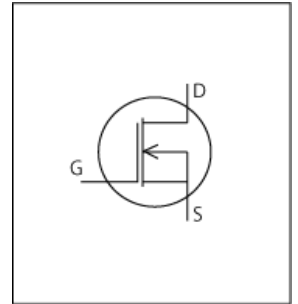


PSpice Model

NMOS

Infineon Technologies AG

IPC50N04S5-5R8



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_IPC50N04S5-5R8_PS
Pin Assign 1:S 2:S 3:S 4:G 5:D 6:D 7:D 8:D
File List Model Library MDC_IPC50N04S5-5R8_PS01.lib
 Model Report MDC_IPC50N04S5-5R8_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 2016-12-06 Rev1.2
- Product name IPC50N04S5-5R8
- Company name Infineon Technologies AG
- Characteristics IdVgs[Temp], IdVds[Vgs], Rds(on)Id[Vgs], Crss, Coss, Ciss, VgsQg[Vdd], Rds(on)Temp[Vgs], VthTemp[Id], IsVsd[Temp], tdon, tdoff, tf, tr

Simulation Range

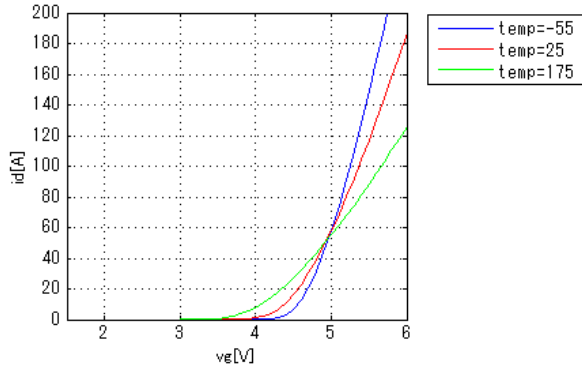
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

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

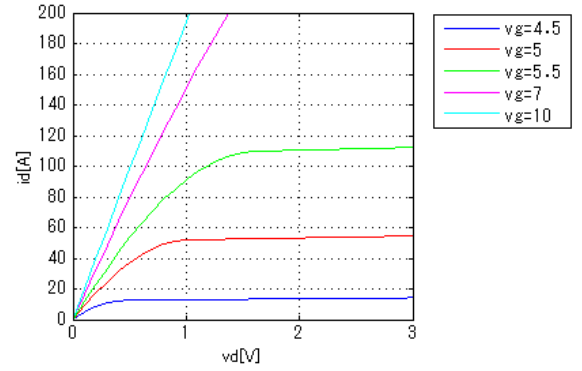
IdVgs[Temp]

Vds = 6V

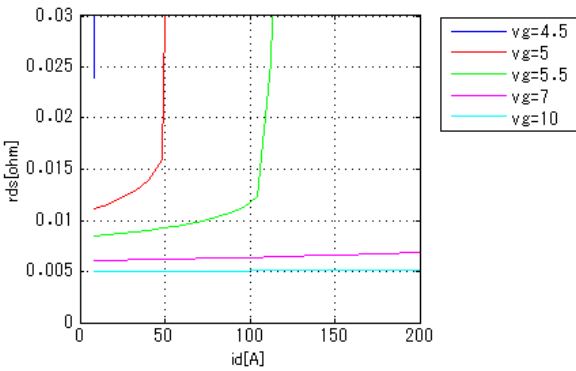


IdVds[Vgs]

Temp. = 25deg C

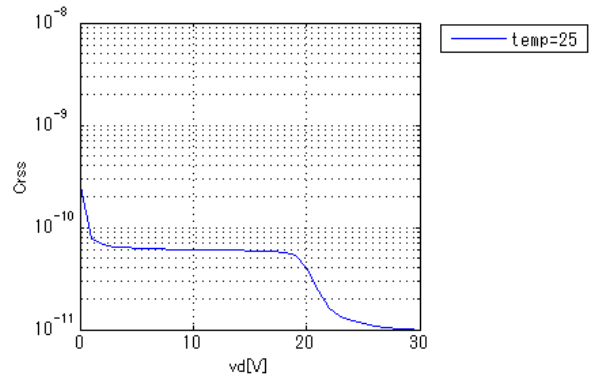


Rds(on)Id[Vgs]



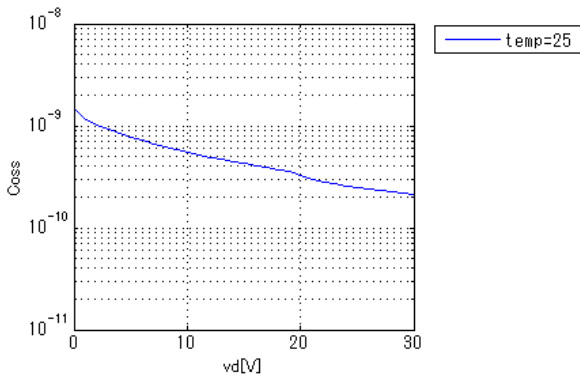
Crss

Freq. = 1MHz



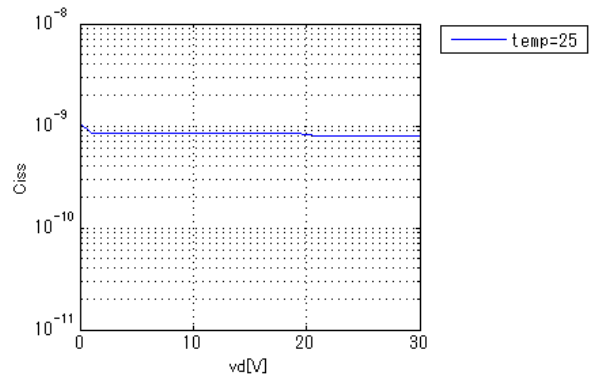
Coss

Freq. = 1MHz



Ciss

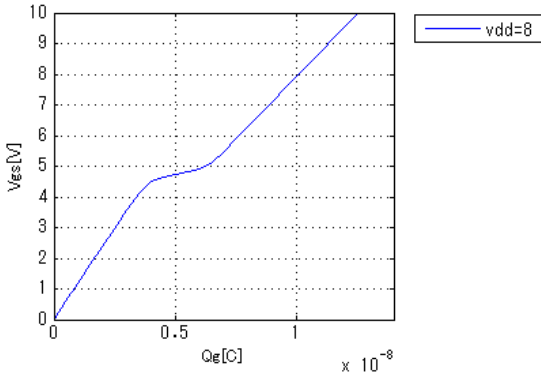
Freq. = 1MHz



Simulation results are following.
 Explanatory notes — : simulated

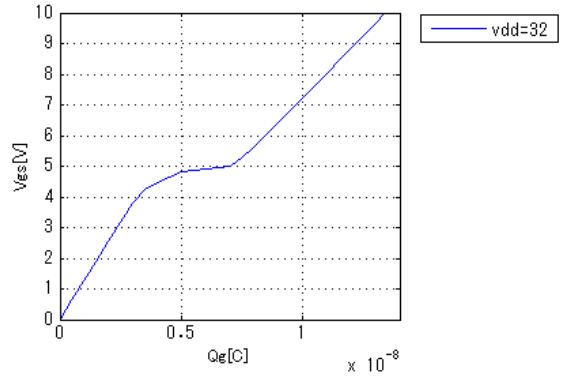
VgsQg[Vdd]

Id = 50A



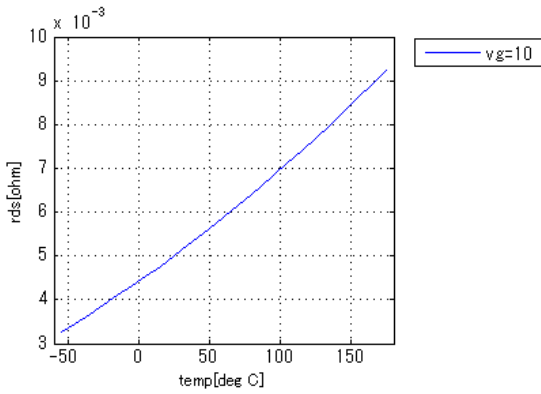
VgsQg[Vdd]

Id = 50A



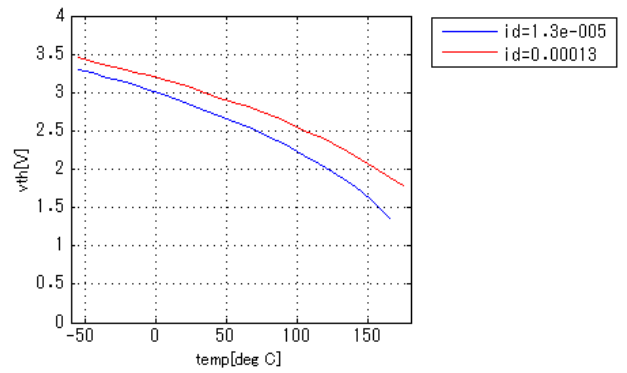
Rds(on)Temp[Vgs]

Id = 25A

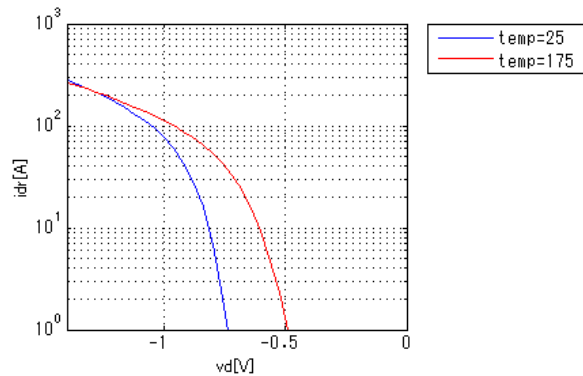


VthTemp[Id]

Vd = Vg

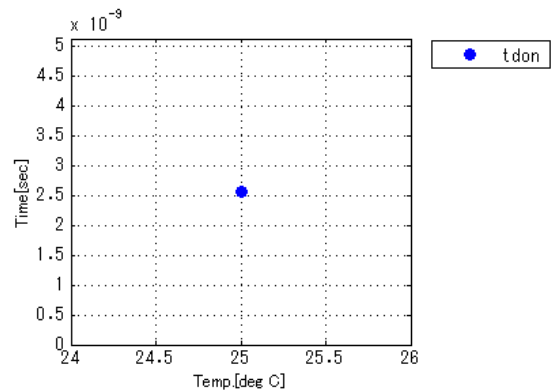


IsVsd[Temp]



tdon

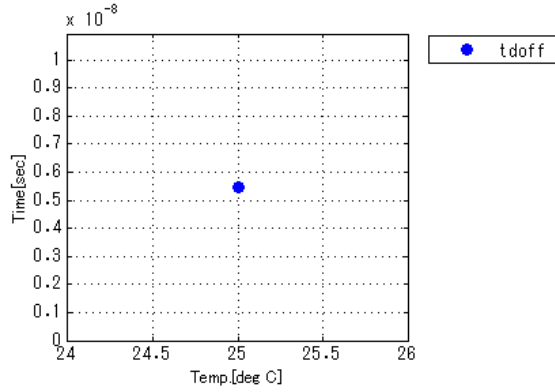
Vdd = 20V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 3.5ohm



Simulation results are following.
 Explanatory notes — : simulated

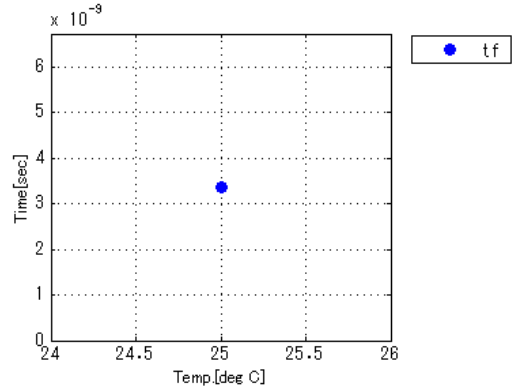
tdoff

Vdd = 20V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 3.5ohm



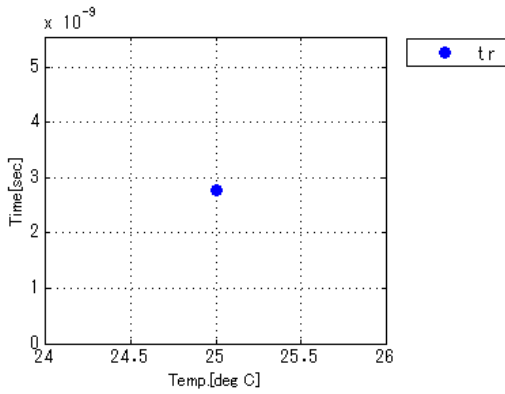
tf

Vdd = 20V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 3.5ohm



tr

Vdd = 20V, Id = 50A, +Vg = 10V, -Vg = 0V, Rg = 3.5ohm



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