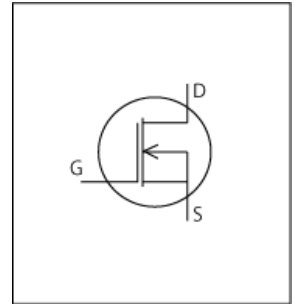


LTspice Model

NMOS

TI

CSD19537Q3



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_CSD19537Q3_LT
Pin Assign 1:D 2:G 3:S
File List Model Library MDC_CSD19537Q3_LT01.lib
 Model Report MDC_CSD19537Q3_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 Revision A
- Product name CSD19537Q3
- Company name Texas Instruments Inc.
- Characteristics IdVds[Vgs], IdVgs[Temp], VgsQg[Vdd], Crss, Coss, Ciss, Rds(on)Vgs[Temp], IsVsd[Temp], Rds(on)Temp[Vgs], VthTemp[Id], tdon, tdoff, tf, tr

Simulation Range

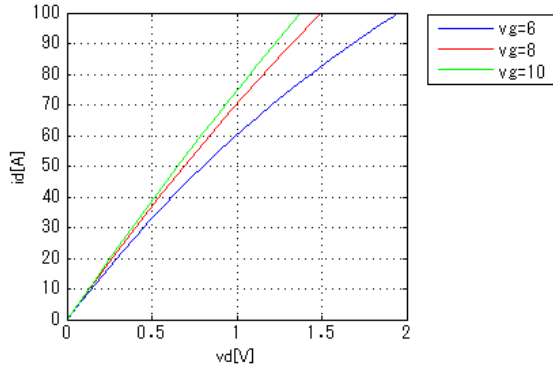
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	100	V
Gate-source voltage (DC)	0	to	20	V
Temperature	-55	to	150	deg C

Simulation results are following.
 Explanatory notes — : simulated

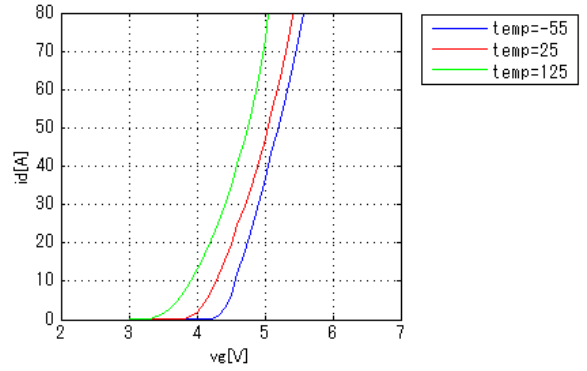
IdVds[Vgs]

Temp. = 25deg C



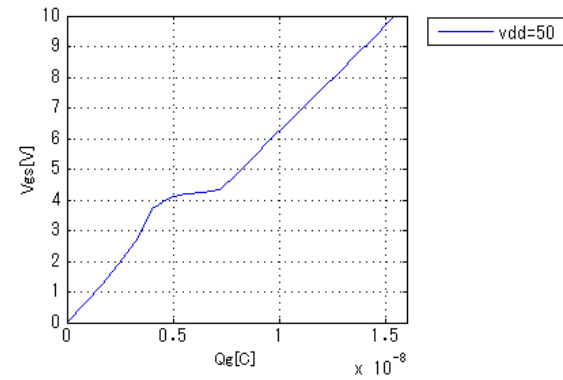
IdVgs[Temp]

$V_{ds} = 5V$



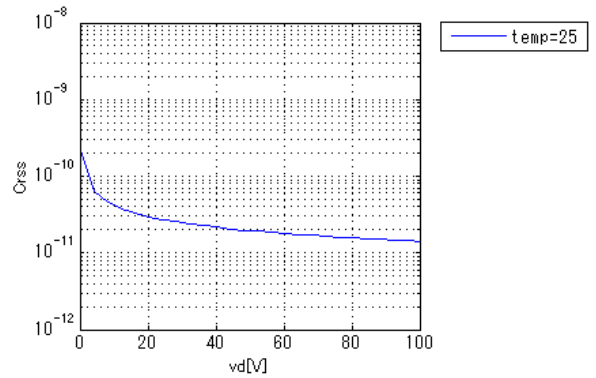
VgsQg[Vdd]

$I_d = 10A$



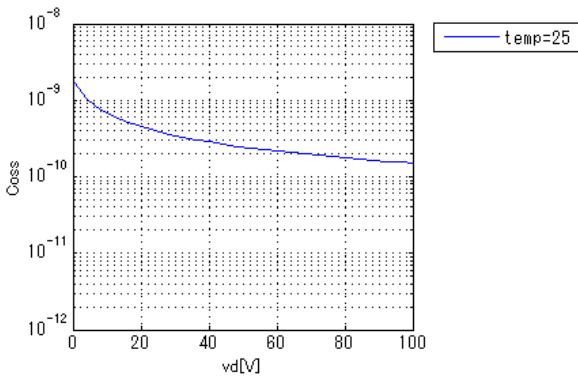
Crss

Freq. = 1MHz



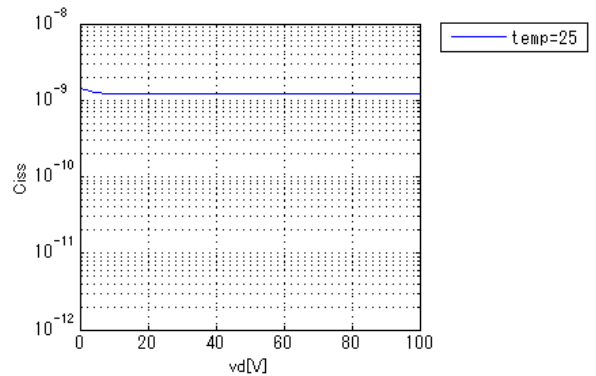
Coss

Freq. = 1MHz



Ciss

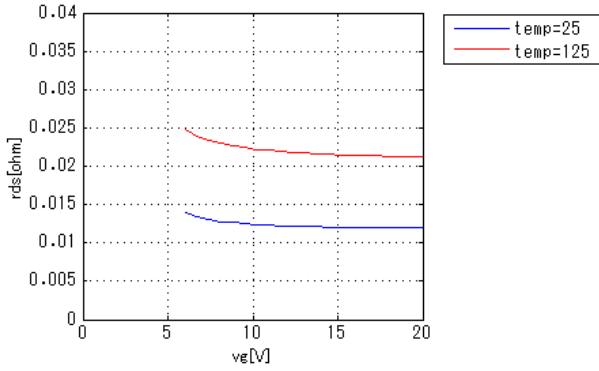
Freq. = 1MHz



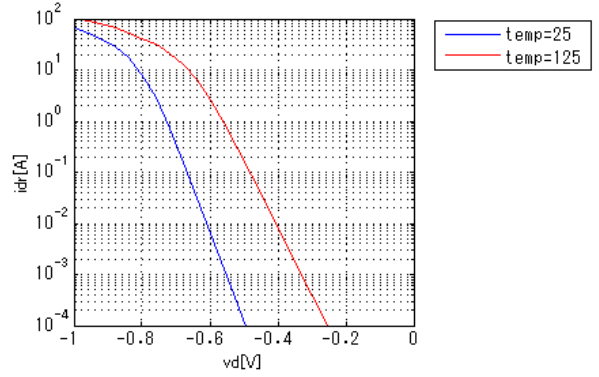
Simulation results are following.
 Explanatory notes — : simulated

Rds(on)Vgs[Temp]

Id = 10A

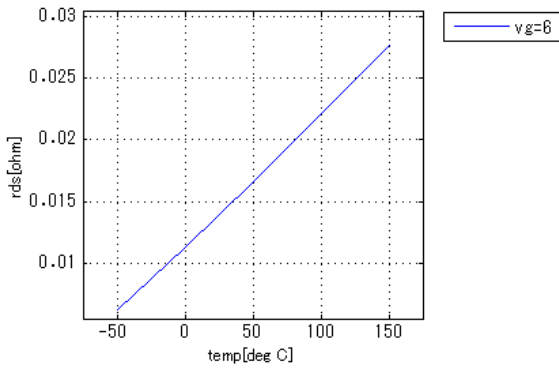


IsVsd[Temp]



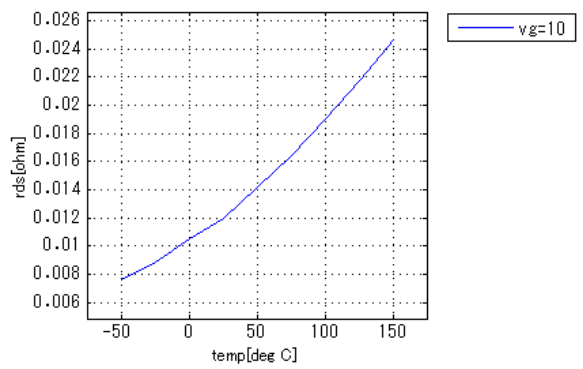
Rds(on)Temp[Vgs]

Id = 10A



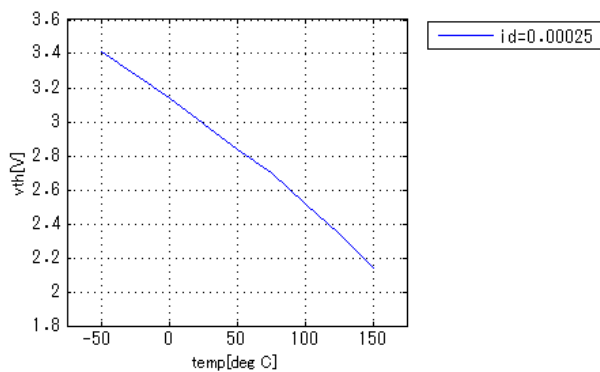
Rds(on)Temp[Vgs]

Id = 10A



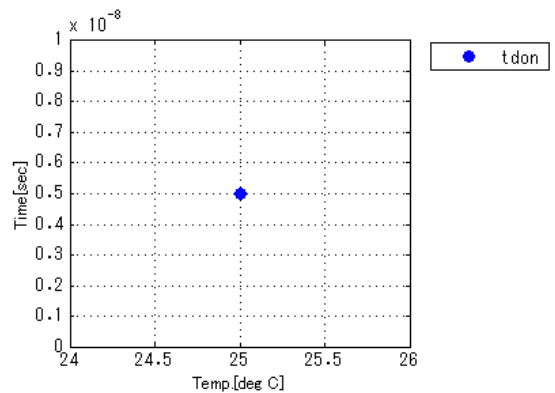
VthTemp[Id]

Vd = Vg



tdon

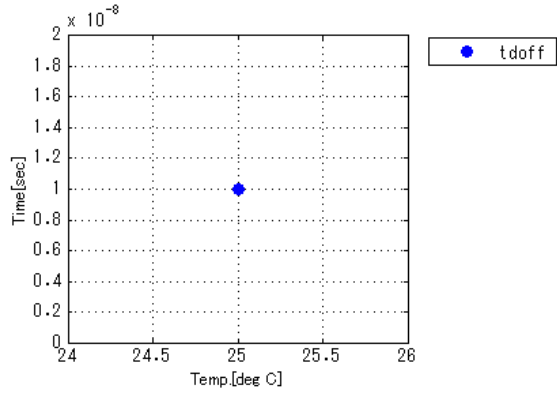
Vdd = 50V, Id = 10A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



Simulation results are following.
 Explanatory notes — : simulated

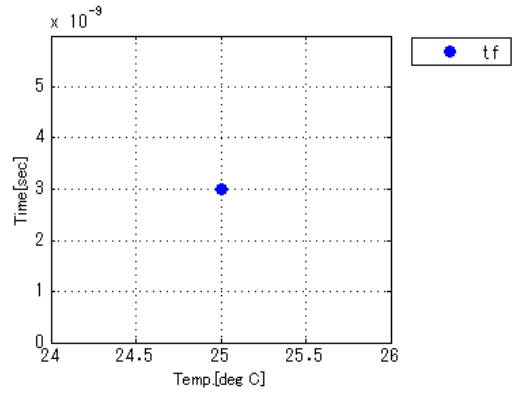
tdoff

Vdd = 50V, Id = 10A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



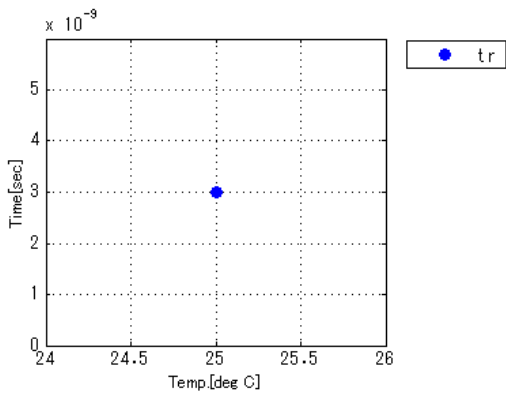
tf

Vdd = 50V, Id = 10A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



tr

Vdd = 50V, Id = 10A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



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MoDeCH Inc.

Head Office

Location: Mitsuseimei Hachioji Bldg., 5-15 Yokoyama-cho, Hachioji-Shi, Tokyo 192-0081, Japan

Tel:+81-42-656-3360

E-Mail:model-on-support@modech.co.jp

URL:<http://www.modech.com/en/>