

PSpice Model

NMOS

ON

NVMFS5C404NWFAFT1G



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_NVMFS5C404NWFAFT1G_PS
Pin Assign 1:S 2:S 3:S 4:G 5:D 6:D 7:D 8:D
File List Model Library MDC_NVMFS5C404NWFAFT1G_PS01.lib
 Model Report MDC_NVMFS5C404NWFAFT1G_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 NVMFS5C404NWFAFT1G
- Company name ON Semiconductor.
- Characteristics IdVgs[Temp],IdVds[Vgs],Rds(on)Vgs[Id],Rds(on)Id[Vgs], Rds(on)Temp[Vgs],Ciss,Coss,Crss,VgsQg[Vdd], IsVsd[Temp],tdon,tdoff,tf,tr

Simulation Range

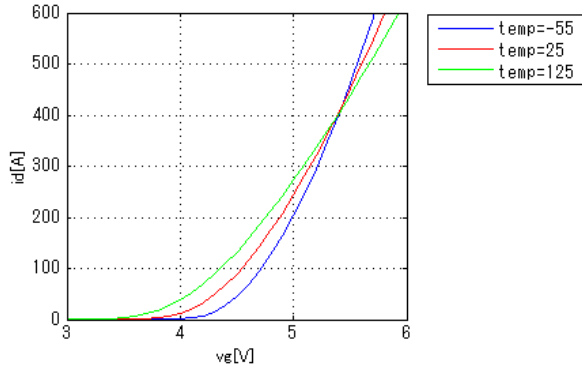
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

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

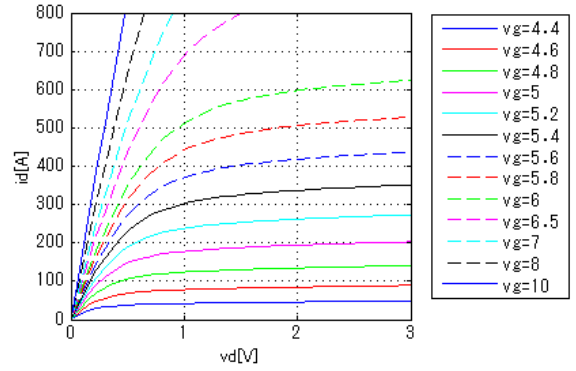
IdVgs[Temp]

Vds = 10V

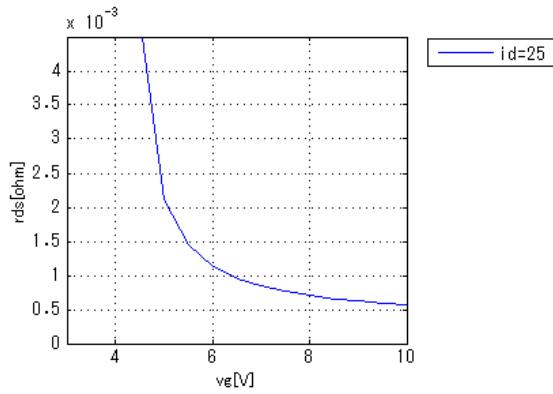


IdVds[Vgs]

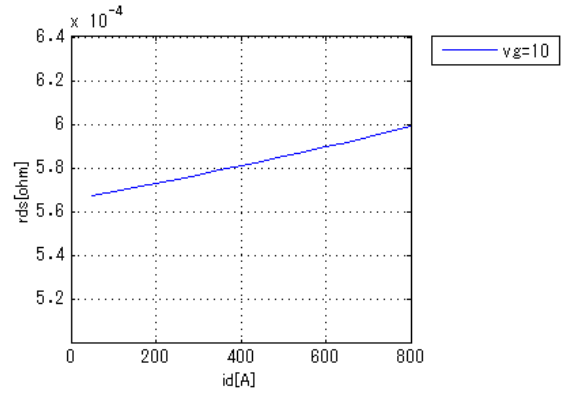
Temp. = 25deg C



Rds(on)Vgs[Id]

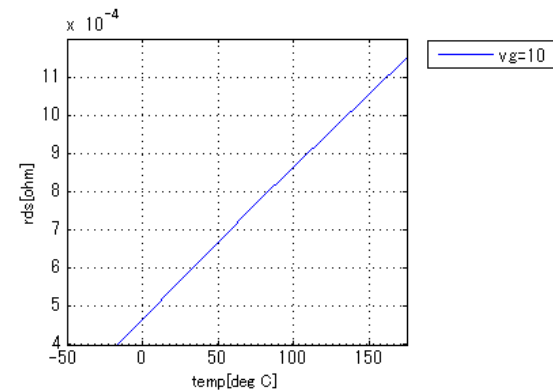


Rds(on)Id[Vgs]



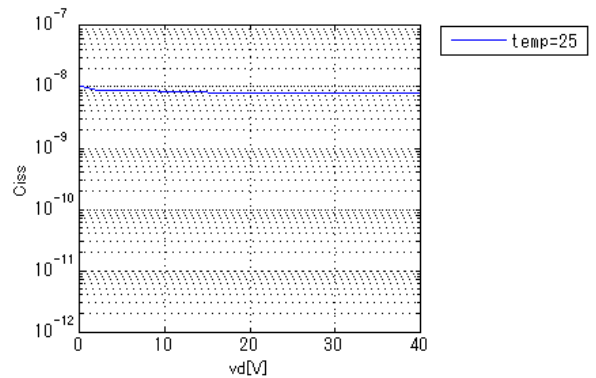
Rds(on)Temp[Vgs]

Id = 50A



Ciss

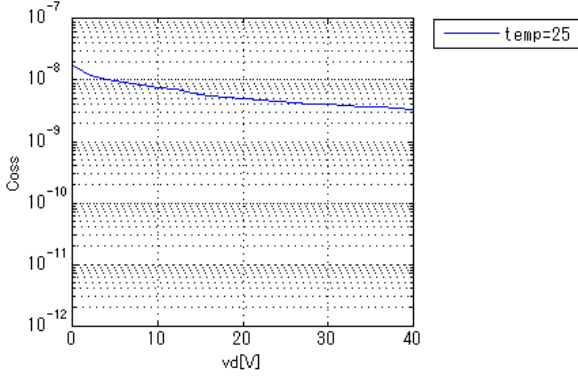
Freq. = 1MHz



Simulation results are following.
 Explanatory notes — : simulated

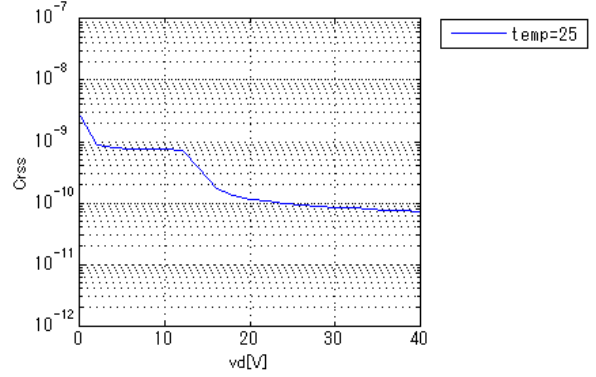
Coss

Freq. = 1MHz



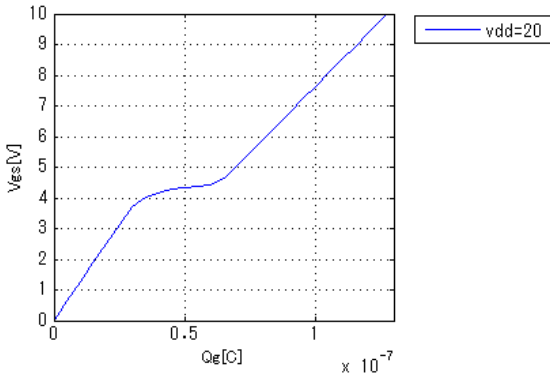
Crss

Freq. = 1MHz

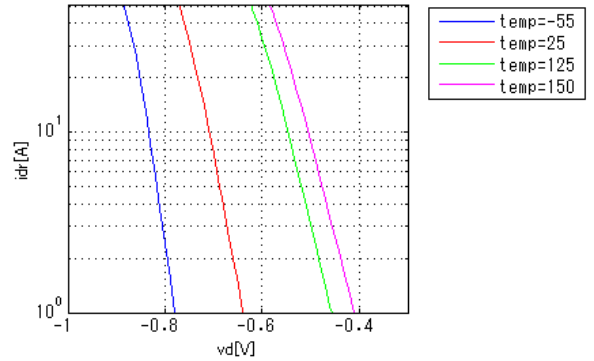


VgsQg[Vdd]

Id = 50A

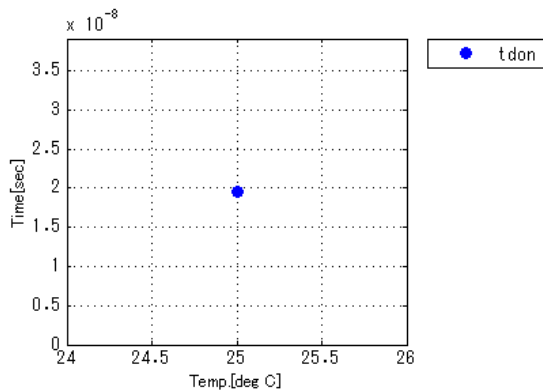


IsVsd[Temp]



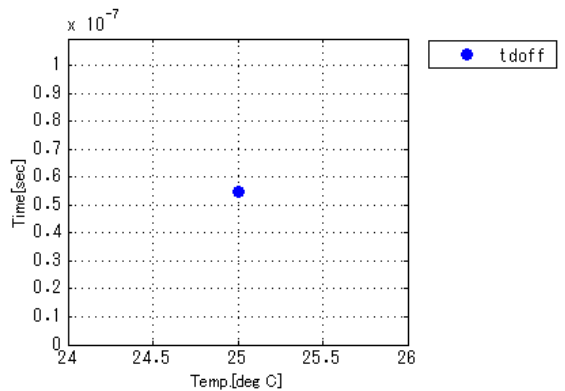
tdon

Vdd = 20V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 2.5ohm



tdoff

Vdd = 20V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 2.5ohm

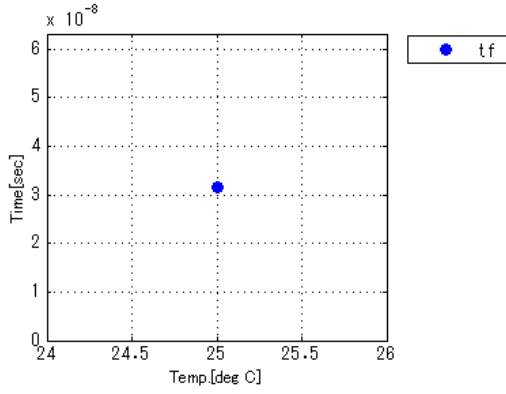


Simulation results are following.

Explanatory notes — : simulated

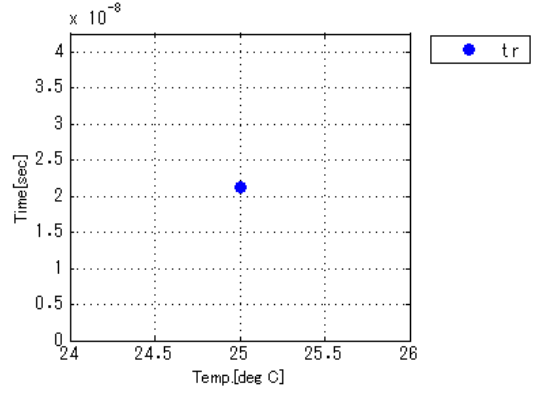
tf

Vdd = 20V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 2.5ohm



tr

Vdd = 20V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 2.5ohm



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