

CMPDM302PH

SURFACE MOUNT SILICON
ENHANCEMENT-MODE
P-CHANNEL MOSFET



SOT-23F CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CMPDM302PH is a high current P-channel enhancement-mode silicon MOSFET, manufactured by the P-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: 302C

APPLICATIONS:

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

FEATURES:

- Low $r_{DS(ON)}$ (0.129 Ω MAX @ $V_{GS}=2.5V$)
- High current ($I_D=2.4A$)
- 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 2.4
 I_{DM} 9.6
 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}	$V_{GS}=12V, V_{DS}=0$			100	nA
I_{DSS}	$V_{DS}=20V, V_{GS}=0$			1.0	μA
BV_{DSS}	$V_{GS}=0, I_D=250\mu A$	30			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	0.7		1.4	V
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=1.2A$		0.050	0.091	Ω
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=1.2A$		0.066	0.129	Ω
g_{FS}	$V_{DS}=5.0V, I_D=2.4A$		4.6		S
C_{rss}	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		69		pF
C_{iss}	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		800		pF
C_{oss}	$V_{DS}=10V, V_{GS}=0, f=1.0MHz$		62		pF
$Q_{g(tot)}$	$V_{DD}=10V, V_{GS}=5.0V, I_D=2.4A$		7.0	9.6	nC
Q_{gs}	$V_{DD}=10V, V_{GS}=5.0V, I_D=2.4A$		1.4	4.2	nC
Q_{gd}	$V_{DD}=10V, V_{GS}=5.0V, I_D=2.4A$		1.5	2.6	nC
t_{on}	$V_{DD}=10V, I_D=2.4A, R_G=10\Omega$		12		ns
t_{off}	$V_{DD}=10V, I_D=2.4A, R_G=10\Omega$		17		ns

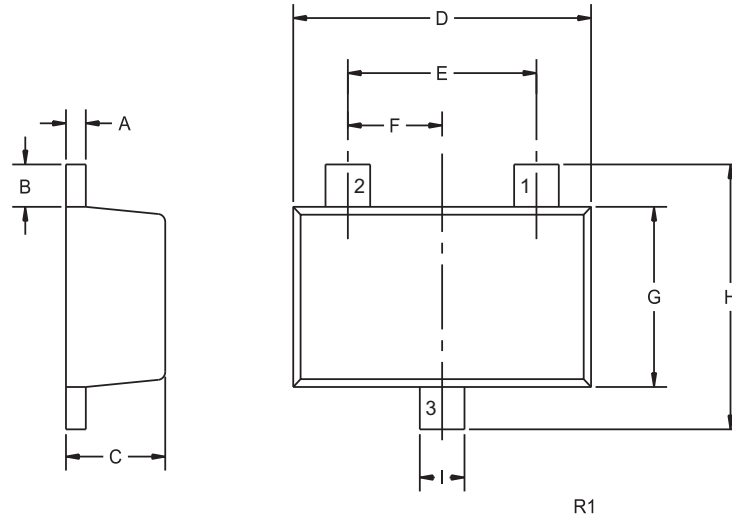
R2 (24-February 2014)

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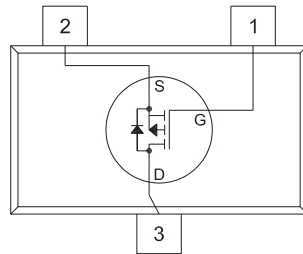
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SOT-23F CASE - MECHANICAL OUTLINE



PIN CONFIGURATION



LEAD CODE:

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

MARKING CODE: 302C

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)

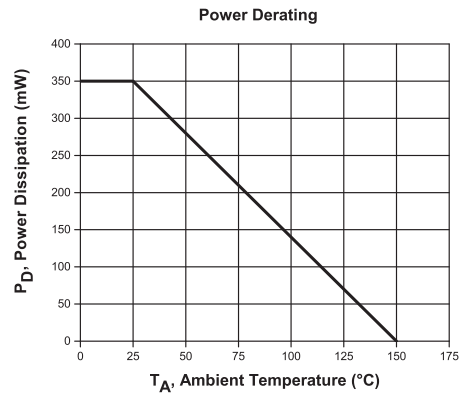
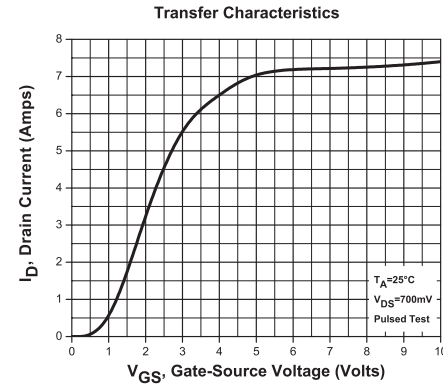
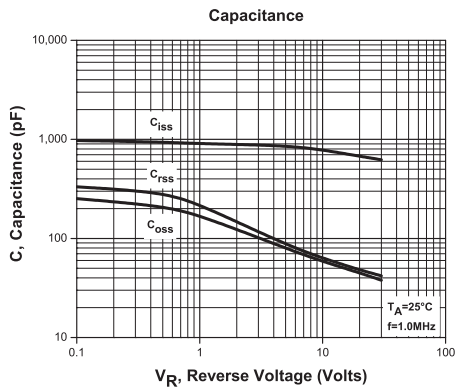
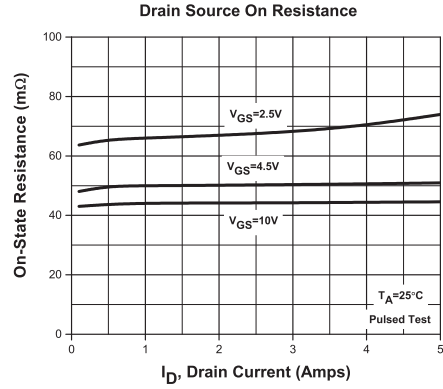
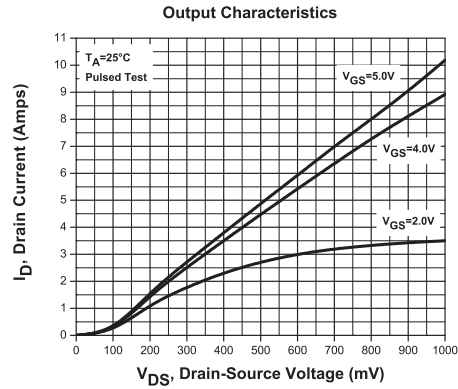
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TYPICAL ELECTRICAL CHARACTERISTICS



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