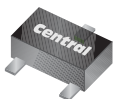


CMUDM8004

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

**ULTRA**mini™



**SOT-523 CASE**

• Devices are **Halogen Free** by design

**APPLICATIONS:**

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

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

|                                            |
|--------------------------------------------|
| Drain-Source Voltage                       |
| Gate-Source Voltage                        |
| Continuous Drain Current                   |
| Power Dissipation                          |
| Operating and Storage Junction Temperature |



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

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMUDM8004 is an Enhancement-mode P-Channel Field Effect Transistor, manufactured by the P-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: 84C**

**FEATURES:**

- ESD Protection up to 2kV
- Low  $r_{DS(on)}$
- Low Threshold Voltage
- Logic Level Compatible
- Small, SOT-523 Surface Mount Package
- Complimentary N-Channel MOSFET: CMUDM7004

| SYMBOL         |             | UNITS            |
|----------------|-------------|------------------|
| $V_{DS}$       | 30          | V                |
| $V_{GS}$       | 8.0         | V                |
| $I_D$          | 450         | mA               |
| $P_D$          | 250         | mW               |
| $T_J, T_{stg}$ | -65 to +150 | $^\circ\text{C}$ |

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

| SYMBOL              | TEST CONDITIONS                                          | MIN | TYP   | MAX | UNITS         |
|---------------------|----------------------------------------------------------|-----|-------|-----|---------------|
| $I_{GSS}, I_{GSSR}$ | $V_{GS}=8.0\text{V}, V_{DS}=0$                           |     |       | 3.0 | $\mu\text{A}$ |
| $I_{DSS}$           | $V_{DS}=30\text{V}, V_{GS}=0$                            |     |       | 1.0 | $\mu\text{A}$ |
| $BV_{DSS}$          | $V_{GS}=0, I_D=100\mu\text{A}$                           | 30  |       |     | V             |
| $V_{GS(th)}$        | $V_{DS}=V_{GS}, I_D=250\mu\text{A}$                      | 0.5 |       | 1.0 | V             |
| $V_{SD}$            | $V_{GS}=0, I_S=100\text{mA}$                             |     |       | 1.1 | V             |
| $r_{DS(ON)}$        | $V_{GS}=4.5\text{V}, I_D=430\text{mA}$                   |     |       | 1.1 | $\Omega$      |
| $r_{DS(ON)}$        | $V_{GS}=2.5\text{V}, I_D=200\text{mA}$                   |     |       | 2.0 | $\Omega$      |
| $r_{DS(ON)}$        | $V_{GS}=1.8\text{V}, I_D=100\text{mA}$                   |     |       | 3.3 | $\Omega$      |
| $Q_g(\text{tot})$   | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$ |     | 0.880 |     | nC            |
| $Q_{gs}$            | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$ |     | 0.384 |     | nC            |
| $Q_{gd}$            | $V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=1.0\text{A}$ |     | 0.128 |     | nC            |
| $g_{FS}$            | $V_{DS}=10\text{V}, I_D=100\text{mA}$                    | 200 |       |     | mS            |
| $C_{rss}$           | $V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$           |     |       | 10  | pF            |
| $C_{iss}$           | $V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$           |     |       | 55  | pF            |
| $C_{oss}$           | $V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$           |     |       | 15  | pF            |

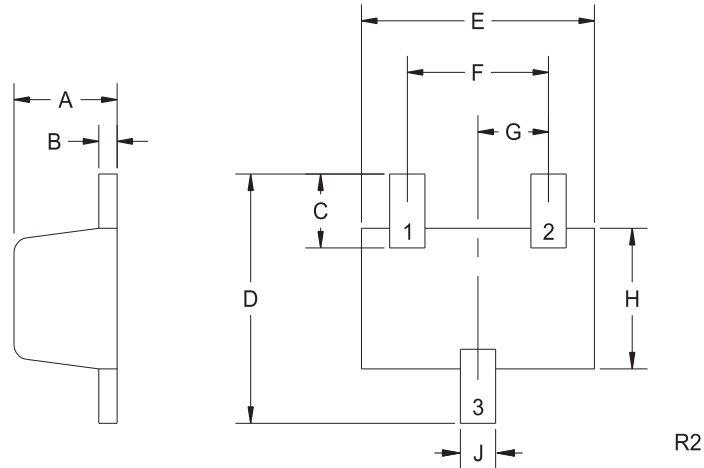
R1 (7-December 2010)

CMUDM8004

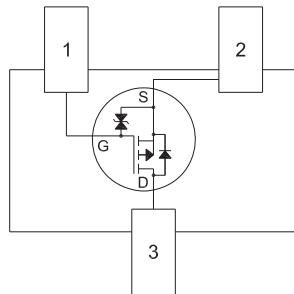
SURFACE MOUNT  
P-CHANNEL  
ENHANCEMENT-MODE  
SILICON MOSFET



SOT-523 CASE - MECHANICAL OUTLINE



PIN CONFIGURATION  
(Bottom View)



| SYMBOL | DIMENSIONS |       |             |      |
|--------|------------|-------|-------------|------|
|        | 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: 84C

R1 (7-December 2010)

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