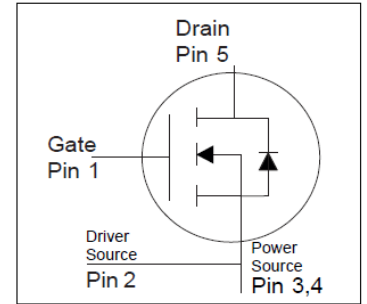
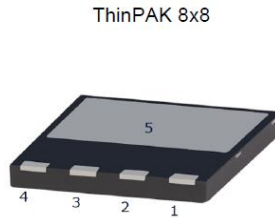


PSpice Model NMOS Infineon IPL65R230C7



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_IPL65R230C7_PS
Pin Assign 1:G 2:S 3:S 4:S 5:D
File List Model Library MDC_IPL65R230C7_PS01.lib
 Model Report MDC_IPL65R230C7_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. 2.0, 2013-04-29
- Product name IPL65R230C7
- Company name Infineon Technologies AG
- Characteristics IdVds[Vgs], IdVds[Vgs]2, Rds(on)Id[Vgs], Rds(on)Temp[Id], IdVgs[Temp], VgsQg[Vdd], IsVsd[Temp], BvTemp[Ir], Capacitance Vds[Cname], SwitchingIdd[Tname], Trrlf[Ir], Qrrlf[Ir], Switching Waveform, TrrWaveform

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	650	V
Gate-source voltage (DC)	-20	to	20	V
Temperature	-40	to	150	deg C

MOSFET

○ : Implemented
× : Not Implemented
— : Not applicable

Model Functions Table

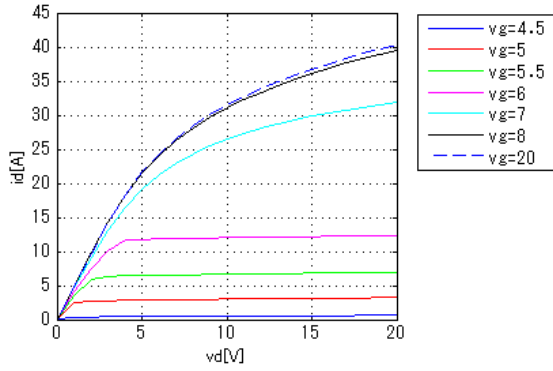
RANK=1

Functions	RANK	Implemented
ID-VDS-VGS	1	○
ID-VGS(Temp)	1	○
RDS(on)	1	○
Capacitance	1	○
Gate Charge	1	○
IS-VSD(Forward)	1	○
Reverse recovery	1	○
Switching(Typ.)	1	○
Bv	1	○
Yfs	1	—
Vth	1	—

Simulation results are following.
 Explanatory notes — : simulated

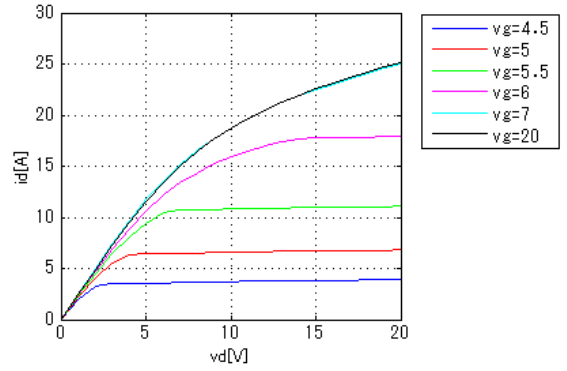
IdVds[Vgs]

Temp = 25degC



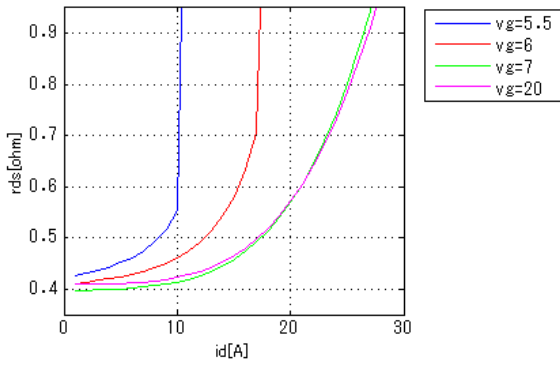
IdVds[Vgs]2

Temp = 125degC



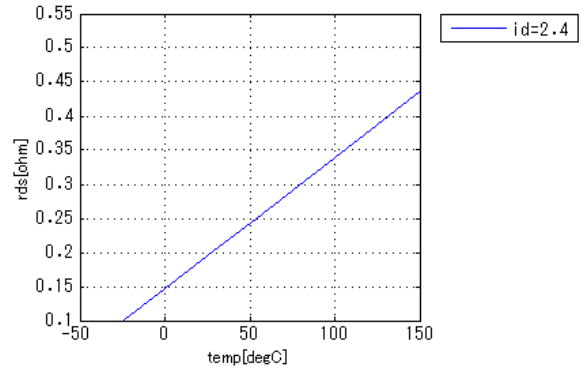
Rds(on)Id[Vgs]

Temp = 125degC



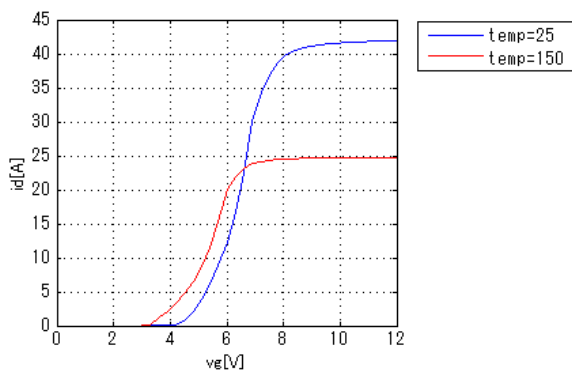
Rds(on)Temp[Id]

Vgs = 10V



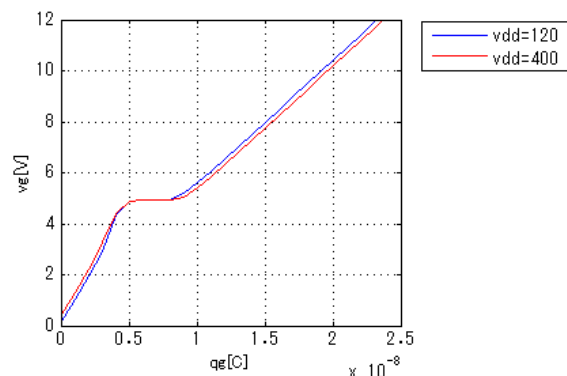
IdVgs[Temp]

Vds = 20V



VgsQg[Vdd]

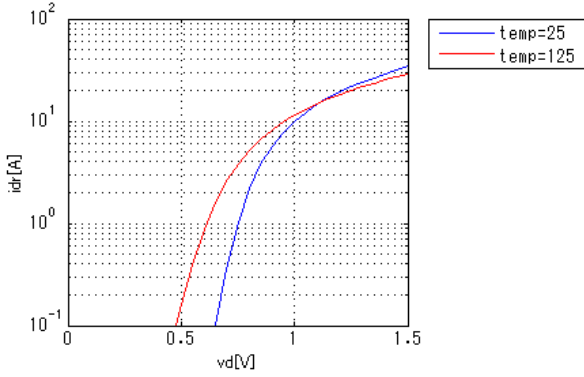
Id = 2.4A



Simulation results are following.
 Explanatory notes — : simulated

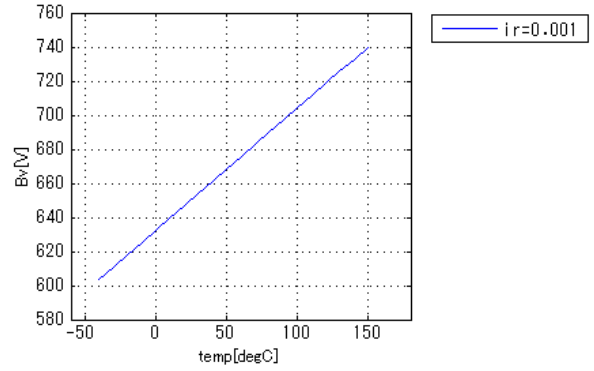
IsVsd[Temp]

vg = 0V



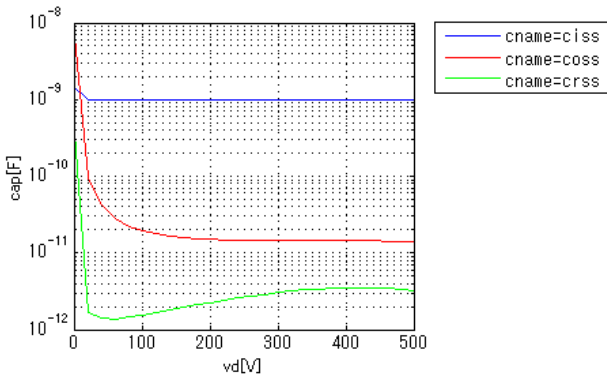
BvTemp[ir]

ir = 0.001A



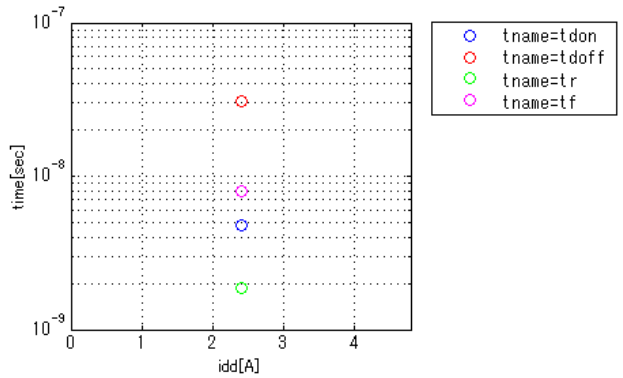
CapacitanceVds[Cname]

freq = 250000Hz



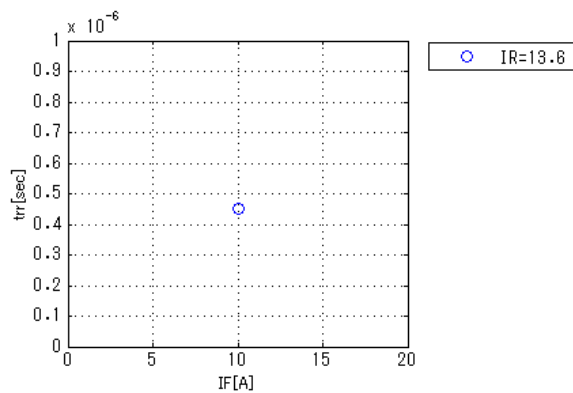
SwitchingIdd[Tname]

vgg = 13V, vdd = 400V, RGG = 10ohm



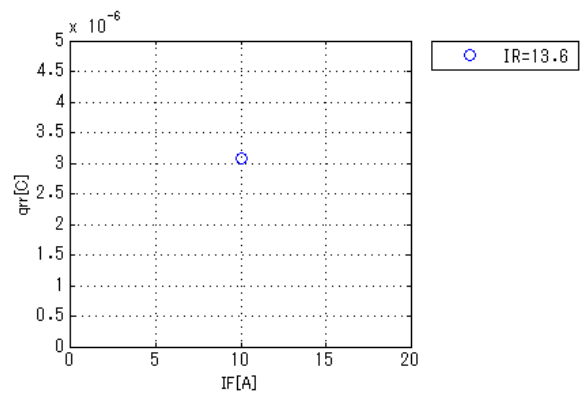
Trrlf[Ir]

vdd = 400V, didt = 55A/us, Temp = 25degC



Qrrlf[Ir]

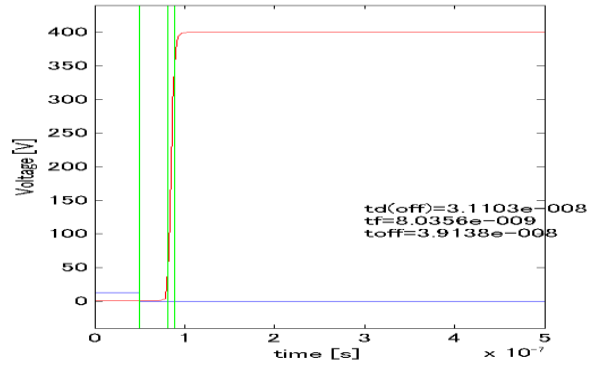
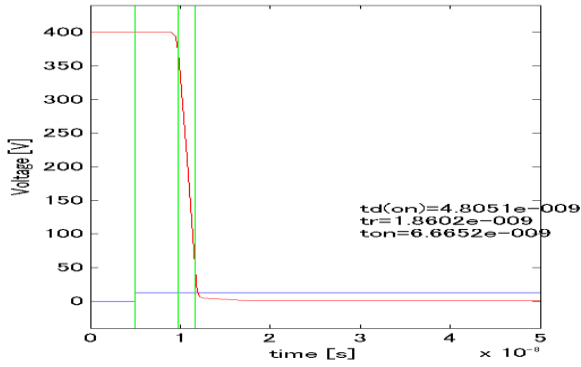
vdd = 400V, didt = 55A/us, Temp = 25degC



Simulation results are following.
 Explanatory notes — : simulated

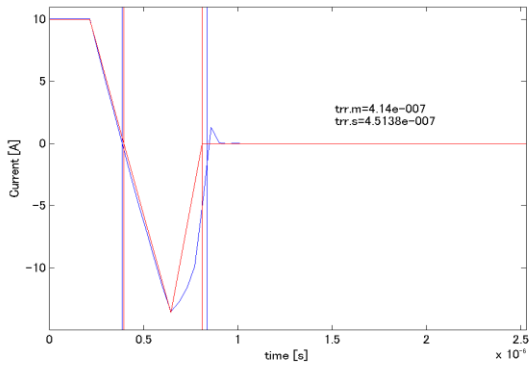
Switching Waveform (Blue : INPUT Red : OUTPUT)

vgg = 13V, vdd = 400V, RGG = 10ohm, idd = 2.4A



Trr Waveform (Red : Datasheet Blue : Simulation)

vdd = 400V, didt = 55A/us, Temp = 25degC, If = 10A, Ir = 13.6A



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MoDeCH Inc.

Head Office

Location: 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/>