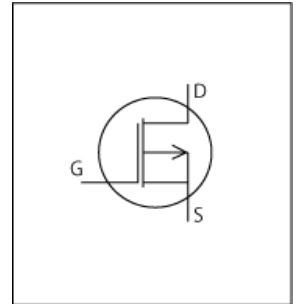


PSpice Model

PMOS

Infineon

IPD90P04P4-05



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_IPD90P04P4-05_PS
Pin Assign 1:G 2:D 3:S
File List Model Library MDC_IPD90P04P4-05_PS01.lib
 Model Report MDC_IPD90P04P4-05_PS.pdf (this file)

Verified Simulator Version PSpice version 17.2
Note

References

The information which was used for modeling is as follow:

[Data Sheet]

- Date/Version 2010-05-26 Rev. 1.0
- Product name IPD90P04P4-05
- Company name Infineon Technologies AG
- Characteristics IdVds[Vgs],Rds(on)Id[Vgs],IdVgs[Temp],Rds(on)Temp[Vgs], VthTemp[Id],CapacitanceVds[Cname],IsVsd[Temp],BvTemp[ir],VgsQg[Vdd],SwitchingIdd[Tname],TrrIf[Ir],QrrIf[Ir],SwitchingWaveform,TrrQrrWaveform

Simulation Range

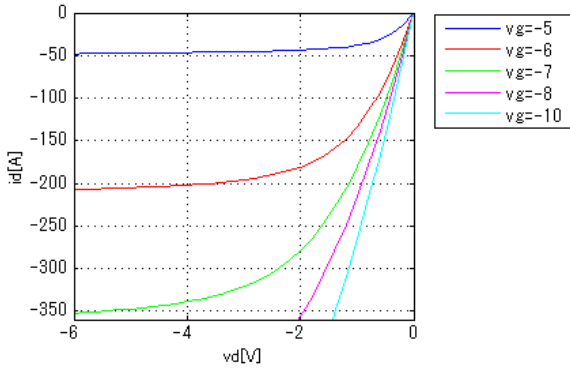
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	-40	V
Gate-source voltage (DC)	20	to	-20	V
Temperature	-55	to	175	deg C

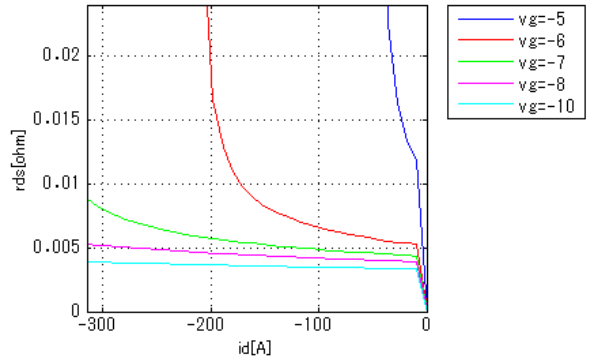
Simulation results are following.
 Explanatory notes — : simulated

IdVds[Vgs]

Temp. = 25degC

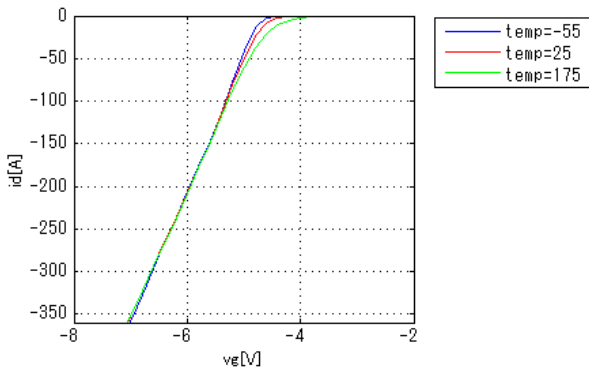


Rds(on)Id[Vgs]



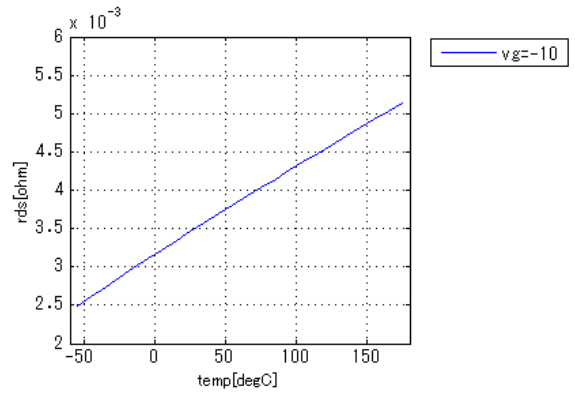
IdVgs[Temp]

Vds = -6V



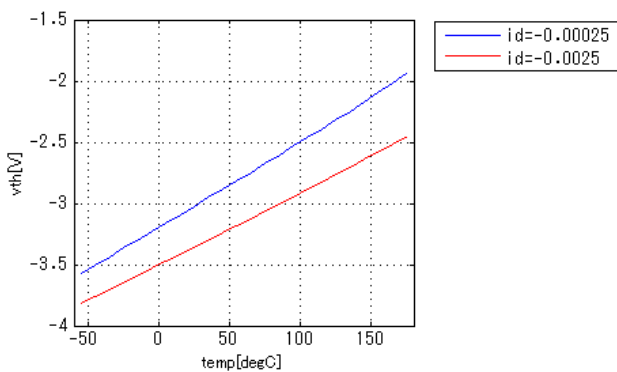
Rds(on)Temp[Vgs]

Id = -90A



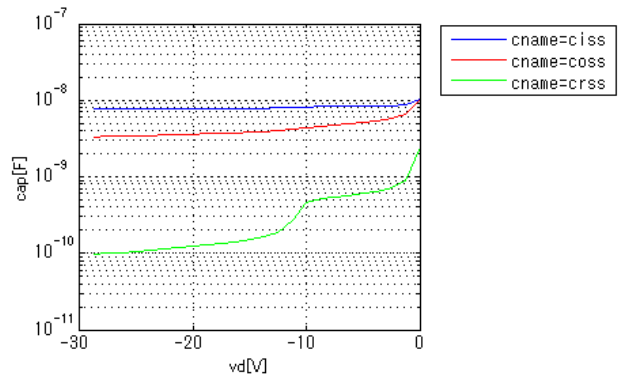
VthTemp[Id]

Vd = Vg



CapacitanceVds[Cname]

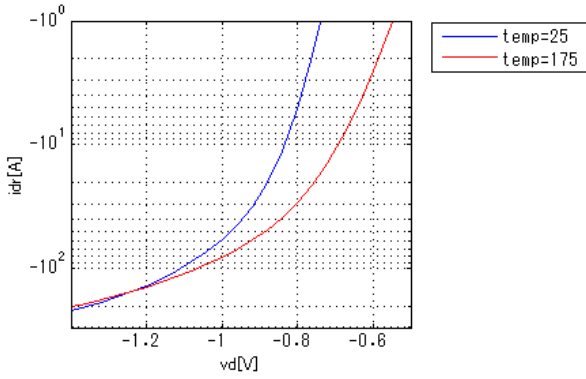
freq = 1000000Hz



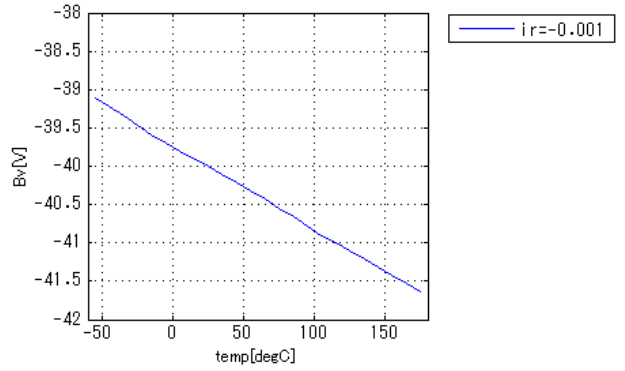
Simulation results are following.
 Explanatory notes — : simulated

IsVsd[Temp]

vg = 0V

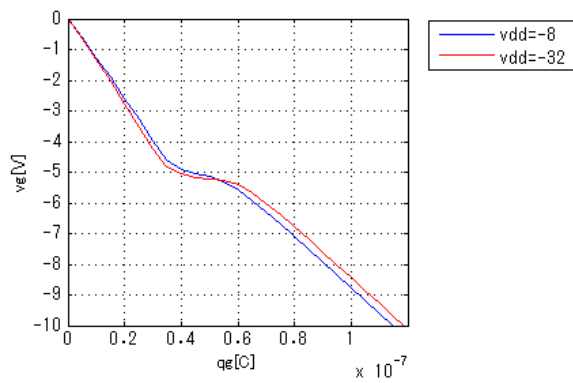


BvTemp[ir]



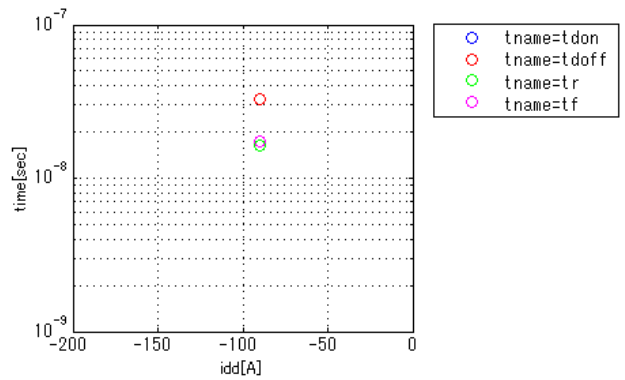
VgsQg[Vdd]

Id = -90A



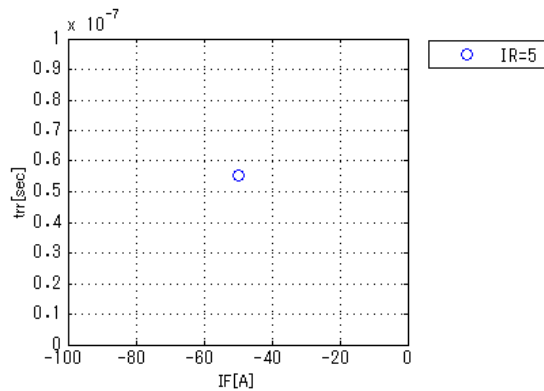
SwitchingIdd[Tname]

vgg = -10V, vdd = -20V, RGG = 3.5ohm



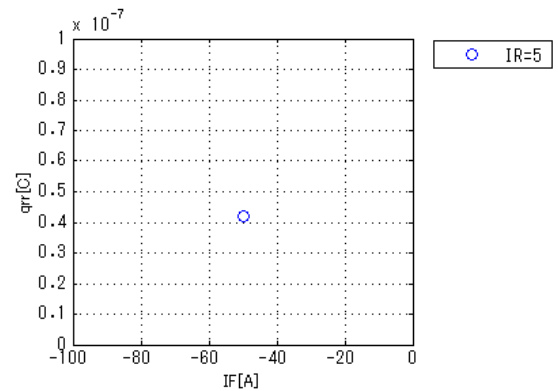
Trrlf[Ir]

vdd = -20V, didt = -100A/us



Qrrlf[Ir]

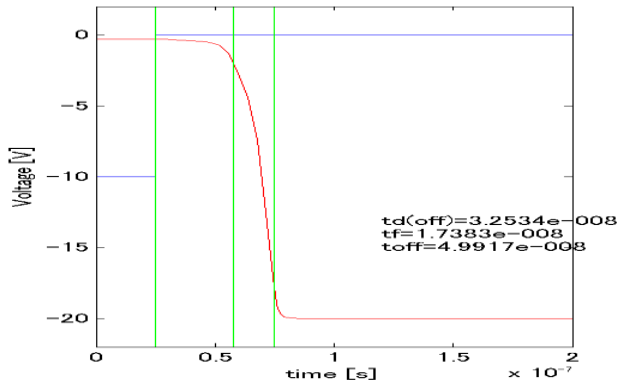
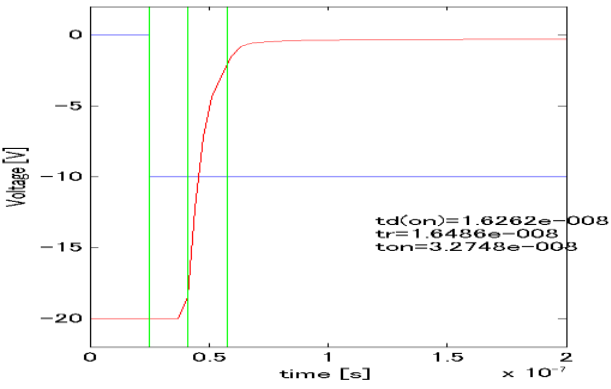
vdd = -20V, didt = -100A/us



Simulation results are following.
 Explanatory notes — : simulated

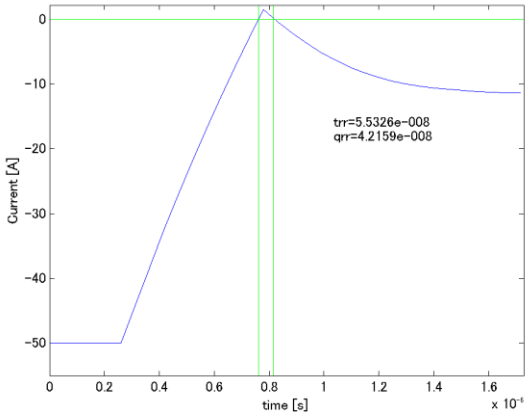
SwichingWaveform

Blue : INPUT Red : OUTPUT



TrrQrrWaveform

TrrQrrWaveform



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