

CMPDM203NH
SURFACE MOUNT
N-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET



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SOT-23F CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPDM203NH is a High Current N-Channel Enhancement-mode Silicon MOSFET, manufactured by the N-Channel DMOS Process, and is designed for high speed pulsed amplifier and driver applications. This MOSFET offers High Current, Low $r_{DS(ON)}$, Low Threshold Voltage, and Low Leakage Current.

MARKING CODE: 203C

APPLICATIONS:

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

FEATURES:

- Low $r_{DS(ON)}$ (0.07 Ω MAX @ $V_{GS}=2.5V$)
- High current ($I_D=3.2A$)
- Logic level compatibility

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

Drain-Source Voltage	
Gate-Source Voltage	
Continuous Drain Current (Steady State)	
Maximum Pulsed Drain Current, $t_p=10\mu s$	
Power Dissipation	
Operating and Storage Junction Temperature	
Thermal Resistance	

SYMBOL

SYMBOL		UNITS
V_{DS}	20	V
V_{GS}	12	V
I_D	3.2	A
I_{DM}	12.8	A
P_D	350	mW
T_J, T_{stg}	-55 to +150	$^\circ C$
θ_{JA}	357	$^\circ C/W$

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

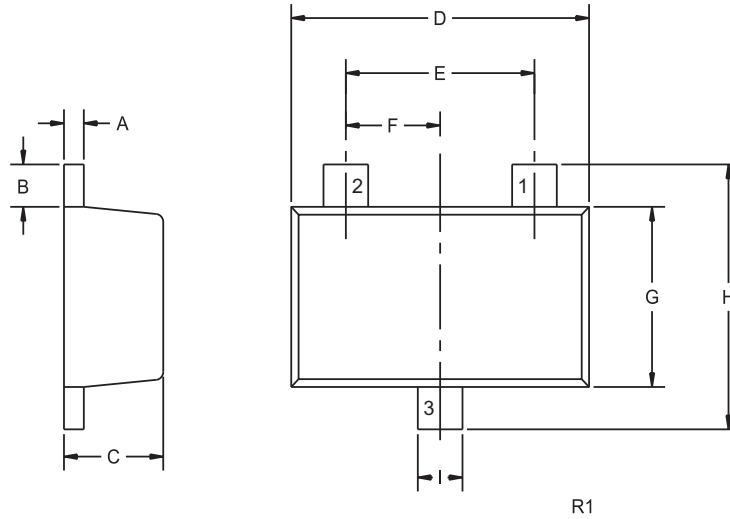
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=12V, V_{DS}=0$			10	μA
I_{DSS}	$V_{DS}=20V, V_{GS}=0$			1.0	μA
BV_{DSS}	$V_{GS}=0, I_D=250\mu A$	20			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	0.6		1.2	V
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=1.6A$		0.033	0.05	Ω
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=1.6A$		0.046	0.07	Ω
g_{FS}	$V_{DS}=5.0V, I_D=3.2A$		10.5		S
C_{rSS}	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		44		pF
C_{iSS}	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		395		pF
C_{oss}	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		97		pF
$Q_g(tot)$	$V_{DD}=10V, V_{GS}=4.5V, I_D=3.2A$		6.8	10	nC
Q_{gs}	$V_{DD}=10V, V_{GS}=4.5V, I_D=3.2A$		0.8	1.2	nC
Q_{gd}	$V_{DD}=10V, V_{GS}=4.5V, I_D=3.2A$		0.9	1.1	nC
t_{on}	$V_{DD}=10V, I_D=3.2A, R_G=10\Omega$		6.0		ns
t_{off}	$V_{DD}=10V, I_D=3.2A, R_G=10\Omega$		22.8		ns

R0 (20-October 2010)

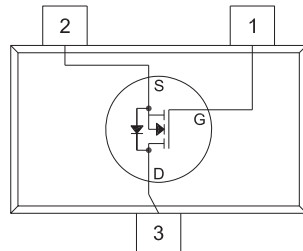
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SOT-23F CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.004	0.008	0.10	0.20
B	0.012	0.020	0.30	0.50
C	0.031	0.039	0.80	1.00
D	0.110	0.118	2.80	3.00
E	0.075		1.90	
F	0.037		0.95	
G	0.059	0.067	1.50	1.70
H	0.091	0.098	2.30	2.50
I	0.014	0.018	0.35	0.45

SOT-23F (REV: R1)

LEAD CODE:

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

MARKING CODE: 203C

R0 (20-October 2010)

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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
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