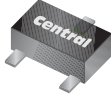


**CMUDM7004****SURFACE MOUNT  
N-CHANNEL  
ENHANCEMENT-MODE  
SILICON MOSFET**
[www.centrasemi.com](http://www.centrasemi.com)
**ULTRAmi™****SOT-523 CASE****DESCRIPTION:**

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)

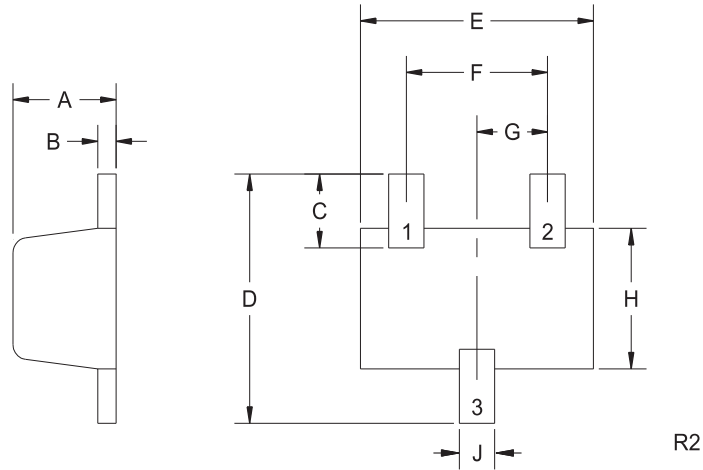
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=8.0V, V_{DS}=0$			3.0	$\mu\text{A}$
$I_{DSS}$	$V_{DS}=30V, V_{GS}=0$			1.0	$\mu\text{A}$
$BV_{DSS}$	$V_{GS}=0, I_D=10\mu\text{A}$	30			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.5		1.0	V
$V_{SD}$	$V_{GS}=0, I_S=400\text{mA}$	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)

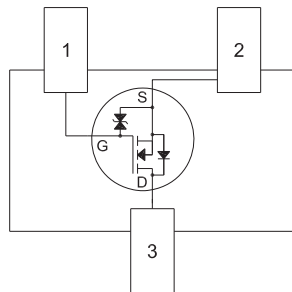
CMUDM7004  
 SURFACE MOUNT  
 N-CHANNEL  
 ENHANCEMENT-MODE  
 SILICON MOSFET



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)

## 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

#### Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.  
145 Adams Avenue  
Hauppauge, NY 11788 USA  
Main Tel: (631) 435-1110  
Main Fax: (631) 435-1824  
Support Team Fax: (631) 435-3388  
[www.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

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