



CMUDM8001

SURFACE MOUNT  
P-CHANNEL  
ENHANCEMENT-MODE  
SILICON MOSFET

ULTRAmimi™



SOT-523 CASE

# Central™

Semiconductor Corp.

### DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMUDM8001 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: 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

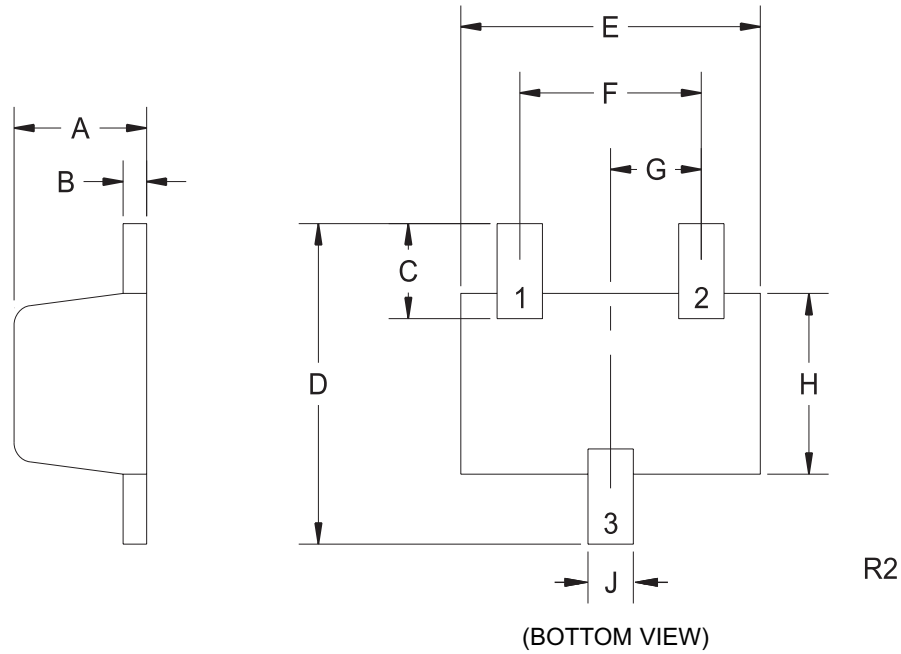
SYMBOL		UNITS
$V_{DS}$	20	V
$V_{GS}$	10	V
$I_D$	100	mA
$I_D$	200	mA
$P_D$	250	mW
$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}$	$V_{GS}=10V, V_{DS}=0V$			1.0	$\mu\text{A}$
$I_{GSSR}$	$V_{GS}=10V, V_{DS}=0V$			1.0	$\mu\text{A}$
$I_{DSS}$	$V_{DS}=20V, V_{GS}=0V$			1.0	$\mu\text{A}$
$BV_{DSS}$	$V_{GS}=0V, I_D=100\mu\text{A}$	20			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.6		1.1	V
$r_{DS(ON)}$	$V_{GS}=4.0V, I_D=10\text{mA}$			8.0	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=10\text{mA}$			12	$\Omega$
$r_{DS(ON)}$	$V_{GS}=1.5V, I_D=1.0\text{mA}$			45	$\Omega$
$g_{fs}$	$V_{DS}=10V, I_D=100\text{mA}$	100			mS
$C_{rss}$	$V_{DS}=3.0V, V_{GS}=0, f=1.0\text{MHz}$		15		pF
$C_{iss}$	$V_{DS}=3.0V, V_{GS}=0, f=1.0\text{MHz}$		45		pF
$C_{oss}$	$V_{DS}=3.0V, V_{GS}=0, f=1.0\text{MHz}$		15		pF
$t_{on}$	$V_{DD}=3.0V, V_{GS}=2.5V, I_D=10\text{mA}$		35		ns
$t_{off}$	$V_{DD}=3.0V, V_{GS}=2.5V, I_D=10\text{mA}$		80		ns

R0 (4-March 2008)

SOT-523 - MECHANICAL OUTLINE



**LEAD CODE:**

- 1) GATE
- 2) SOURCE
- 3) DRAIN

**MARKING CODE: C8A**

DIMENSIONS				
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)