

PSpice Model

NMOS

ON Semiconductor

NVMFS5C410N-D



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_NVMFS5C410N-D_PS
Pin Assign 1:S 2:S 3:S 4:G 5:D 6:D
File List Model Library MDC_NVMFS5C410N-D_PS01.lib
 Model Report MDC_NVMFS5C410N-D_PS.pdf (this file)

Verified Simulator Version PSpice version 16.6
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version July, 2019 Rev. 3
- Product name NVMFS5C410N-D
- Company name ON Semiconductor.
- Characteristics IdVgs[Temp], IdVds[Vgs], Rds(on)Vgs[Id], Rds(on)Id[Vgs], Rds(on)Temp[Vgs], Ciss, Coss, Crss, IsVsd[Temp], VgsQg[Vdd], tdon, tdoff, tf, tr

Simulation Range

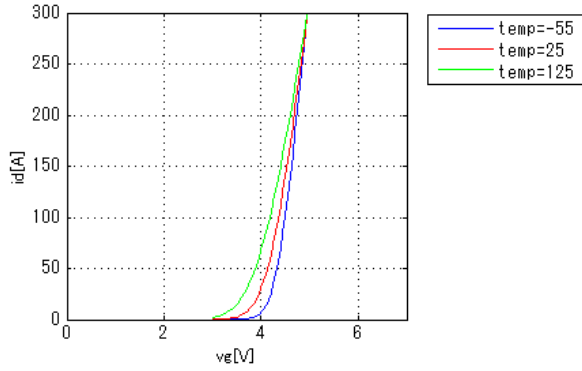
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	40	V
Gate-source voltage (DC)	0	to	20	V
Temperature	-55	to	175	deg C

Simulation results are following.
 Explanatory notes — : simulated

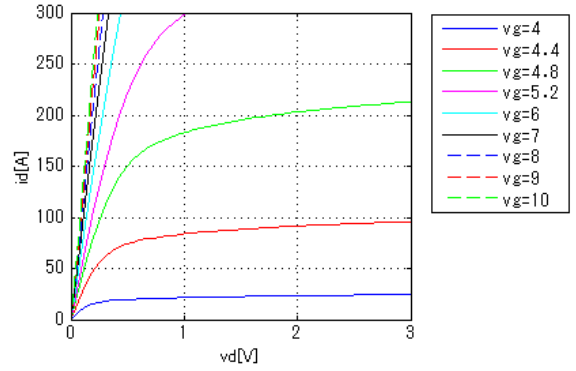
IdVgs[Temp]

Vds = 10V

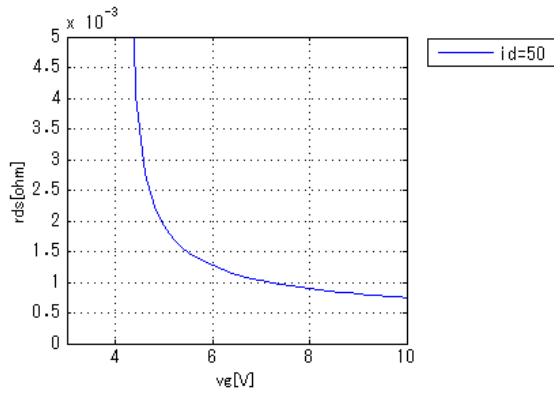


IdVds[Vgs]

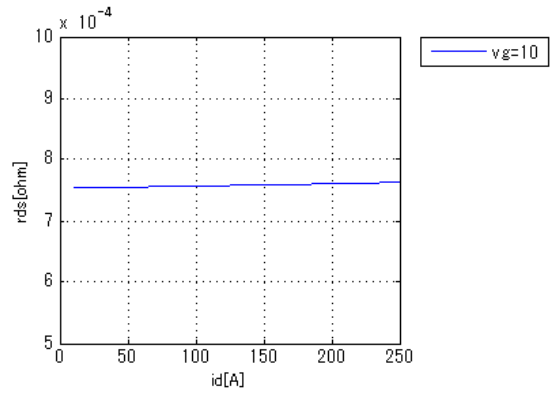
Temp. = 25deg C



Rds(on)Vgs[Id]

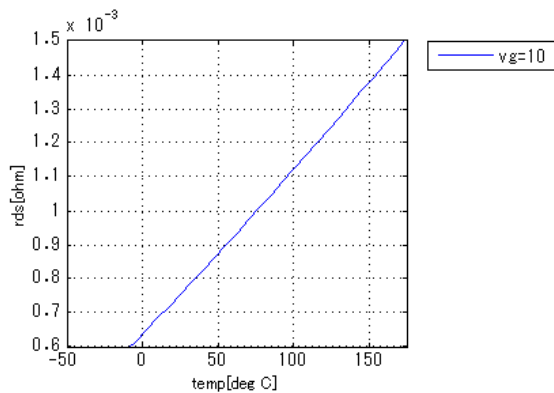


Rds(on)Id[Vgs]



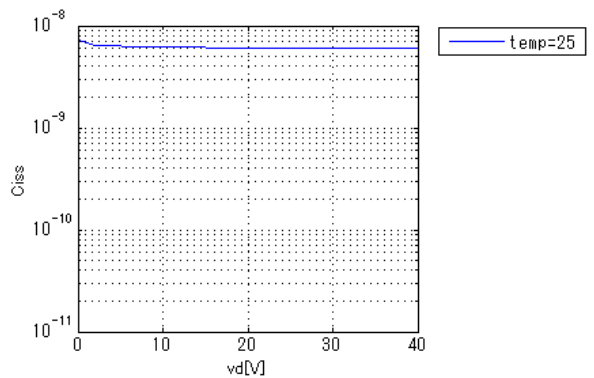
Rds(on)Temp[Vgs]

Id = 50A



Ciss

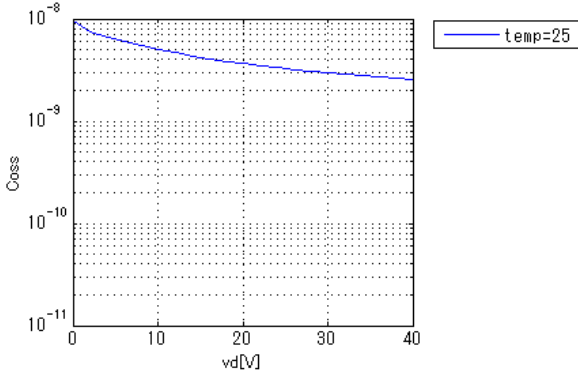
Freq. = 1MHz



Simulation results are following.
 Explanatory notes — : simulated

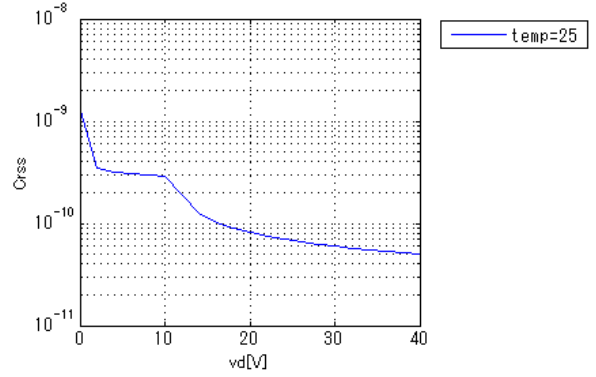
Coss

Freq. = 1MHz

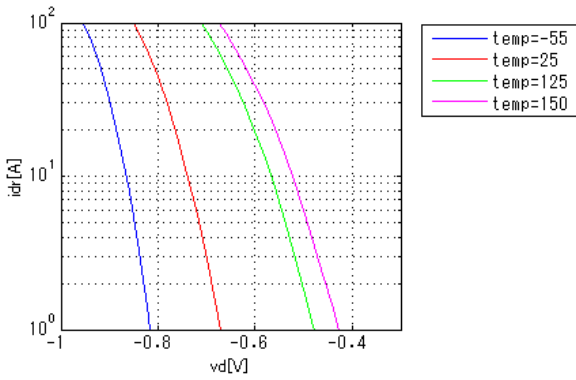


Crss

Freq. = 1MHz

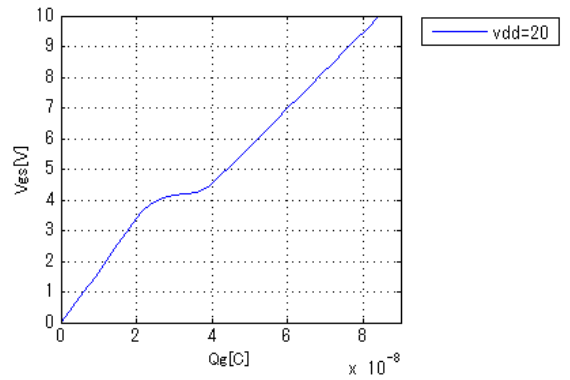


IsVsd[Temp]



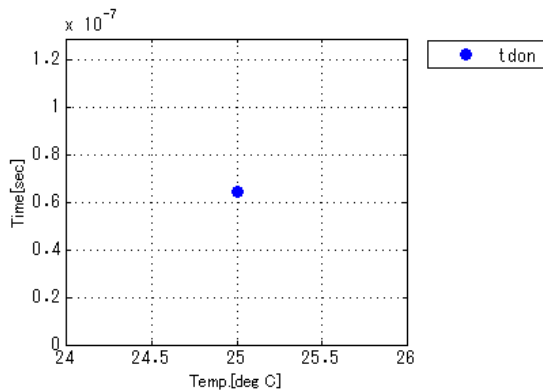
VgsQg[Vdd]

Id = 50A



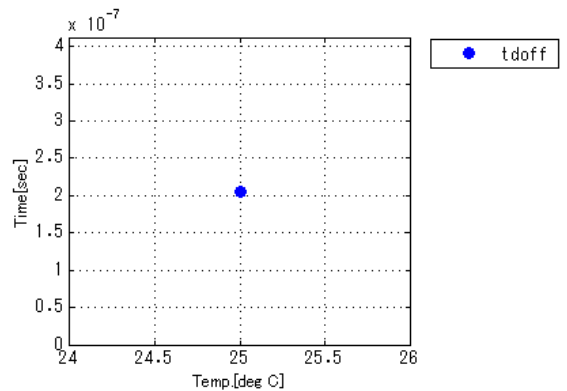
tdon

Vdd = 32V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 2.5ohm



tdoff

Vdd = 32V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 2.5ohm

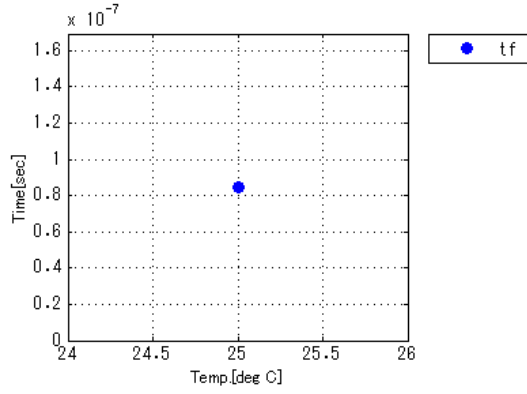


Simulation results are following.

Explanatory notes — : simulated

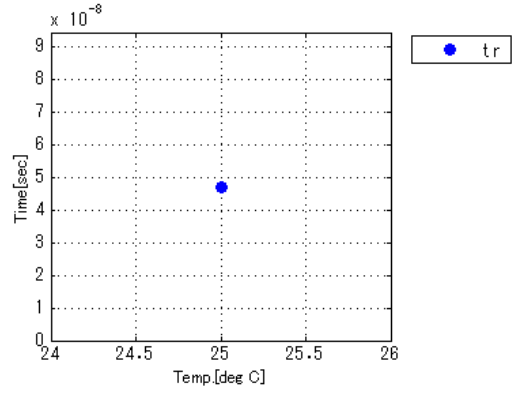
tf

Vdd = 32V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 2.5ohm



tr

Vdd = 32V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 2.5ohm



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