

LTspice Model

NMOS

Infineon Technologies AG

IPB80R290C3A



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_IPB80R290C3A_LT
Pin Assign 1:G 2:D 3:S
File List Model Library MDC_IPB80R290C3A_LT01.lib
 Model Report MDC_IPB80R290C3A_LT.pdf (this file)

Verified Simulator Version LTspice version XVII
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version 2012-04-16
- Product name IPB80R290C3A
- Company name Infineon Technologies AG
- Characteristics IdVgs[Temp], IdVds[Vgs], Rds(on)Temp[Id], IsVsd[Temp], Vgs Qg[Vdd], Crss, Coss, Ciss, tdon, tdoff, tf, tr

Simulation Range

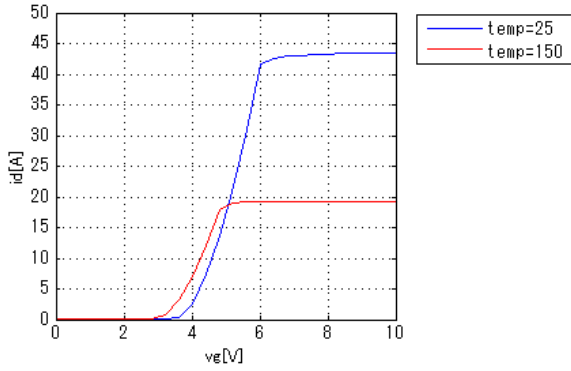
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	900	V
Gate-source voltage (DC)	0	to	20	V
Temperature	-55	to	150	deg C

Simulation results are following.
 Explanatory notes — : simulated

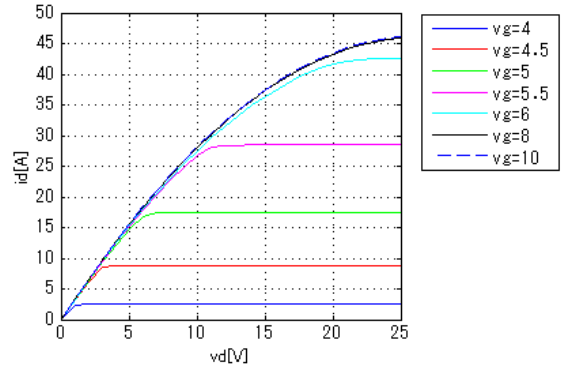
IdVgs[Temp]

Vds = 20V



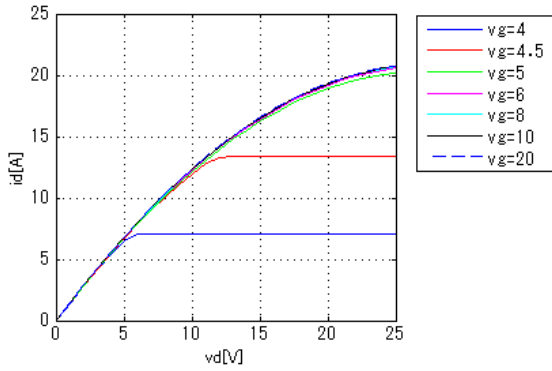
IdVds[Vgs]

Temp. = 25deg C



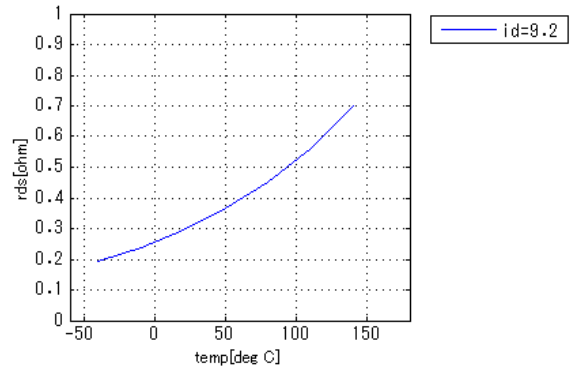
IdVds[Vgs]

Temp. = 150deg C

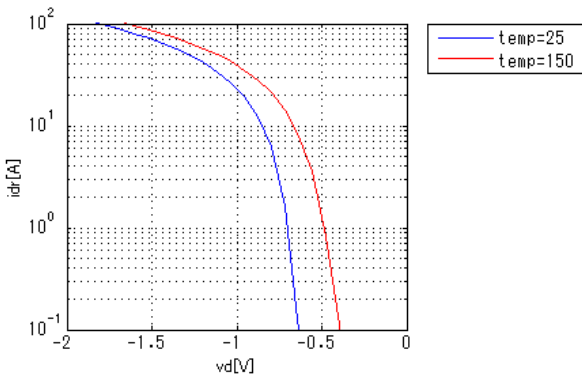


Rds(on)Temp[Id]

Vgs = 10V

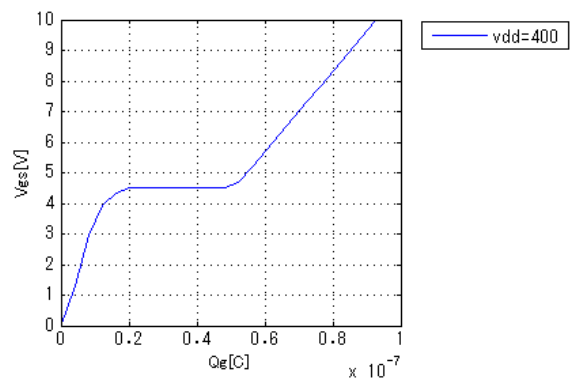


IsVsd[Temp]



VgsQg[Vdd]

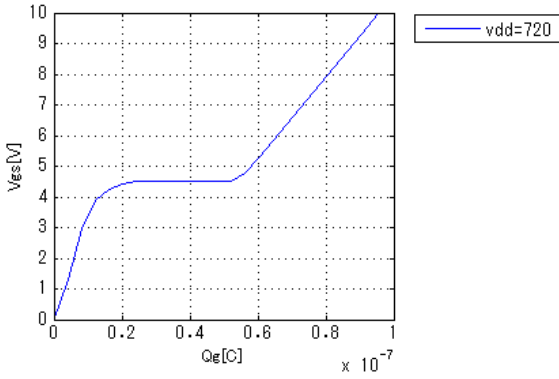
Id = 9.2A



Simulation results are following.
 Explanatory notes — : simulated

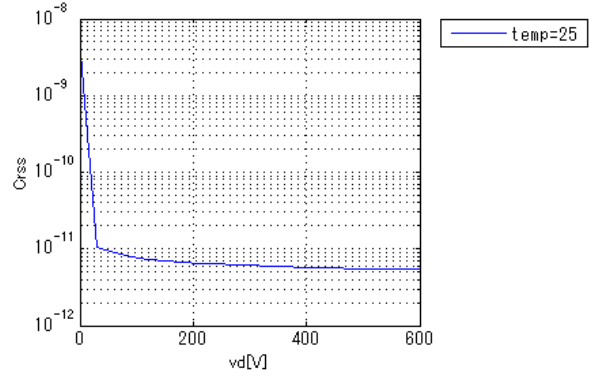
VgsQg[Vdd]

Id = 9.2A



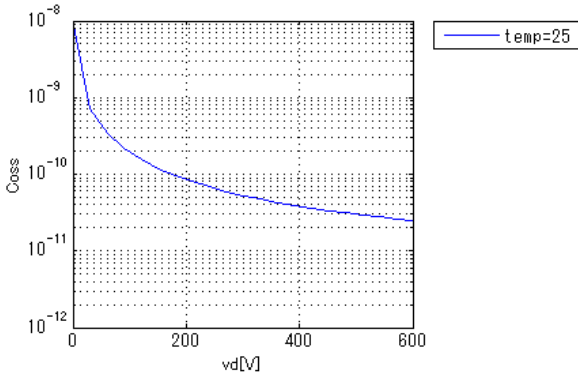
Crss

Freq. = 1MHz



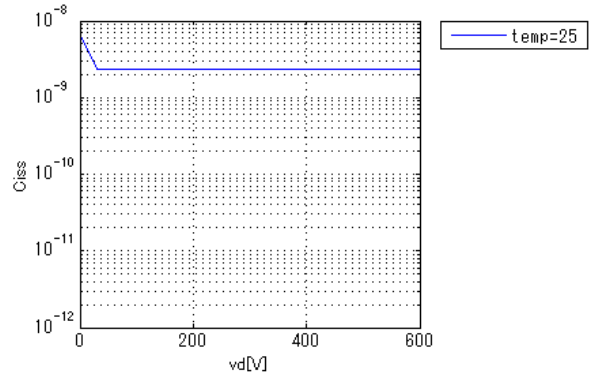
Coss

Freq. = 1MHz



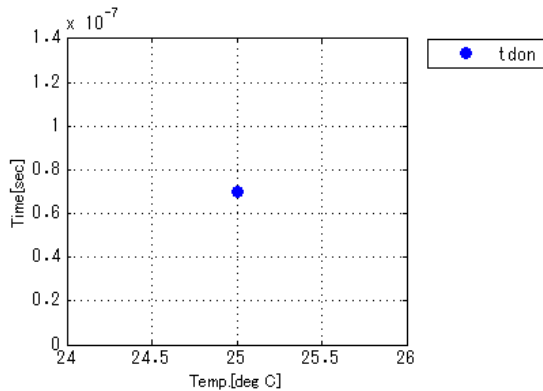
Ciss

Freq. = 1MHz



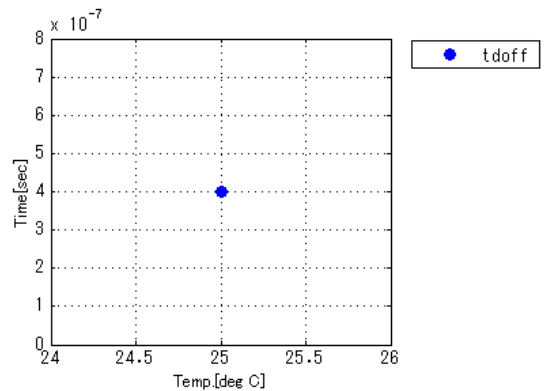
tdon

Vdd = 400V, Id = 9.2A, +Vg = 10V, -Vg = 0V, Rg = 23.1ohm



tdoff

Vdd = 400V, Id = 9.2A, +Vg = 10V, -Vg = 0V, Rg = 23.1ohm

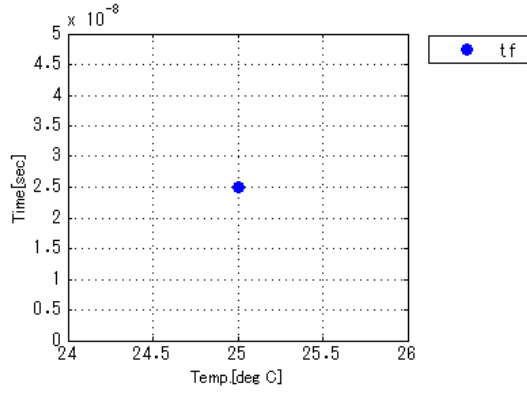


Simulation results are following.

Explanatory notes — : simulated

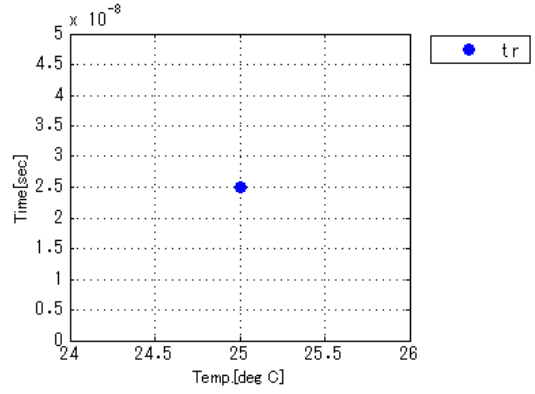
tf

Vdd = 400V, Id = 9.2A, +Vg = 10V, -Vg = 0V, Rg = 23.1ohm



tr

Vdd = 400V, Id = 9.2A, +Vg = 10V, -Vg = 0V, Rg = 23.1ohm



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