

CMPDM303NH
SURFACE MOUNT
N-CHANNEL
ENHANCEMENT-MODE
SILICON MOSFET



SOT-23F CASE



www.centra-semi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPDM303NH 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: 303C

APPLICATIONS:

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

FEATURES:

- Low $r_{DS(ON)}$ (0.078 Ω MAX @ $V_{GS}=2.5V$)
- High current ($I_D=3.6A$)
- 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

V_{DS}	30
V_{GS}	12
I_D	3.6
I_{DM}	14.4
P_D	350
T_J, T_{stg}	-55 to +150
θ_{JA}	357

UNITS

V
V
A
A
mW
$^\circ C$
$^\circ C/W$

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

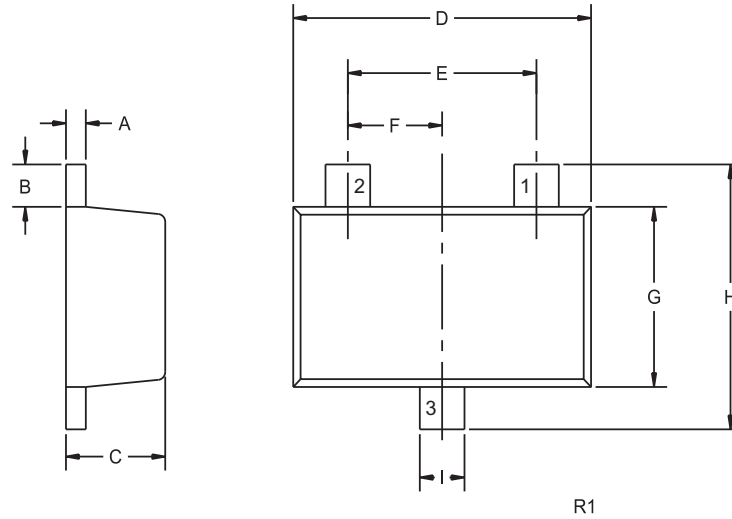
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=12V, V_{DS}=0$			10	μA
I_{DSS}	$V_{DS}=20V, V_{GS}=0$			1.0	μA
BV_{DSS}	$V_{GS}=0, I_D=250\mu A$	30			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	0.6		1.2	V
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=1.8A$		0.033	0.04	Ω
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=1.8A$		0.042	0.078	Ω
g_{FS}	$V_{DS}=5.0V, I_D=3.6A$		11.8		S
C_{rss}	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		55		pF
C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		590		pF
C_{oss}	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		50		pF
$Q_{g(tot)}$	$V_{DD}=10V, V_{GS}=4.5V, I_D=3.6A$		5.0	13	nC
Q_{gs}	$V_{DD}=10V, V_{GS}=4.5V, I_D=3.6A$		0.9	1.4	nC
Q_{gd}	$V_{DD}=10V, V_{GS}=4.5V, I_D=3.6A$		1.0	2.7	nC
t_{on}	$V_{DD}=10V, V_{GS}=4.0V, I_D=3.6A, R_G=10\Omega$		15		ns
t_{off}	$V_{DD}=10V, V_{GS}=4.0V, I_D=3.6A, R_G=10\Omega$		29		ns

R2 (11-December 2012)

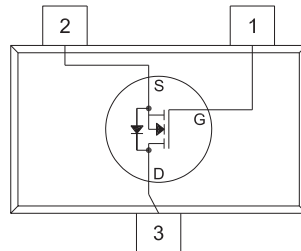
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SOT-23F CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



DIMENSIONS

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: 303C

R2 (11-December 2012)

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