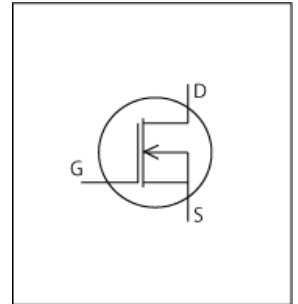


PSpice Model

NMOS

Infineon

IPC90N04S5-3R6



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_IPC90N04S5-3R6_PS
Pin Assign 1:S 2:S 3:S 4:G 5:D 6:D 7:D 8:D
File List Model Library MDC_IPC90N04S5-3R6_PS01.lib
 Model Report MDC_IPC90N04S5-3R6_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 Rev. 1.0 2016-12-06
- Product name IPC90N04S5-3R6
- Company name Infineon Technologies AG
- Characteristics IdVds[Vgs],Rds(on)Id[Vgs],IdVgs[Temp],Rds(on)Temp[Id],Vt hTemp[Id],CapacitanceVds[Cname],IsVsd[Temp],BvTemp[ir],VgsQg[Vdd],SwitchingIdd[Tname],Trrlf[Ir],Qrrlf[Ir],Switching Waveform,TrrQrrWaveform

Simulation Range

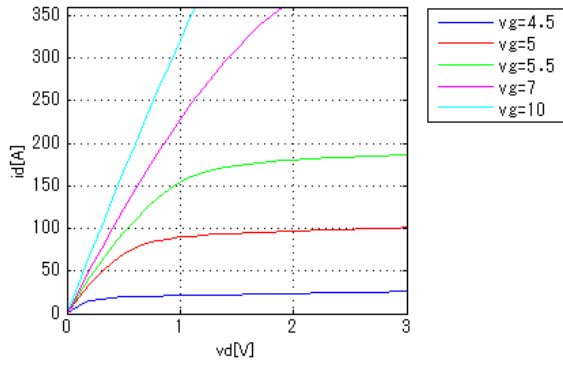
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

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

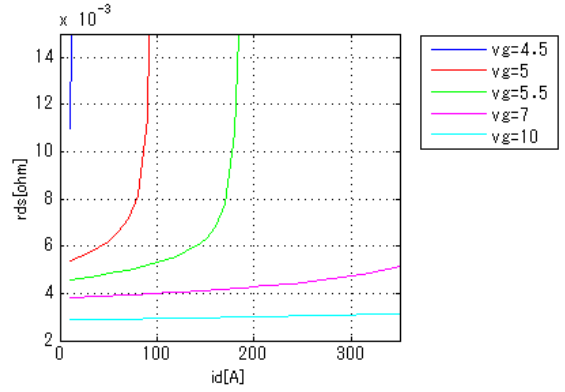
Simulation results are following.
 Explanatory notes — : simulated

IdVds[Vgs]

Temp. = 25degC

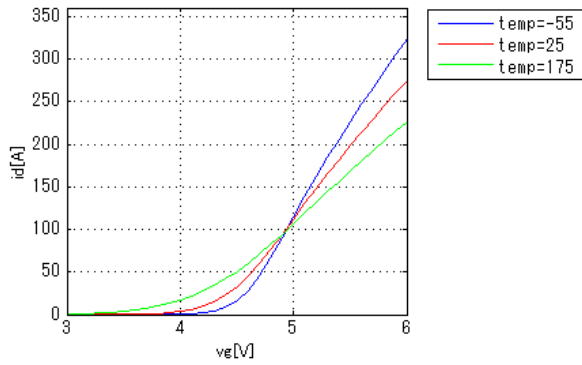


Rds(on)Id[Vgs]



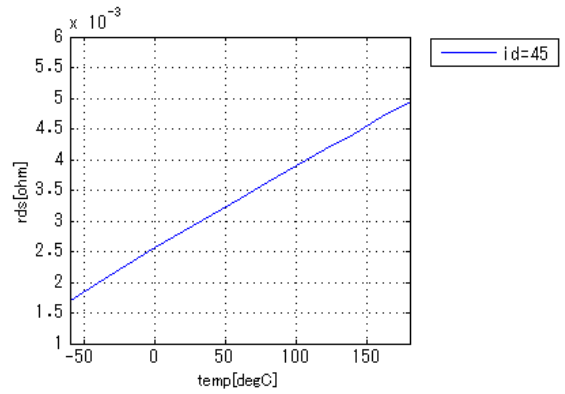
IdVgs[Temp]

Vds = 6V



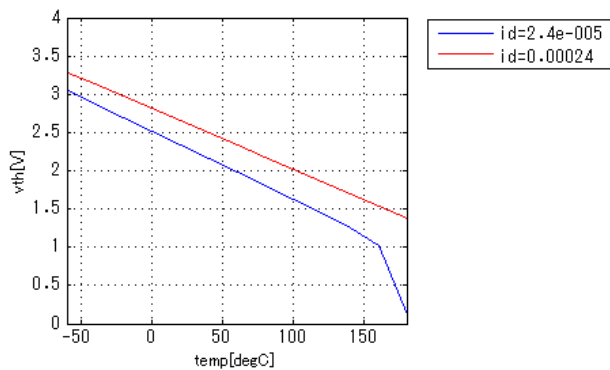
Rds(on)Temp[Id]

Vgs = 10V



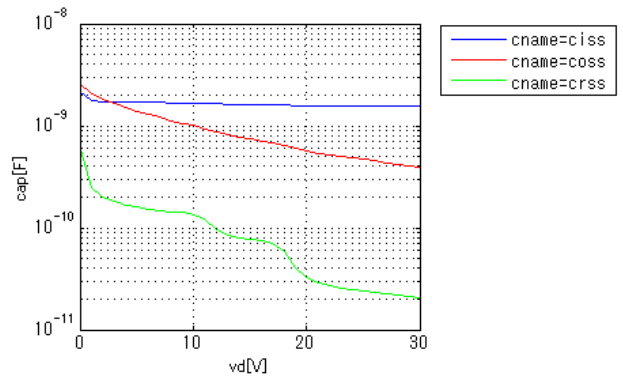
VthTemp[Id]

Vd = Vg



CapacitanceVds[Cname]

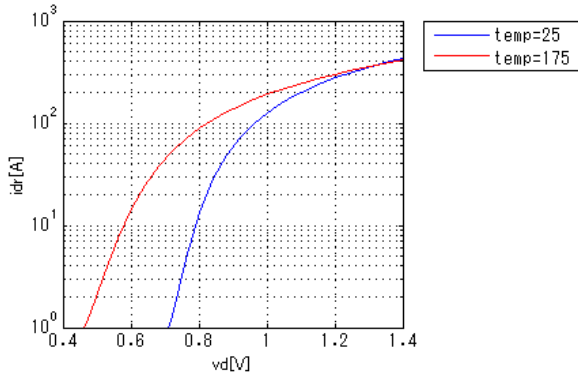
freq = 1000000Hz



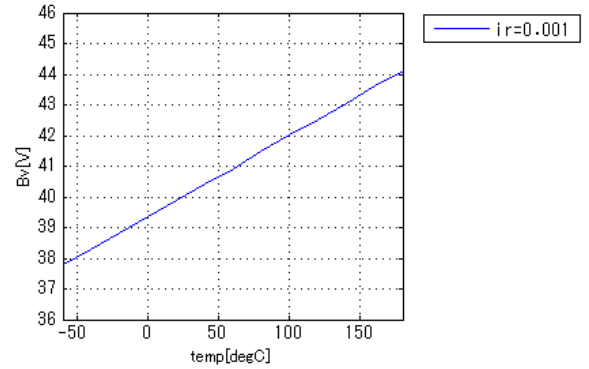
Simulation results are following.
 Explanatory notes — : simulated

IsVsd[Temp]

vg = 0V

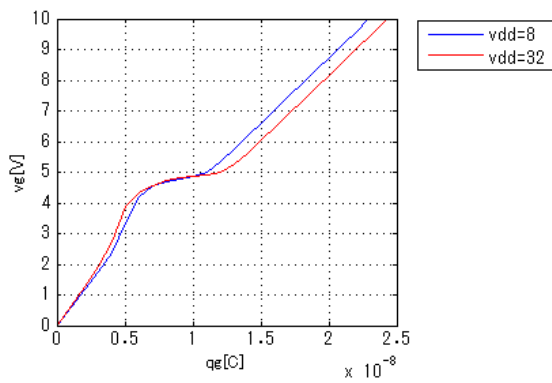


BvTemp[ir]



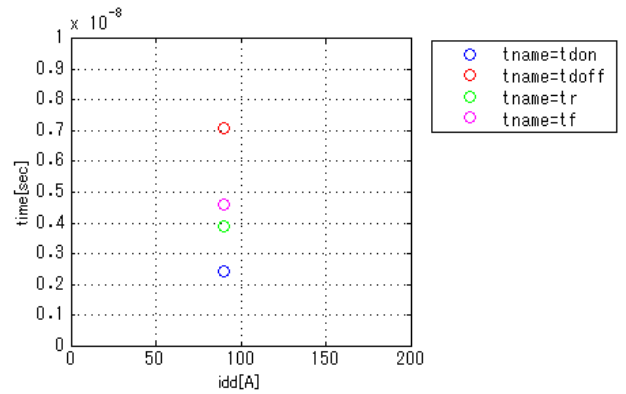
VgsQg[Vdd]

Id = 90A



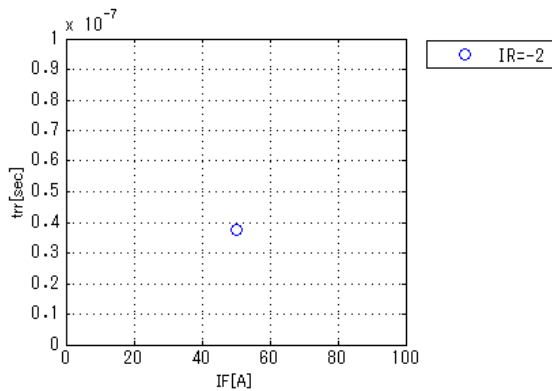
SwitchingIdd[Tname]

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



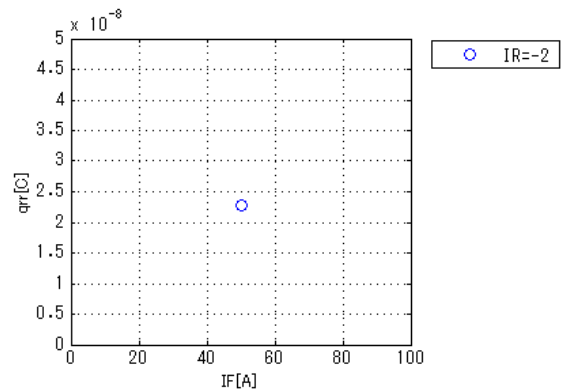
Trrlf[Ir]

vdd = 20V, didt = 100A/us



Qrrlf[Ir]

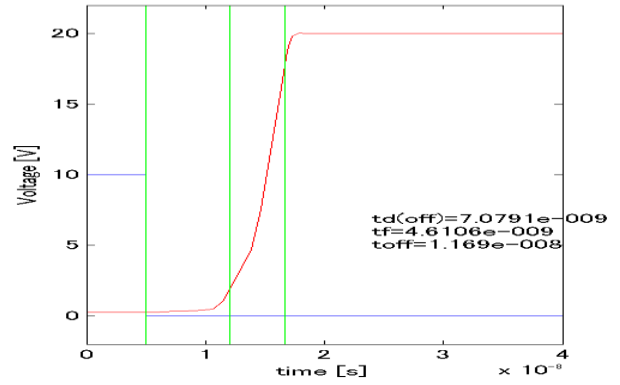
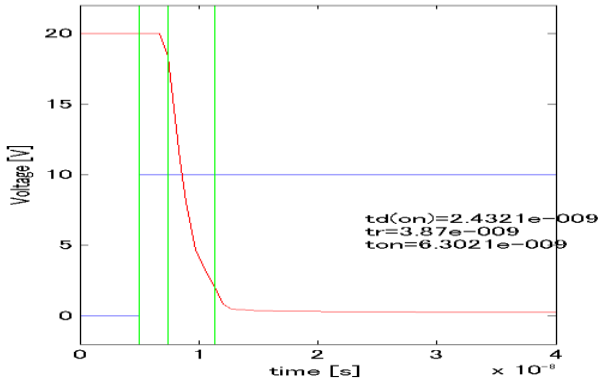
vdd = 20V, didt = 100A/us



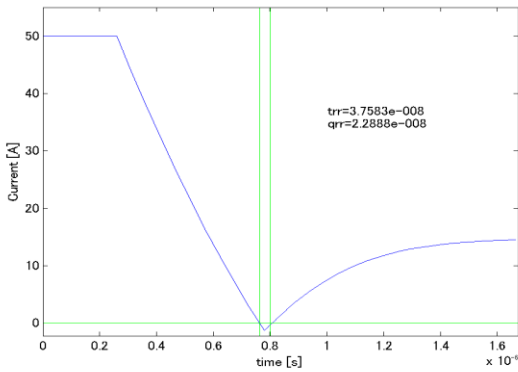
Simulation results are following.
 Explanatory notes — : simulated

Switching Waveform

Blue : INPUT Red : OUTPUT



TrrQrrWaveform



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