1.10 |
| G | 0.020 | | 0.50 | |
| H | 0.031 | 0.039 | 0.78 | 0.98 |
| J | 0.010 | 0.014 | 0.25 | 0.35 |

SOT-523 (REV: R2)

LEAD CODE:

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

MARKING CODE: 74C

R2 (2-August 2011)

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PRODUCT SUPPORT

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

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- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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

- Free quick ship samples (2nd day air)
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- 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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