

PSpice Model

NMOS

ON

NVMFSC0D9N04C



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_NVMFSC0D9N04C_PS
Pin Assign 1:S 2:S 3:S 4:G 5:D 6:D 7:D 8:D
File List Model Library MDC_NVMFSC0D9N04C_PS01.lib
 Model Report MDC_NVMFSC0D9N04C_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 February,2020 - Rev.1
- Product name NVMFSC0D9N04C
- Company name ON Semiconductor.
- Characteristics IdVds[Vgs],IdVgs[Temp],Rds(on)Vgs[Id],Rds(on)Id[Vgs], Rds(on)Temp[Vgs],Crss,Coss,Ciss,VgsQg[Vdd], IsVsd[Temp],tdon,tdoff,tf,tr

Simulation Range

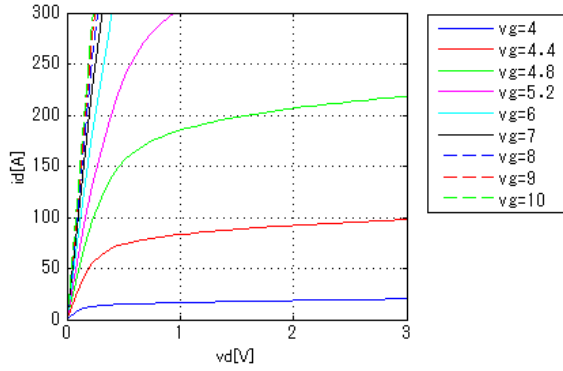
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

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

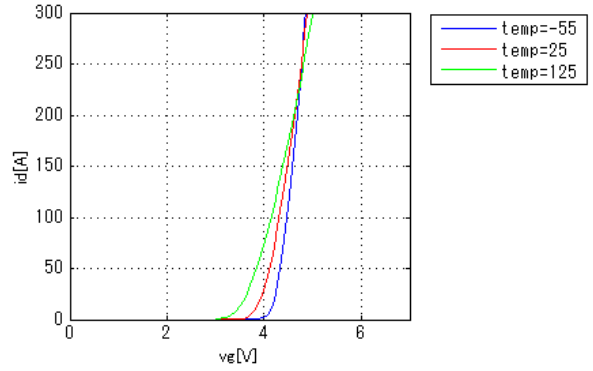
IdVds[Vgs]

Temp. = 25deg C

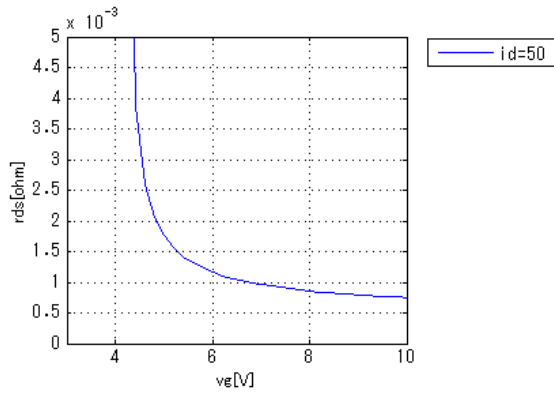


IdVgs[Temp]

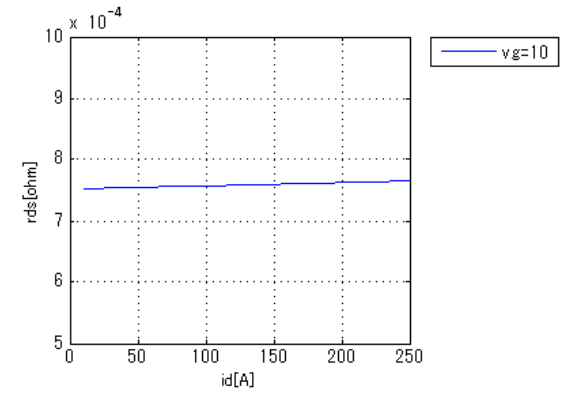
Vds = 10V



Rds(on)Vgs[Id]

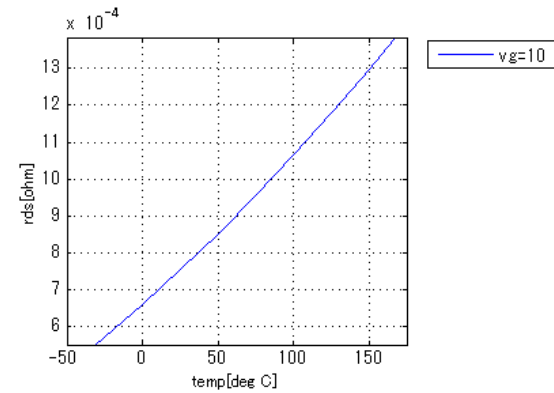


Rds(on)Id[Vgs]



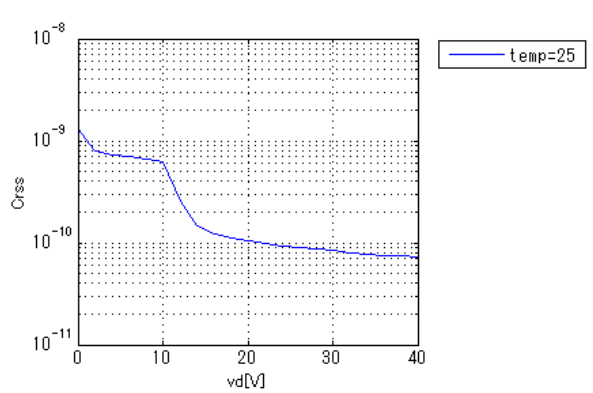
Rds(on)Temp[Vgs]

Id = 50A



Crss

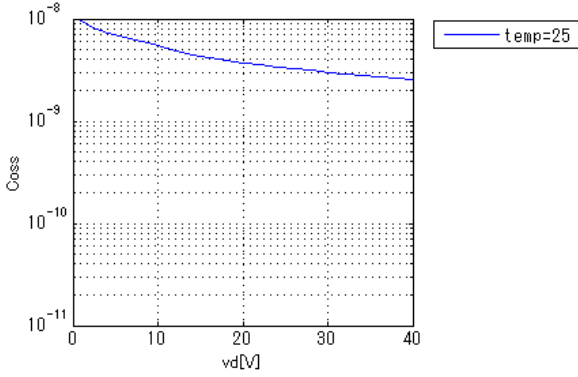
Freq. = 1MHz



Simulation results are following.
 Explanatory notes — : simulated

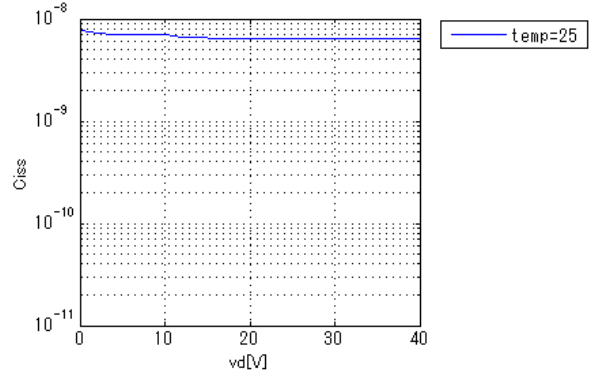
Coss

Freq. = 1MHz



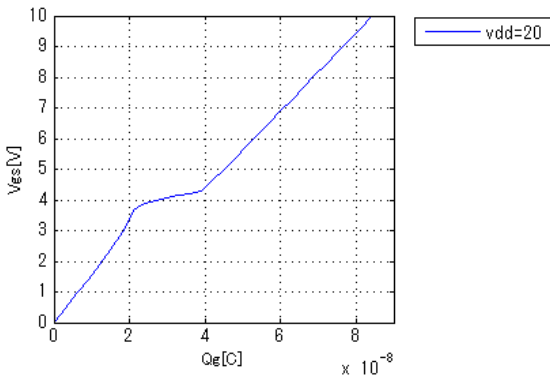
Ciss

Freq. = 1MHz

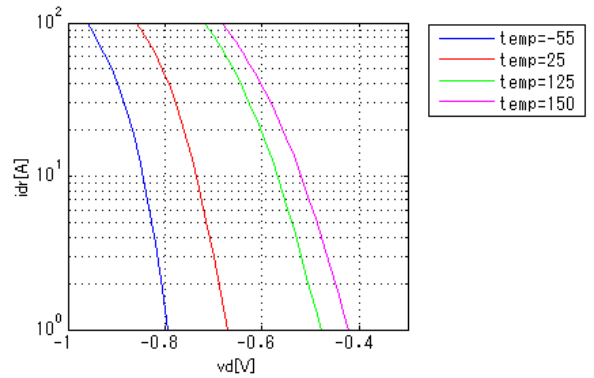


VgsQg[Vdd]

Id = 50A

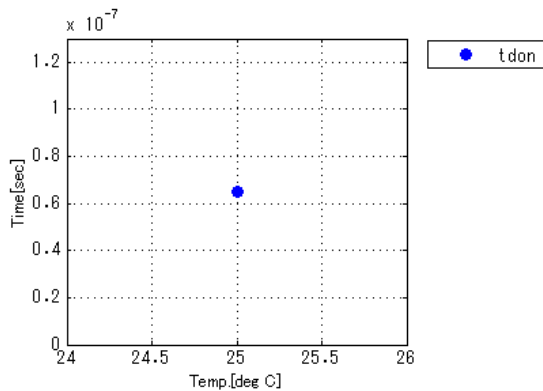


IsVsd[Temp]



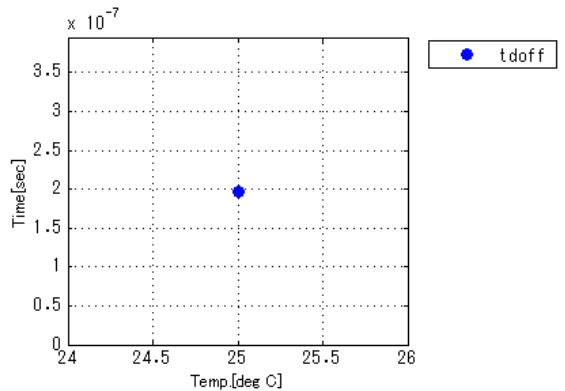
tdon

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



tdoff

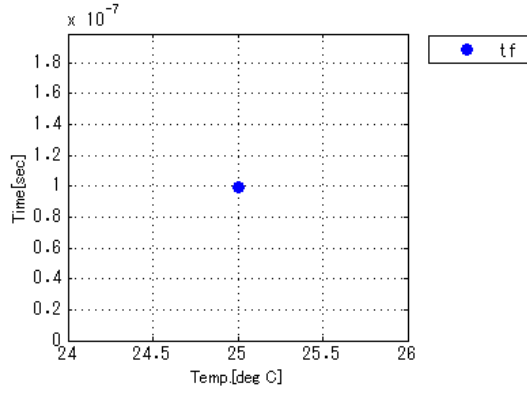
Vdd = 32V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 2.5ohm



Simulation results are following.
 Explanatory notes — : simulated

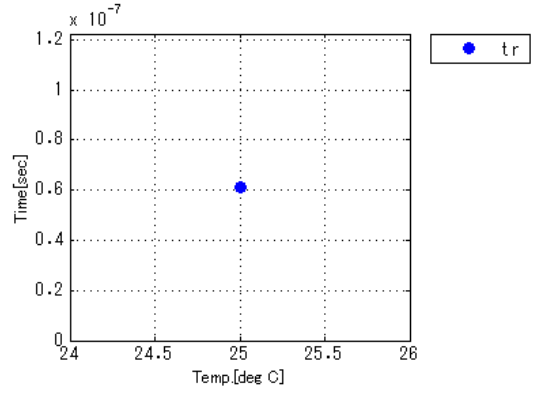
tf

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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