

CMPDM302PH

SURFACE MOUNT SILICON  
ENHANCEMENT-MODE  
P-CHANNEL MOSFET



www.centrasemi.com



SOT-23F CASE

**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  $r_{DS(ON)}$  (0.129Ω 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**

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	$^\circ C$
$\theta_{JA}$	357	$^\circ C/W$

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

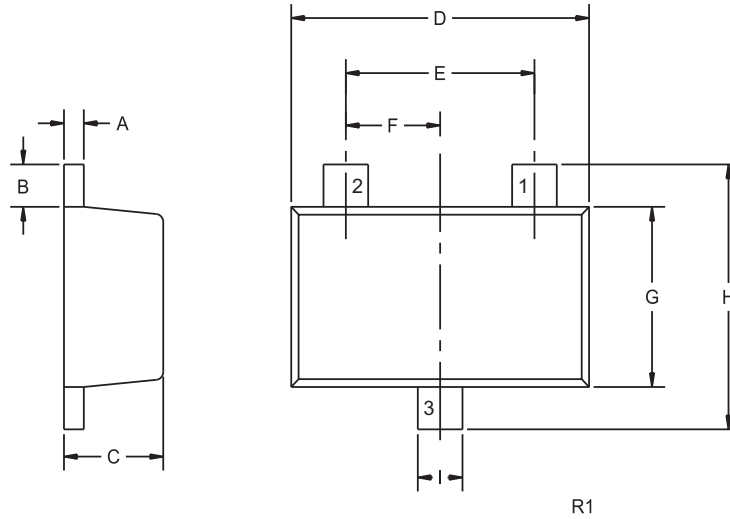
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=12V, V_{DS}=0$			100	nA
$I_{DSS}$	$V_{DS}=20V, V_{GS}=0$			1.0	$\mu A$
$BV_{DSS}$	$V_{GS}=0, I_D=250\mu A$	30			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	0.7		1.4	V
$r_{DS(ON)}$	$V_{GS}=4.5V, I_D=1.2A$		0.050	0.091	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5V, I_D=1.2A$		0.066	0.129	$\Omega$
$g_{FS}$	$V_{DS}=5.0V, I_D=2.4A$		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)

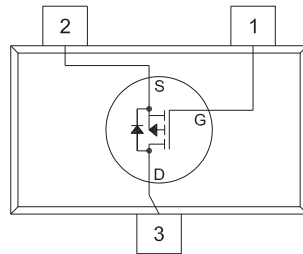
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**SOT-23F CASE - MECHANICAL OUTLINE**



**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**

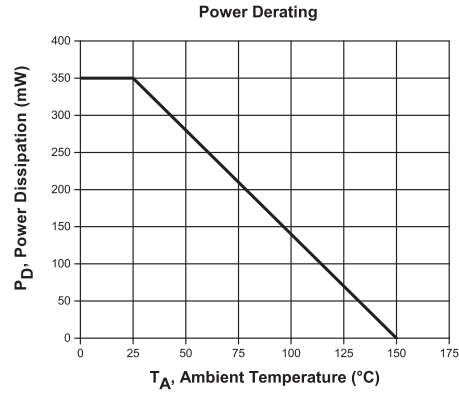
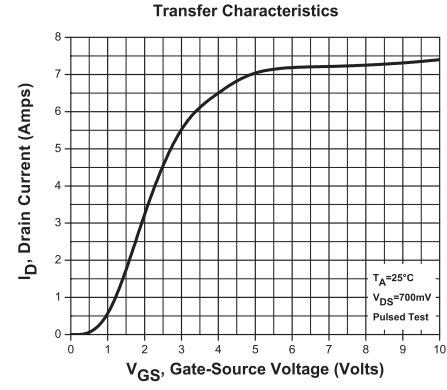
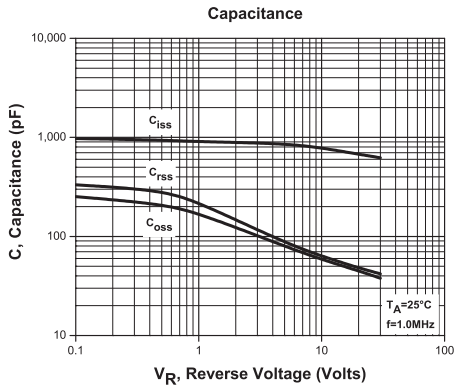
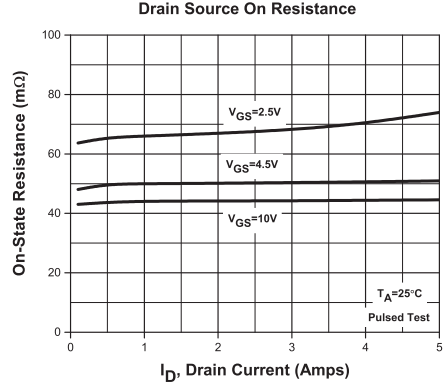
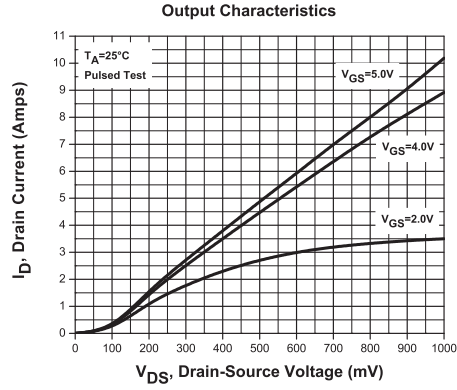
R2 (24-February 2014)

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### TYPICAL ELECTRICAL CHARACTERISTICS



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## 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
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> 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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