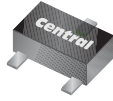


**CMUDM7001****SURFACE MOUNT  
N-CHANNEL  
ENHANCEMENT-MODE  
SILICON MOSFET****ULTRAmi™****SOT-523 CASE**[www.centrasemi.com](http://www.centrasemi.com)**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMUDM7001 is an N-Channel Enhancement-mode Silicon 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: C7A****FEATURES:**

- Power Dissipation 250mW
- Low  $r_{DS(ON)}$
- Low Threshold Voltage
- Logic Level Compatible
- Small, SOT-523 Surface Mount Package
- Complementary Device: CMUDM8001

**APPLICATIONS:**

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

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

Drain-Source Voltage	
Gate-Source Voltage	
Continuous Drain Current (Steady State)	
Continuous Drain Current	
Power Dissipation	
Operating and Storage Junction Temperature	

**SYMBOL**

$V_{DS}$	20
$V_{GS}$	10
$I_D$	100
$I_D$	200
$P_D$	250
$T_J, T_{stg}$	-65 to +150

**UNITS**

V
V
mA
mA
mW
$^\circ\text{C}$

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

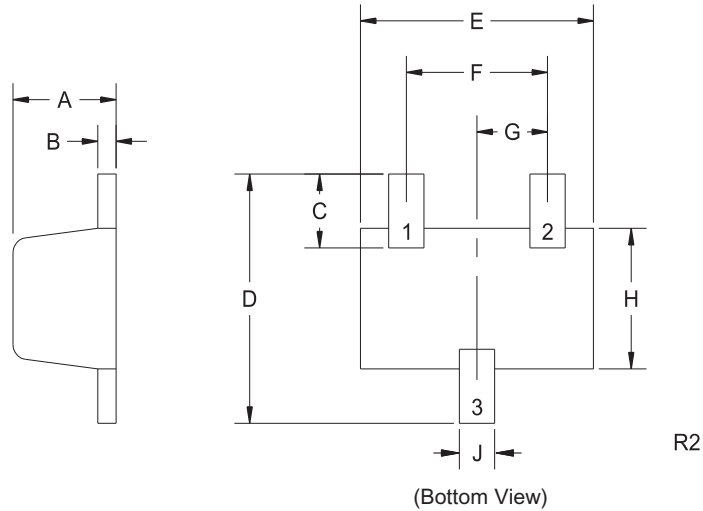
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=10\text{V}, V_{DS}=0$			1.0	$\mu\text{A}$
$I_{DSS}$	$V_{DS}=20\text{V}, V_{GS}=0$			1.0	$\mu\text{A}$
$BV_{DSS}$	$V_{GS}=0, I_D=100\mu\text{A}$	20			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.6		0.9	V
$r_{DS(ON)}$	$V_{GS}=4.0\text{V}, I_D=10\text{mA}$		0.9	3.0	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5\text{V}, I_D=10\text{mA}$		1.3	4.0	$\Omega$
$r_{DS(ON)}$	$V_{GS}=1.5\text{V}, I_D=1.0\text{mA}$			15	$\Omega$
$Q_g(\text{tot})$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.566		nC
$Q_{gs}$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.16		nC
$Q_{gd}$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.08		nC
$g_{FS}$	$V_{DS}=10\text{V}, I_D=100\text{mA}$	100			mS
$C_{rss}$	$V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		4.0		pF
$C_{iss}$	$V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		9.0		pF
$C_{oss}$	$V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		9.5		pF
$t_{on}$	$V_{DD}=3.0\text{V}, V_{GS}=2.5\text{V}, I_D=10\text{mA}$		50		ns
$t_{off}$	$V_{DD}=3.0\text{V}, V_{GS}=2.5\text{V}, I_D=10\text{mA}$		75		ns

R3 (22-August 2011)

CMUDM7001  
 SURFACE MOUNT  
 N-CHANNEL  
 ENHANCEMENT-MODE  
 SILICON MOSFET



SOT-523 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE: C7A

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)

R3 (22-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

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**Worldwide Distributors:**  
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