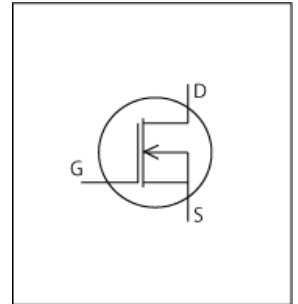# LTspice Model
NMOS
Infineon
IRFB4410PBF

Model Information

Model   A macro model based on BSIM3 model
Call Name   MDC_IRFB4410PBF_LT
Pin Assign 1:D 2:G 3:S
File List   Model Library   MDC_IRFB4410PBF_LT01.lib
                Model Report   MDC_IRFB4410PBF_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   01/31/06
●Product name   IRFB4410PBF
●Company name   Infineon Technologies AG
●Characteristics   IdVds[Vgs],IdVds[Vgs]02,IdVgs[Temp],Rds(on)Temp[Id],Cap
                   acitanceVds[Cname],VgsQg[Vdd],IsVsd[Temp],BvTemp[ir],V
                   thTemp[Id],SwitchingIdd[Tname],TrrIf[Ir],QrrIf[Ir],SwitchingW
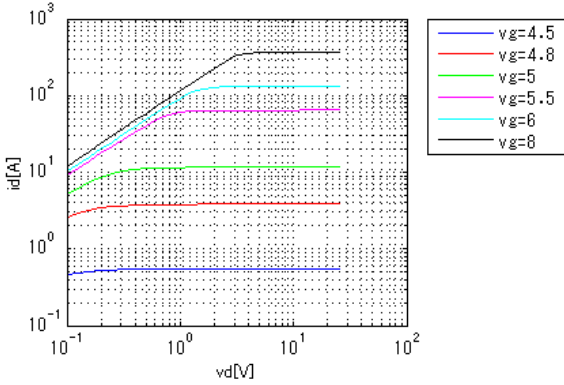   aveform,TrrQrrWaveform

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	100	V
Gate-source voltage (DC)	-20	to	20	V
Temperature	-55	to	175	deg C

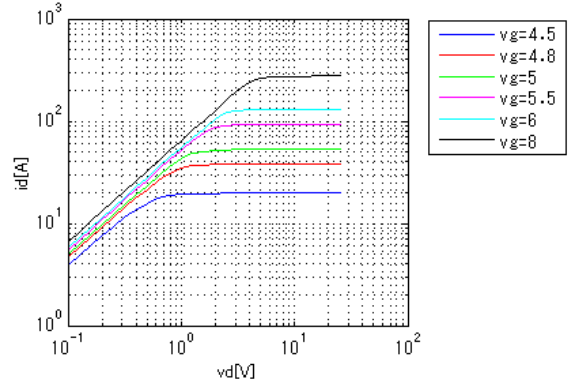Simulation results are following.
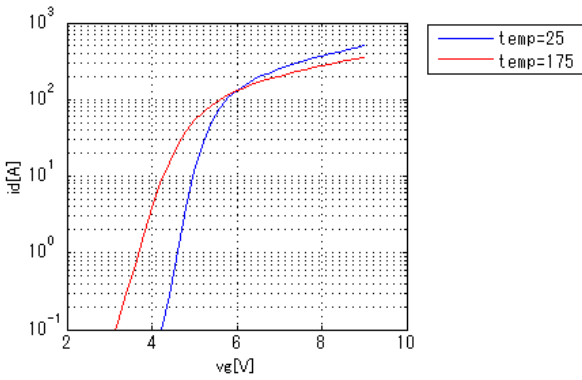Explanatory notes　　—　: simulated

IdVds[Vgs]
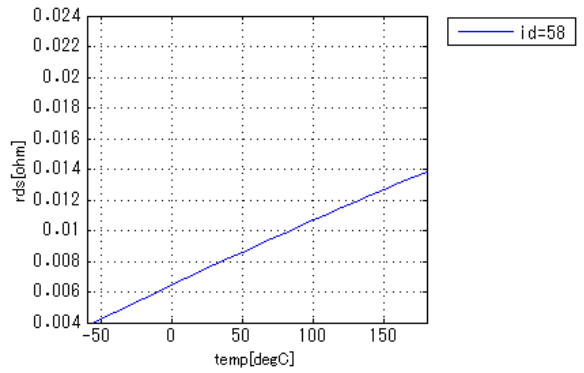Temp. = 25degC

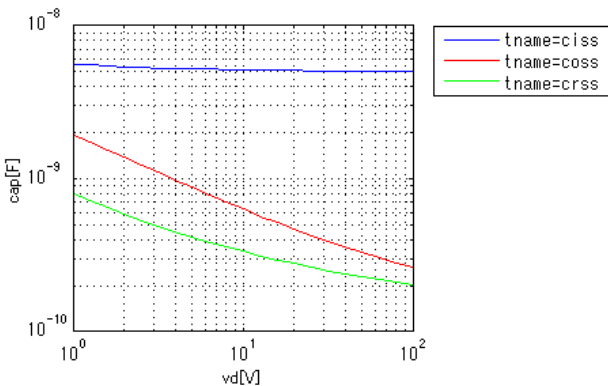## IdVds[Vgs]02
Temp. = 175degC

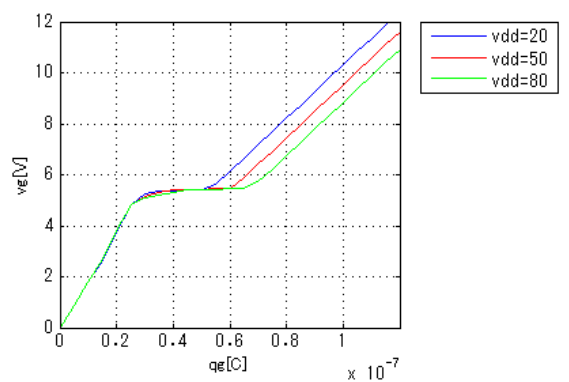## IdVgs[Temp]
Vds = 25V

Rds(on)Temp[Id]
Vgs = 10V

CapacitanceVds[Cname]
freq = 1000000Hz

VgsQg[Vdd]
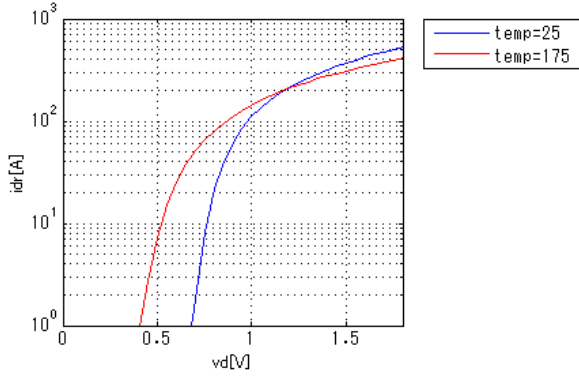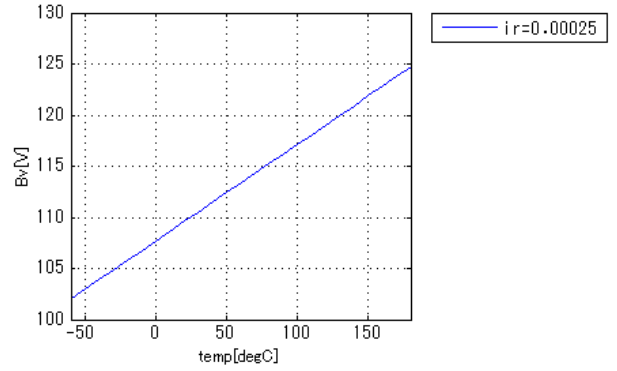Id = 58A

Simulation results are following.
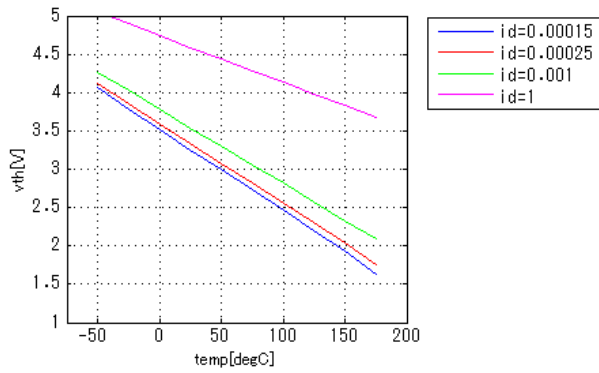Explanatory notes — : simulated
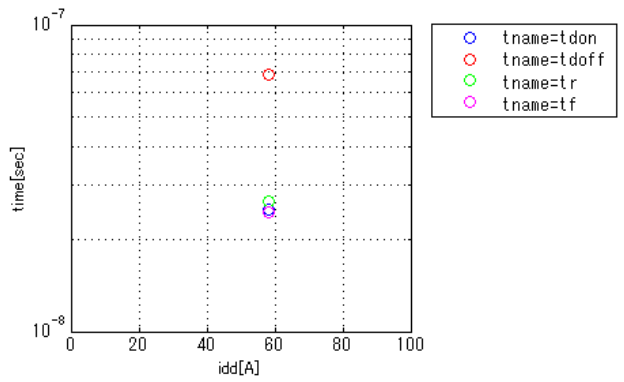
IsVsd[Temp]

vg = 0V

BvTemp[ir]

VthTemp[Id]

Vd = Vg

SwitchingIdd[Tname]

vgg = 10V, vdd = 65V, RGG = 4.1ohm

TrrIf[Ir]

vdd = 85V, didt = 100A/us

QrrIf[Ir]
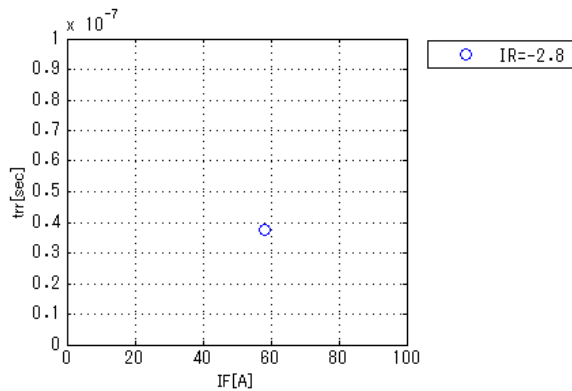
vdd = 85V, didt = 100A/us

Simulation results are following.
Explanatory notes 　　－：simulated

SwitchingWaveform

Blue : INPUT　Red : OUTPUT

td(on)=2.5077e-008
tr=2.6469e-008
ton=5.1546e-008

td(off)=6.8501e-008
tf=2.4481e-008
toff=9.2981e-008

TrrQrrWaveform

vdd = 85V, didt = 100A/us

trr=3.7644e-008
qrr=2.5015e-008

DISCLAIMER

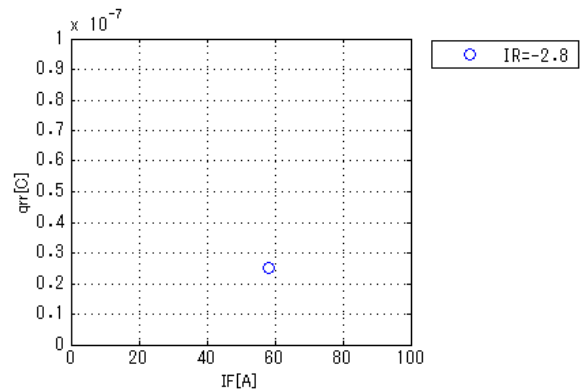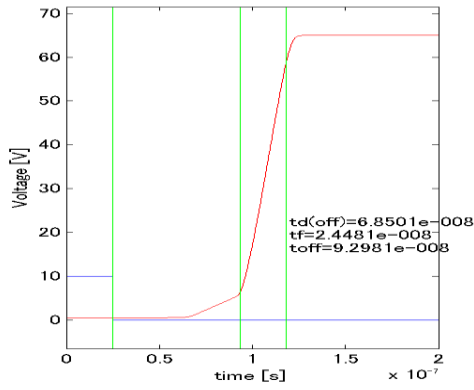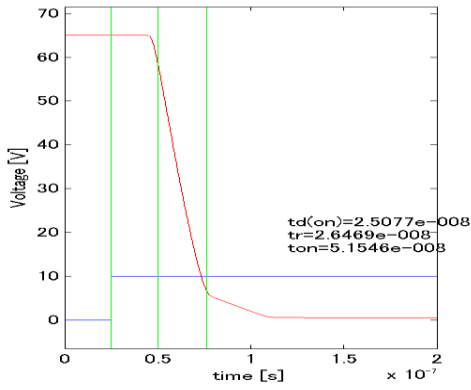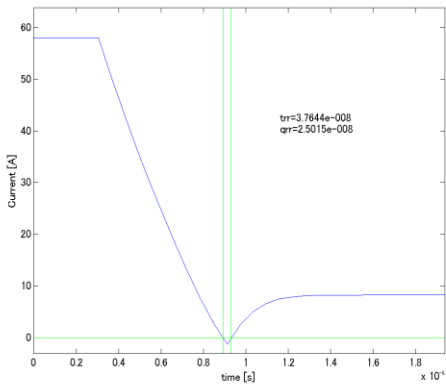1. This SPICE (Simulation Program with Integrated Circuit Emphasis) model and its content (the "Contents") are copyright of MoDeCH Inc. All rights reserved. Any redistribution or reproduction of any or all part of the Contents in any form is prohibited without express written permission made by MoDeCH Inc.

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