

CMPDM8002A**SURFACE MOUNT SILICON
P-CHANNEL
ENHANCEMENT-MODE
MOSFET****SOT-23 CASE****APPLICATIONS:**

- Load/Power switches
- Power supply converter circuits
- Battery powered portable equipment

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

Drain-Source Voltage	
Drain-Gate Voltage	
Gate-Source Voltage	
Continuous Drain Current	
Continuous Source Current (Body Diode)	
Maximum Pulsed Drain Current	
Maximum Pulsed Source Current	
Power Dissipation	
Operating and Storage Junction Temperature	
Thermal Resistance	


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DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPDM8002A is a P-Channel enhancement-mode MOSFET manufactured by the P-Channel DMOS Process, designed for high speed pulsed amplifier and driver applications.

MARKING CODE: C802A**FEATURES:**

- Low $r_{DS(ON)}$
- Low $V_{DS(ON)}$
- Low threshold voltage
- Fast switching
- Logic level compatibility

SYMBOL

V_{DS}	50	V
V_{DG}	50	V
V_{GS}	20	V
I_D	280	mA
I_S	280	mA
I_{DM}	1.5	A
I_{SM}	1.5	A
P_D	350	mW
T_J, T_{stg}	-65 to +150	$^{\circ}\text{C}$
θ_{JA}	357	$^{\circ}\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=20\text{V}, V_{DS}=0$		100	nA
I_{DSS}	$V_{DS}=50\text{V}, V_{GS}=0$		1.0	μA
I_{DSS}	$V_{DS}=50\text{V}, V_{GS}=0, T_J=125^{\circ}\text{C}$		500	μA
$I_{D(ON)}$	$V_{GS}=10\text{V}, V_{DS}=10\text{V}$	500		mA
BV_{DSS}	$V_{GS}=0, I_D=10\mu\text{A}$	50		V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1.0	2.5	V
$V_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$		1.5	V
$V_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$		0.15	V
V_{SD}	$V_{GS}=0, I_S=115\text{mA}$		1.3	V
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$		2.5	Ω
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}, T_J=125^{\circ}\text{C}$		4.0	Ω
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$		3.0	Ω
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}, T_J=125^{\circ}\text{C}$		5.0	Ω
gFS	$V_{DS}=10\text{V}, I_D=200\text{mA}$	200		mS

R2 (6-February 2015)

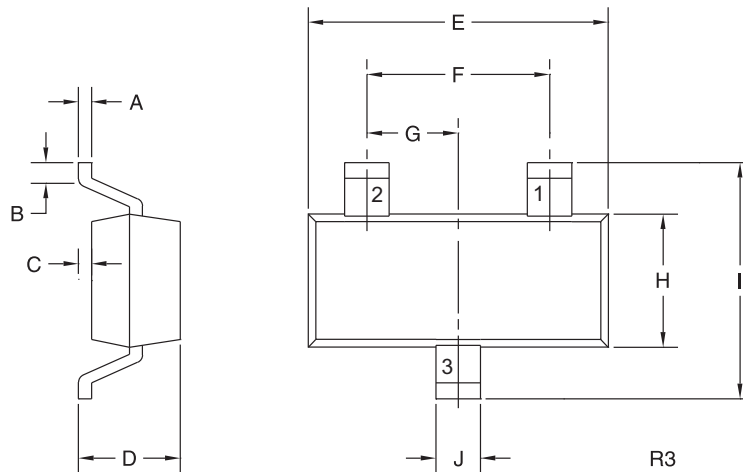
CMPDM8002A
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MOSFET



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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
C_{rss}	$V_{DS}=25\text{V}$, $V_{GS}=0$, $f=1.0\text{MHz}$			7.0	pF
C_{iss}	$V_{DS}=25\text{V}$, $V_{GS}=0$, $f=1.0\text{MHz}$			70	pF
C_{oss}	$V_{DS}=25\text{V}$, $V_{GS}=0$, $f=1.0\text{MHz}$			15	pF
$Q_{g(\text{tot})}$	$V_{DS}=25\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=100\text{mA}$		0.72		nC
Q_{gs}	$V_{DS}=25\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=100\text{mA}$		0.25		nC
Q_{gd}	$V_{DS}=25\text{V}$, $V_{GS}=4.5\text{V}$, $I_D=100\text{mA}$		0.16		nC
t_{on} , t_{off}	$V_{DD}=30\text{V}$, $V_{GS}=10\text{V}$, $I_D=200\text{mA}$, $R_G=25\Omega$, $R_L=150\Omega$			20	ns

SOT-23 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING CODE: C802A

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.003	0.007	0.08	0.18
B	0.006	-	0.15	-
C	-	0.005	-	0.13
D	0.035	0.043	0.89	1.09
E	0.110	0.120	2.80	3.05
F	0.075		1.90	
G	0.037		0.95	
H	0.047	0.055	1.19	1.40
I	0.083	0.098	2.10	2.49
J	0.014	0.020	0.35	0.50

SOT-23 (REV: R3)

R2 (6-February 2015)

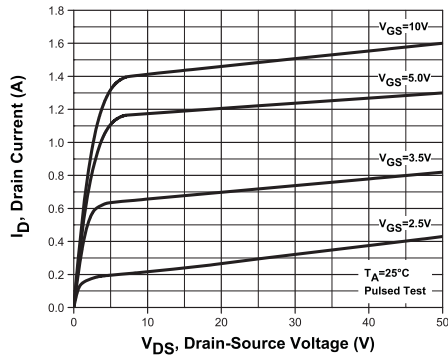
CMPDM8002A

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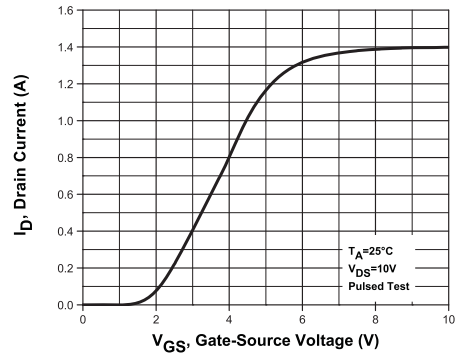


TYPICAL ELECTRICAL CHARACTERISTICS

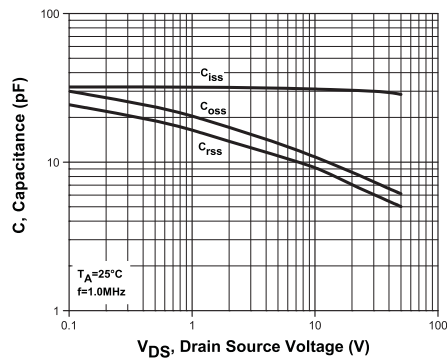
Output Characteristics



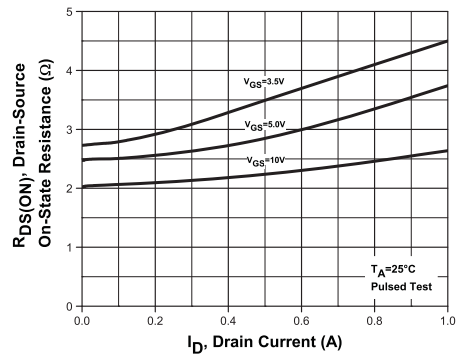
Transfer Characteristics



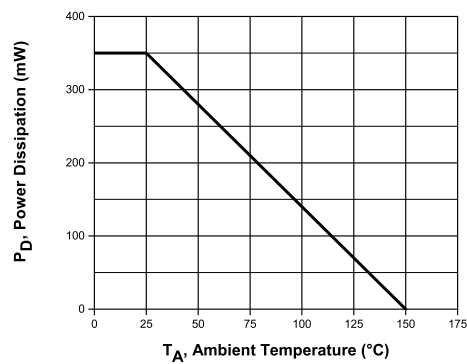
Capacitance



Drain Source On Resistance



Power Derating



R2 (6-February 2015)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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.

- Free quick ship samples (2nd 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

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).

CONTACT US

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