

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

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

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

FEATURES:

- Low $r_{DS(ON)}$ (0.129 Ω MAX @ $V_{GS}=2.5\text{V}$)
- High current ($I_D=2.4\text{A}$)
- Logic level compatibility

SYMBOL		UNITS
V_{DS}	30	V
V_{GS}	12	V
I_D	2.4	A
I_{DM}	9.6	A
P_D	350	mW
T_J, T_{stg}	-55 to +150	$^\circ\text{C}$
θ_{JA}	357	$^\circ\text{C/W}$

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

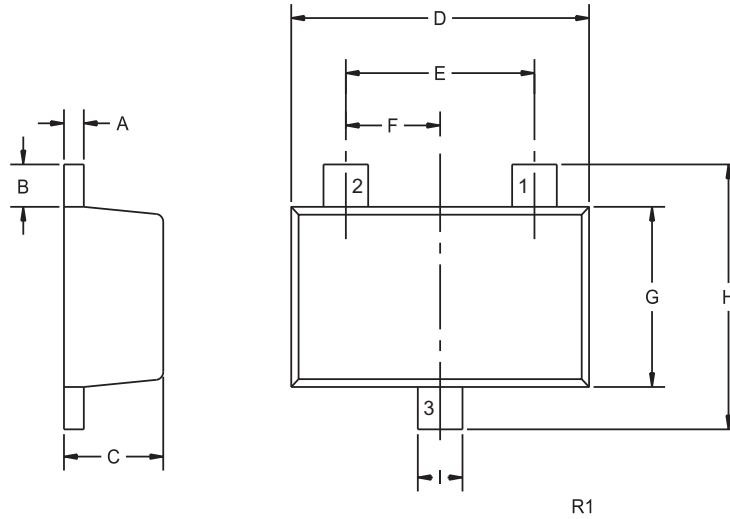
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=12\text{V}, V_{DS}=0$			100	nA
I_{DSS}	$V_{DS}=20\text{V}, V_{GS}=0$			1.0	μA
BV_{DSS}	$V_{GS}=0, I_D=250\mu\text{A}$	30			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu\text{A}$	0.7		1.4	V
$r_{DS(ON)}$	$V_{GS}=4.5\text{V}, I_D=1.2\text{A}$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

R2 (24-February 2014)

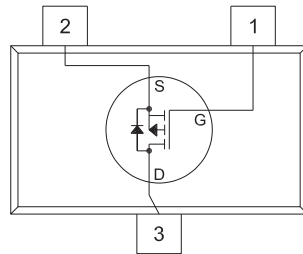
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SOT-23F CASE - MECHANICAL OUTLINE



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: 302C

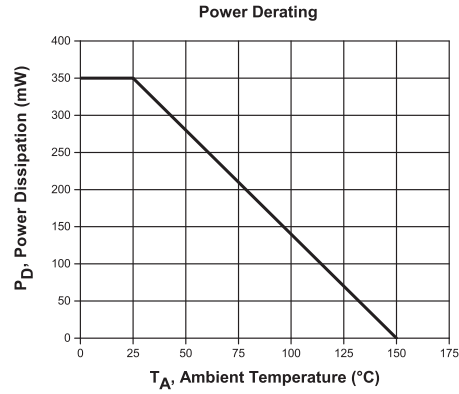
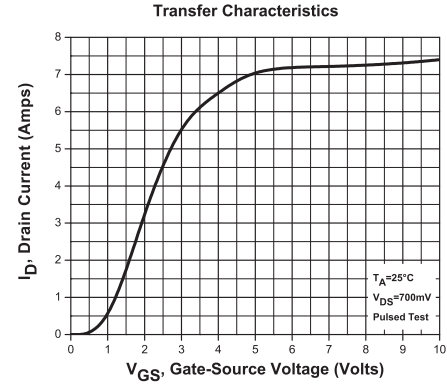
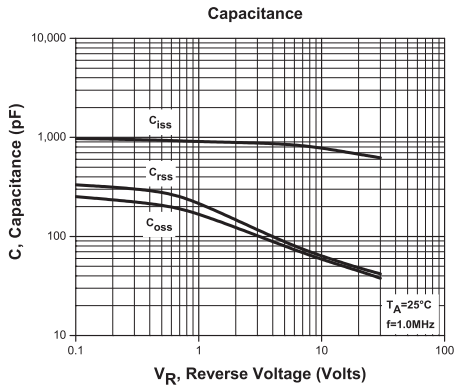
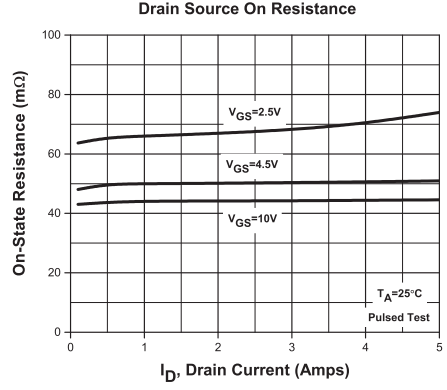
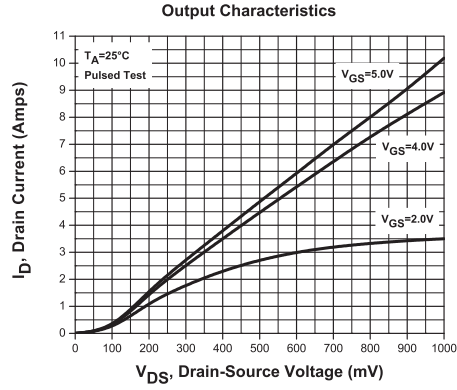
R2 (24-February 2014)

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TYPICAL ELECTRICAL CHARACTERISTICS



R2 (24-February 2014)

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

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