

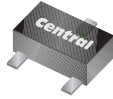
CMUDM8001

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



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ULTRAmulti™



**SOT-523 CASE**

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CMUDM8001 is a P-Channel Enhancement-mode Silicon MOSFET, 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: C8A**

**FEATURES:**

- Power Dissipation 250mW
- Low  $r_{DS(ON)}$
- Low Threshold Voltage
- Logic Level Compatible
- Small, SOT-523 Surface Mount Package
- Complementary Device: CMUDM7001

**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
$^\circ\text{C}$

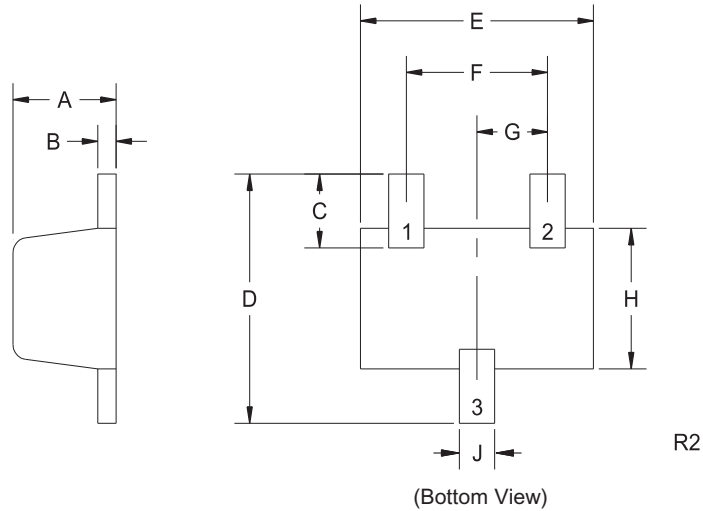
**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

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		1.1	V
$r_{DS(ON)}$	$V_{GS}=4.0\text{V}, I_D=10\text{mA}$		1.9	8.0	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5\text{V}, I_D=10\text{mA}$		2.4	12	$\Omega$
$r_{DS(ON)}$	$V_{GS}=1.5\text{V}, I_D=1.0\text{mA}$			45	$\Omega$
$Q_g(\text{tot})$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.658		nC
$Q_{gs}$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.158		nC
$Q_{gd}$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$		0.181		nC
$g_{FS}$	$V_{DS}=10\text{V}, I_D=100\text{mA}$	100			mS
$C_{rss}$	$V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		15		pF
$C_{iss}$	$V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		45		pF
$C_{oss}$	$V_{DS}=3.0\text{V}, V_{GS}=0, f=1.0\text{MHz}$		15		pF
$t_{on}$	$V_{DD}=3.0\text{V}, V_{GS}=2.5\text{V}, I_D=10\text{mA}$		35		ns
$t_{off}$	$V_{DD}=3.0\text{V}, V_{GS}=2.5\text{V}, I_D=10\text{mA}$		80		ns

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SOT-523 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE: C8A

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)