

LTspice Model

NMOS

ON

NTB45N06T4G



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_NTB45N06T4G_LT
Pin Assign 1:G 2:D 3:S 4:D
File List Model Library MDC_NTB45N06T4G_LT01.lib
 Model Report MDC_NTB45N06T4G_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 Unknown
- Product name NTB45N06T4G
- Company name ON Semiconductor.
- Characteristics IdVgs[Temp], IdVds[Vgs], Rds(on)Id[Temp], Rds(on)Id[Vgs], Rds(on)Temp[Id], Ciss, Coss, Crss, VgsQg[Vdd], IsVsd[Temp], tdon, tdoff, tf, tr

Simulation Range

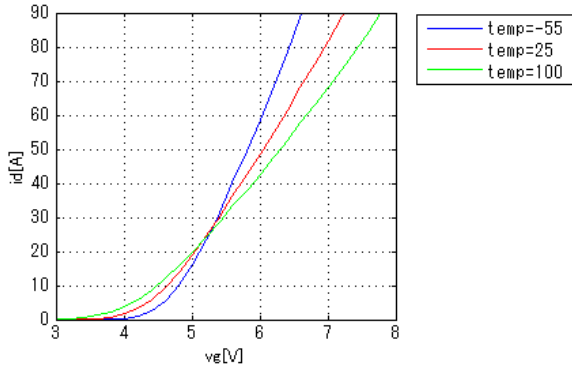
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	60	V
Gate-source voltage (DC)	0	to	20	V
Temperature	-55	to	175	deg C

Simulation results are following.
 Explanatory notes — : simulated

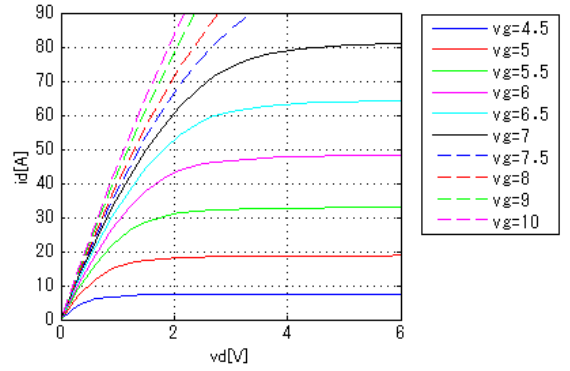
IdVgs[Temp]

Vds = 10V



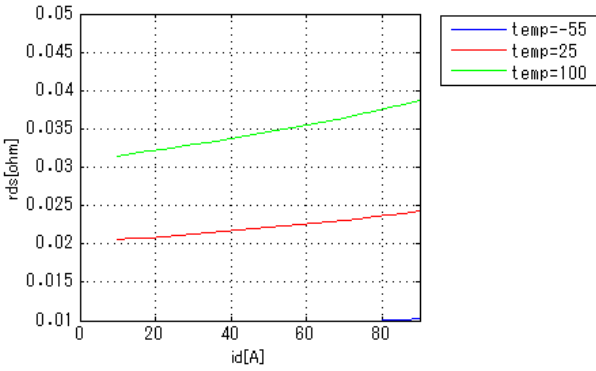
IdVds[Vgs]

Temp. = 25deg C



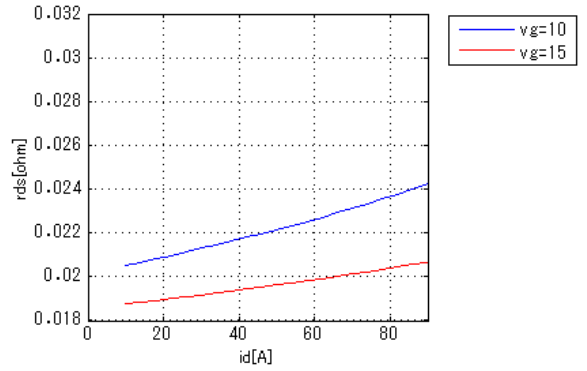
Rds(on)Id[Temp]

Vgs = 10V



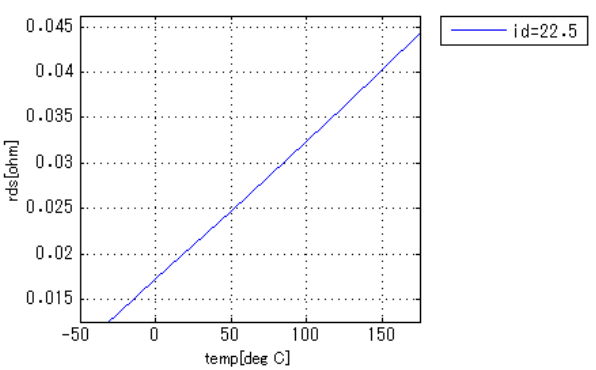
Rds(on)Id[Vgs]

Temp. = 25deg C



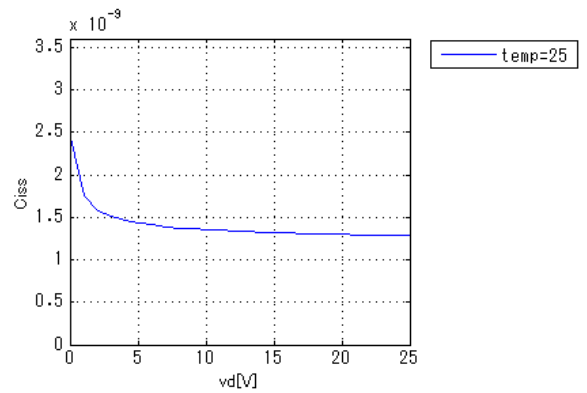
Rds(on)Temp[Id]

Vgs = 10V



Ciss

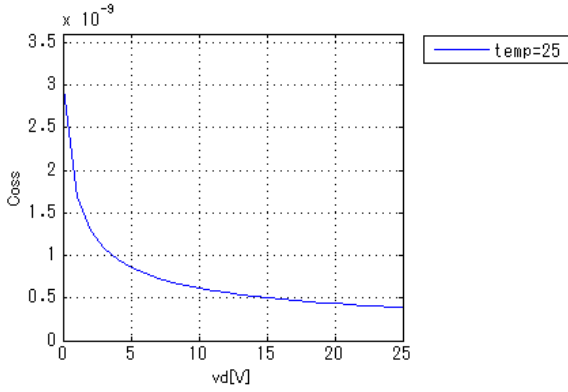
Freq. = 1MHz



Simulation results are following.
 Explanatory notes — : simulated

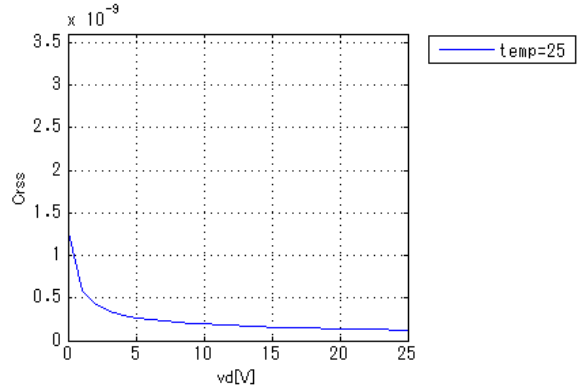
Coss

Freq. = 1MHz



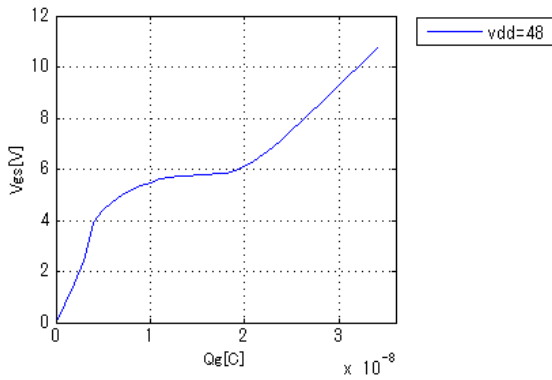
Crss

Freq. = 1MHz

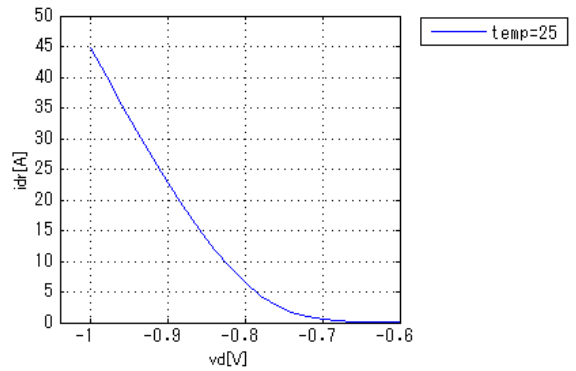


VgsQg[Vdd]

Id = 45A

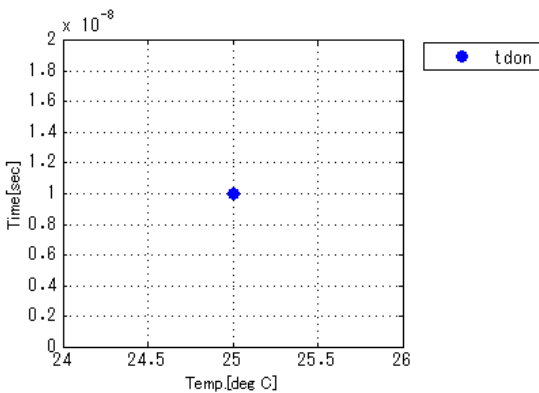


IsVsd[Temp]



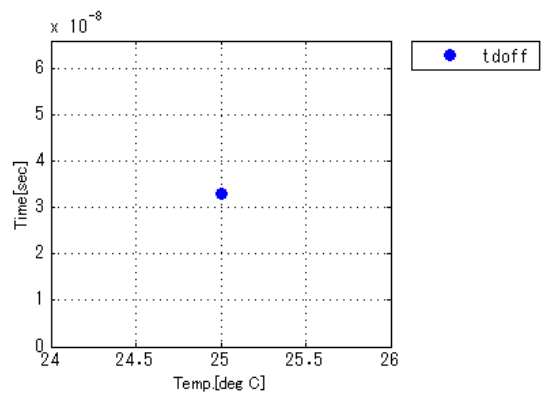
tdon

Vdd = 30V, Id = 45A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



tdoff

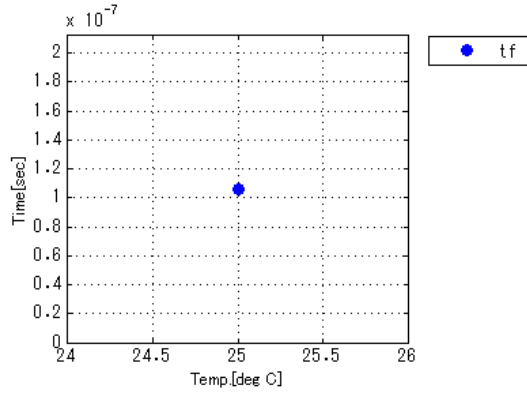
Vdd = 30V, Id = 45A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



Simulation results are following.
 Explanatory notes — : simulated

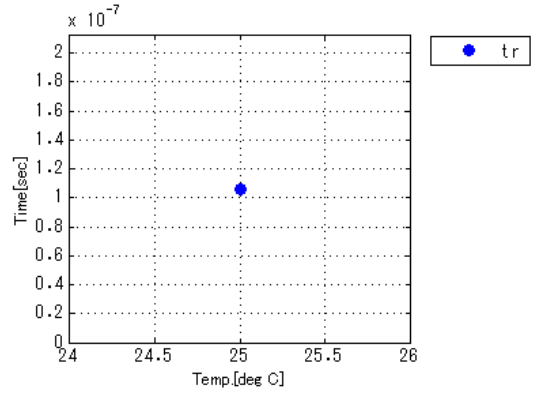
tf

Vdd = 30V, Id = 45A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



tr

Vdd = 30V, Id = 45A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



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