

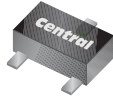
CMUDM8004

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



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ULTRAmⁱⁿⁱ



SOT-523 CASE

• Devices are **Halogen Free** by design

APPLICATIONS:

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

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMUDM8004 is an Enhancement-mode P-Channel 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: 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

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

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

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)

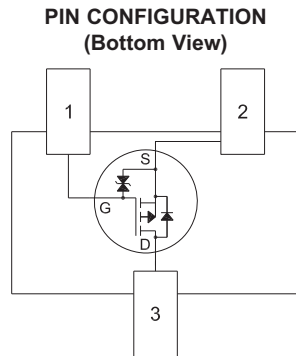
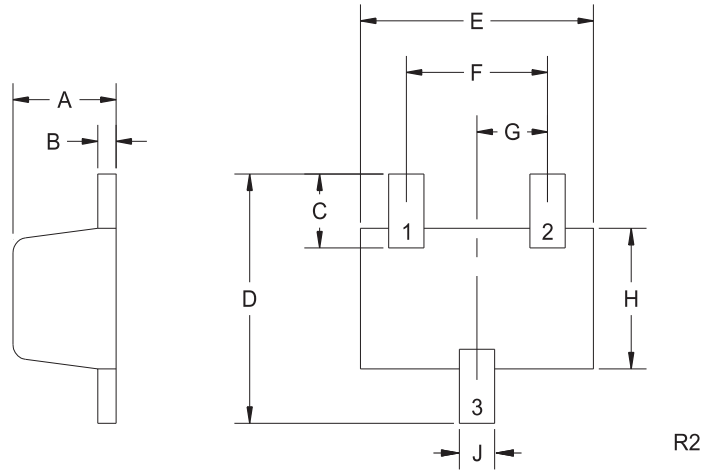
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=8.0V, V_{DS}=0$			3.0	μA
I_{DSS}	$V_{DS}=30V, V_{GS}=0$			1.0	μA
BV_{DSS}	$V_{GS}=0, I_D=100\mu\text{A}$	30			V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	0.5		1.0	V
V_{SD}	$V_{GS}=0, I_S=100\text{mA}$			1.1	V
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=430\text{mA}$		1.0	1.1	Ω
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=200\text{mA}$		1.5	2.0	Ω
$r_{DS(ON)}$	$V_{GS}=1.8V, I_D=100\text{mA}$		2.6	3.3	Ω
$Q_{g(tot)}$	$V_{DS}=10V, V_{GS}=4.5V, I_D=1.0A$		0.88		nC
Q_{gs}	$V_{DS}=10V, V_{GS}=4.5V, I_D=1.0A$		0.35		nC
Q_{gd}	$V_{DS}=10V, V_{GS}=4.5V, I_D=1.0A$		0.128		nC
g_{FS}	$V_{DS}=10V, I_D=100\text{mA}$	200			mS
C_{rss}	$V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$		8.0	10	pF
C_{iss}	$V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$		45	55	pF
C_{oss}	$V_{DS}=25V, V_{GS}=0, f=1.0\text{MHz}$		9.0	15	pF

R3 (2-August 2011)

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SOT-523 CASE - MECHANICAL OUTLINE



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: 84C

R3 (2-August 2011)

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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

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

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- 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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