

**CMPDM303NH**  
**SURFACE MOUNT**  
**N-CHANNEL**  
**ENHANCEMENT-MODE**  
**SILICON MOSFET**



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**SOT-23F CASE**

**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  $r_{DS(ON)}$  (0.078Ω 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		UNITS
$V_{DS}$	30	V
$V_{GS}$	12	V
$I_D$	3.6	A
$I_{DM}$	14.4	A
$P_D$	350	mW
$T_J, T_{stg}$	-55 to +150	$^\circ C$
$\theta_{JA}$	357	$^\circ C/W$

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

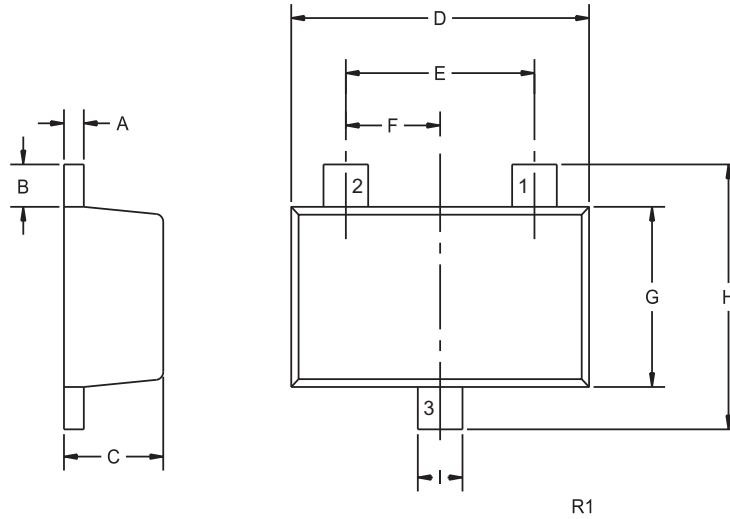
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=12V, V_{DS}=0$			10	$\mu A$
$I_{DSS}$	$V_{DS}=20V, V_{GS}=0$			1.0	$\mu A$
$BV_{DSS}$	$V_{GS}=0, I_D=250\mu A$	30			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	0.6		1.2	V
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=1.8A$		0.033	0.04	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=1.8A$		0.042	0.078	$\Omega$
$g_{FS}$	$V_{DS}=5.0V, I_D=3.6A$		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)

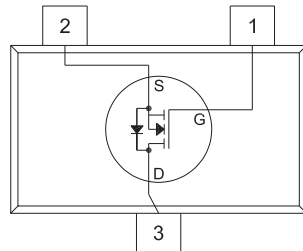
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**SOT-23F CASE - MECHANICAL OUTLINE**



**PIN CONFIGURATION**



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)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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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
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- Custom product packing

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