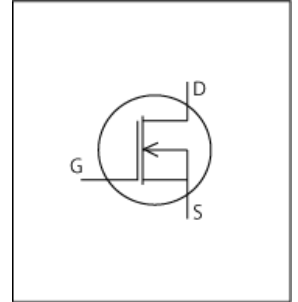


PSpice Model

NMOS

NXP

BUK9Y43-60E



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_BUK9Y43-60E_PS
Pin Assign 1:S 2:S 3:S 4:G 5:D
File List Model Library MDC_BUK9Y43-60E_PS02.lib
 Model Report MDC_BUK9Y43-60E_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 8 May 2013
- Product name BUK9Y43-60E
- Company name NXP Semiconductors N.V.
- Characteristics IdVds[Vgs], IdVgs[Temp], VthTemp[Id], IdVgs[Temp], Rds(on)Id[Vgs], Rds(on)Vgs[Id], Rds(on)Temp[Vgs], VgsQg[Vdd], Ciss, Coss, Crss, IsVsd[Temp], tdon, tdoff, tf, tr

Simulation Range

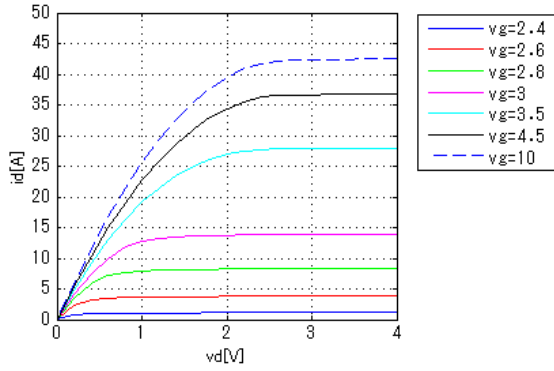
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	60	V
Gate-source voltage (DC)	0	to	15	V
Temperature	-55	to	175	deg C

Simulation results are following.
 Explanatory notes — : simulated

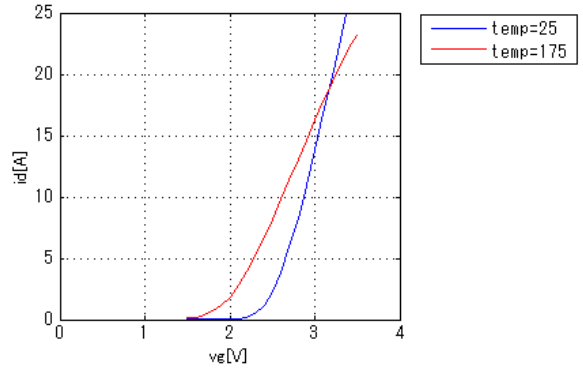
IdVds[Vgs]

Temp. = 25deg C



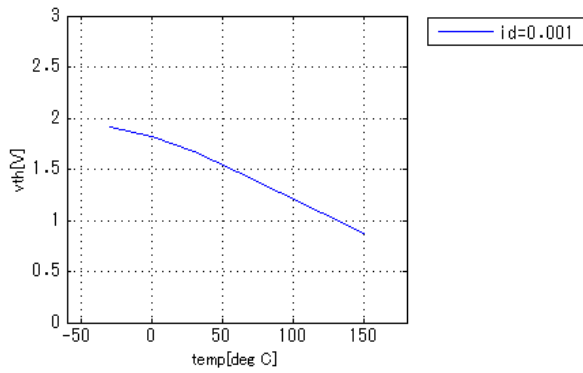
IdVgs[Temp]

$V_{ds} = 10V$



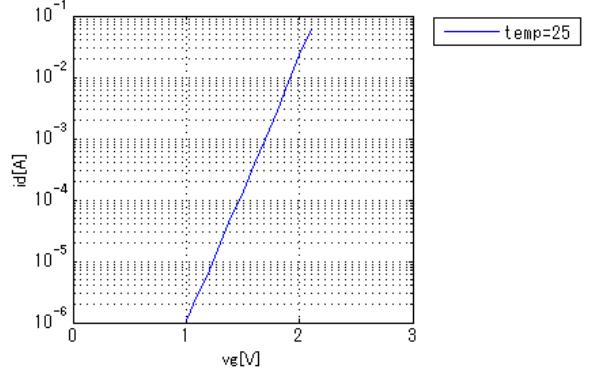
VthTemp[Id]

$V_d = V_g$

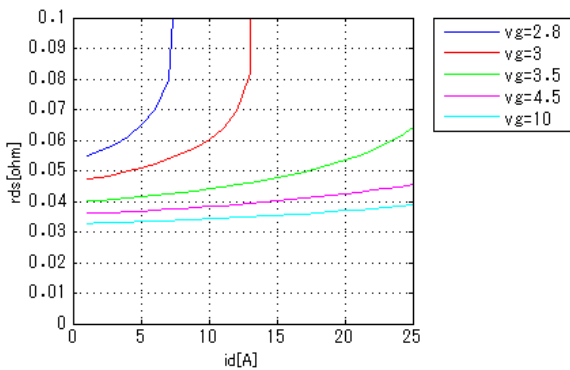


IdVgs[Temp]

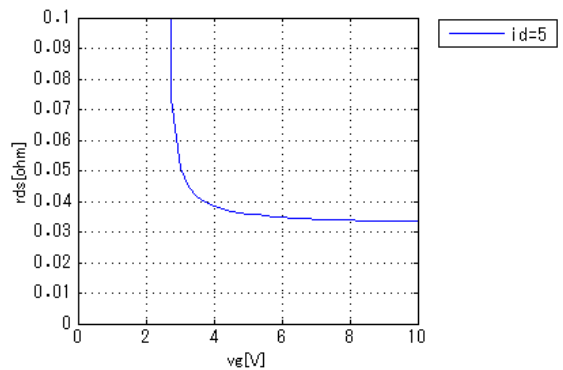
$V_{ds} = 5V$



Rds(on)Id[Vgs]



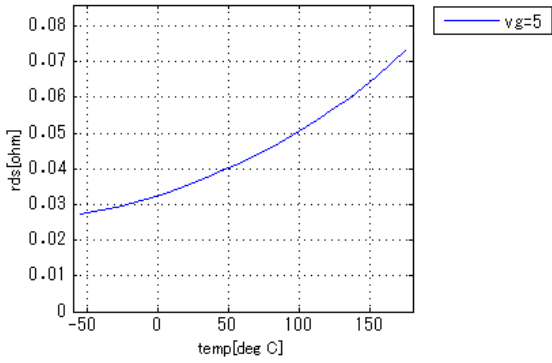
Rds(on)Vgs[Id]



Simulation results are following.
 Explanatory notes — : simulated

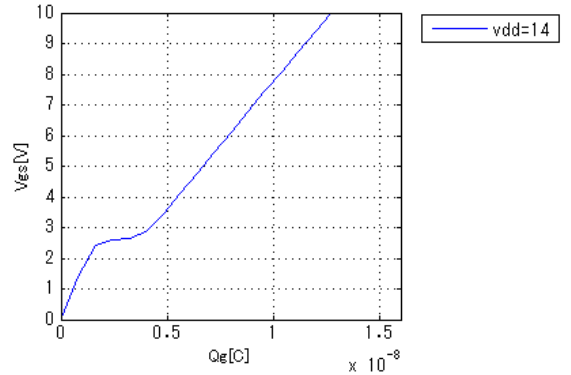
Rds(on)Temp[Vgs]

Id = 5A



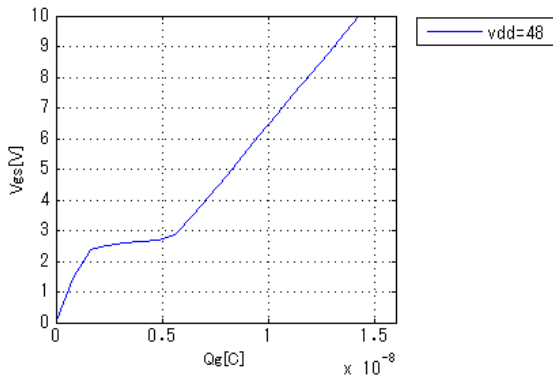
VgsQg[Vdd]

Id = 5A



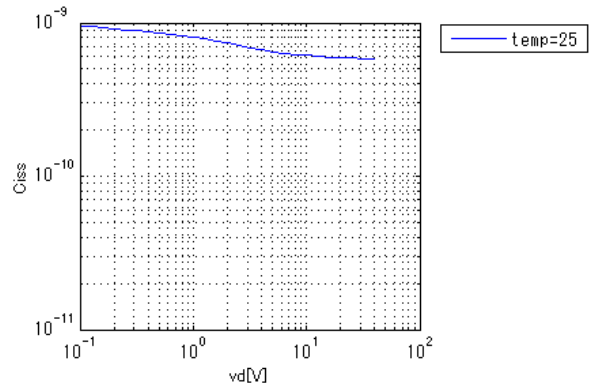
VgsQg[Vdd]

Id = 5A



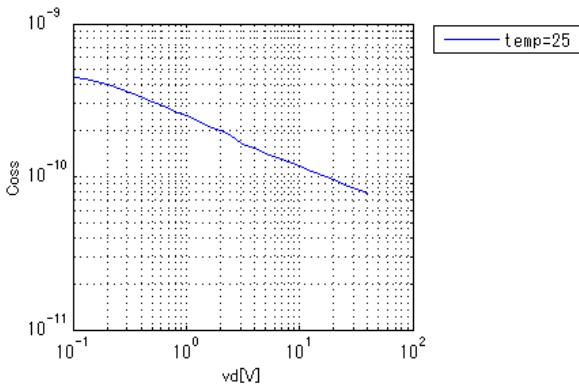
Ciss

Freq. = 1MHz



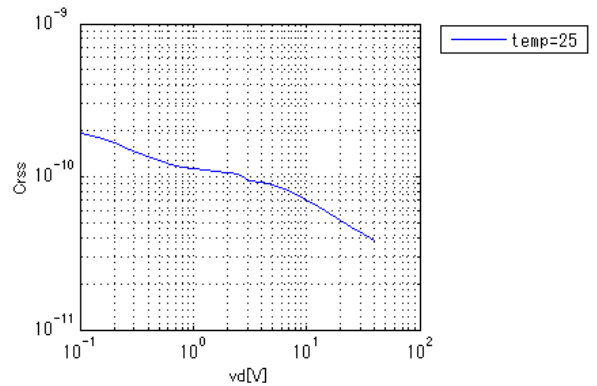
Coss

Freq. = 1MHz



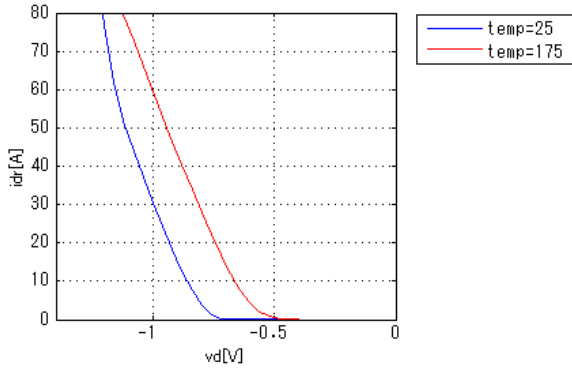
Crss

Freq. = 1MHz



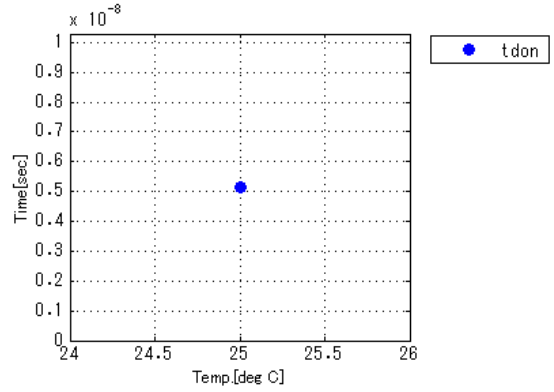
Simulation results are following.
 Explanatory notes — : simulated

IsVsd[Temp]



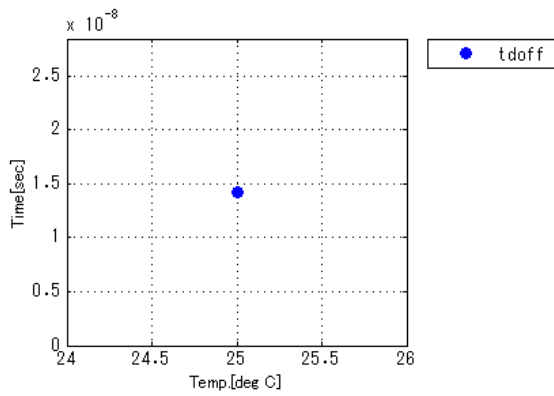
tdon

Vdd = 45V, Id = 9A, +Vg = 5V, -Vg = 0V, Rg = 5.0ohm



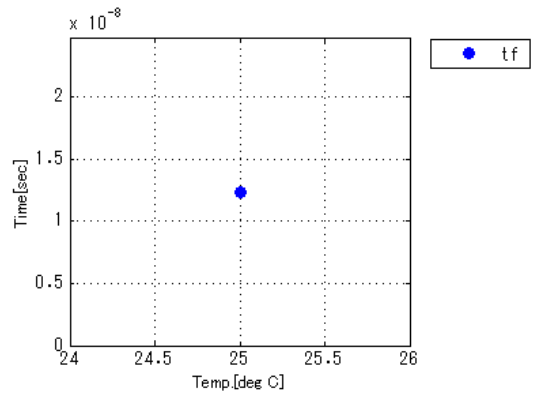
tdoff

Vdd = 45V, Id = 9A, +Vg = 5V, -Vg = 0V, Rg = 5.0ohm



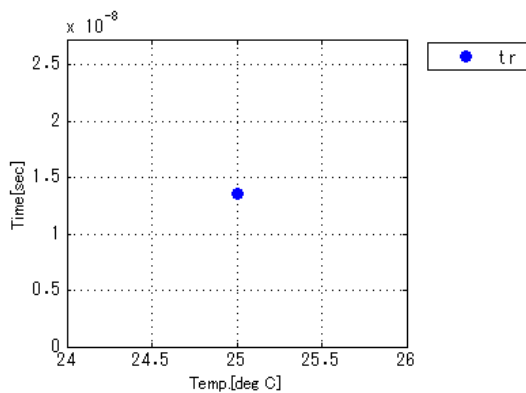
tf

Vdd = 45V, Id = 9A, +Vg = 5V, -Vg = 0V, Rg = 5.0ohm



tr

Vdd = 45V, Id = 9A, +Vg = 5V, -Vg = 0V, Rg = 5.0ohm



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