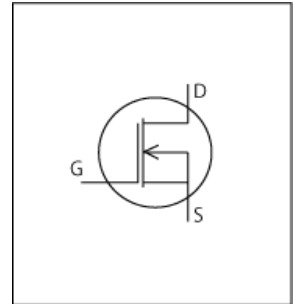


LTspice Model

NMOS

Infineon

BSC014NE2LSI



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_BSC014NE2LSI_LT
Pin Assign 1:S 2:S 3:S 4:G 5:D 6:D 7:D 8:D
File List Model Library MDC_BSC014NE2LSI_LT01.lib
 Model Report MDC_BSC014NE2LSI_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 Rev. 2.4, 2020-06-17
- Product name BSC014NE2LSI
- Company name Infineon Technologies AG
- Characteristics IdVds[Vgs],Rds(on)Id[Vgs],IdVgs[Temp],YfslId[Temp],Rds(on)Temp[Id],VthTemp[Id],CapacitanceVds[Cname],IsVsd[Temp],VgsQg[Vdd],IdVds[temp],SwitchingIdd[Tname],SwitchingWaveform,Qrrf[Ir],QrrWaveform

Simulation Range

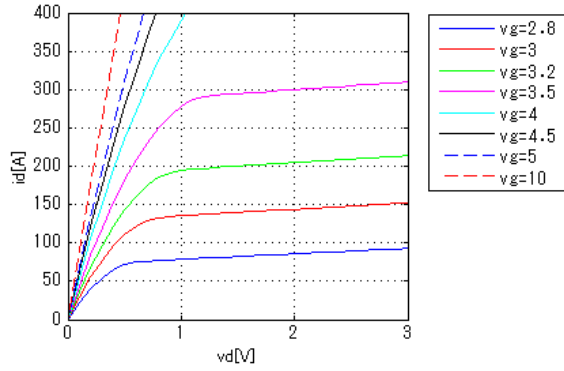
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	25	V
Gate-source voltage (DC)	-20	to	20	V
Temperature	-55	to	150	deg C

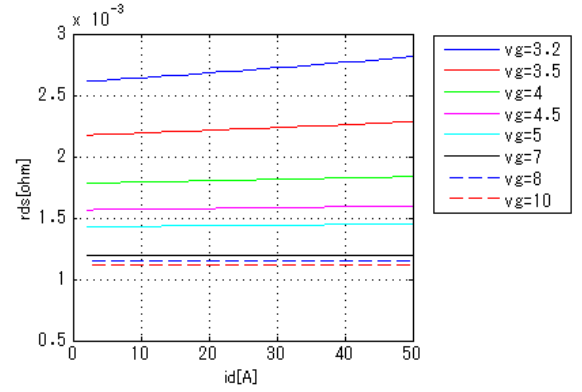
Simulation results are following.
 Explanatory notes — : simulated

IdVds[Vgs]

Temp. = 25degC

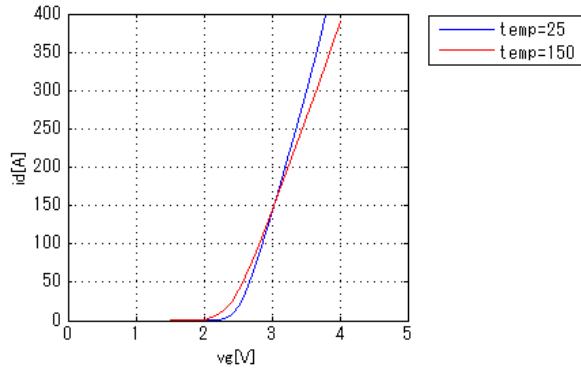


Rds(on)Id[Vgs]



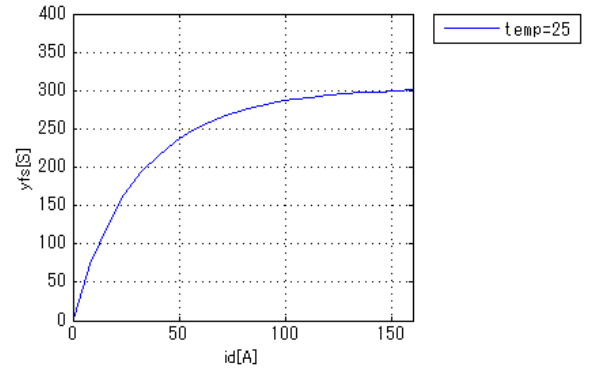
IdVgs[Temp]

Vds = 2V



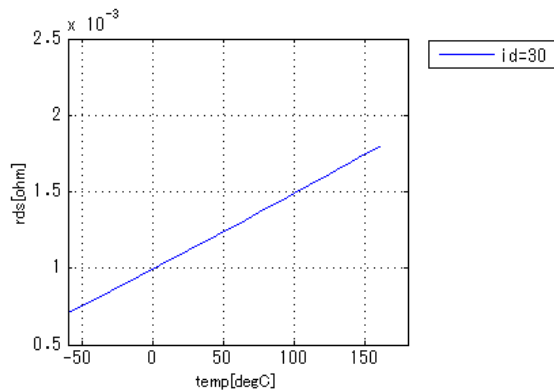
YfsId[Temp]

Vds = 2V



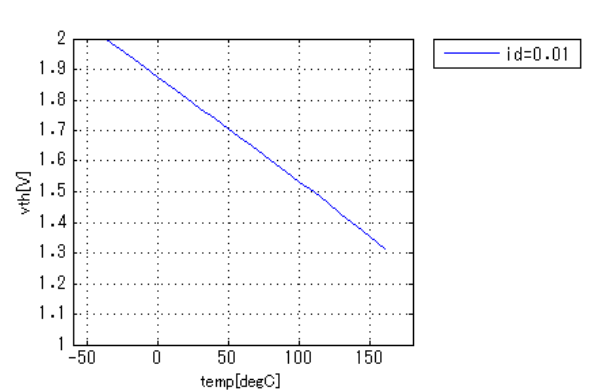
Rds(on)Temp[Id]

Vgs = 10V



VthTemp[Id]

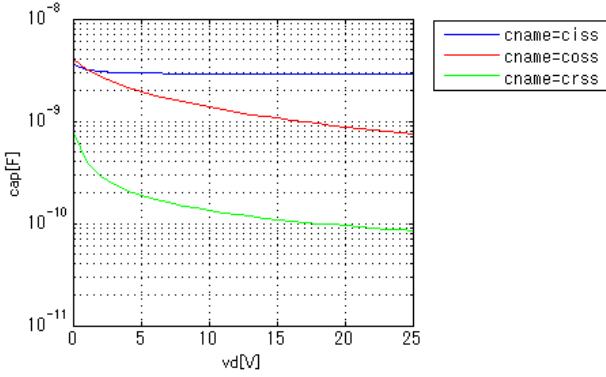
Vd = Vg



Simulation results are following.
 Explanatory notes — : simulated

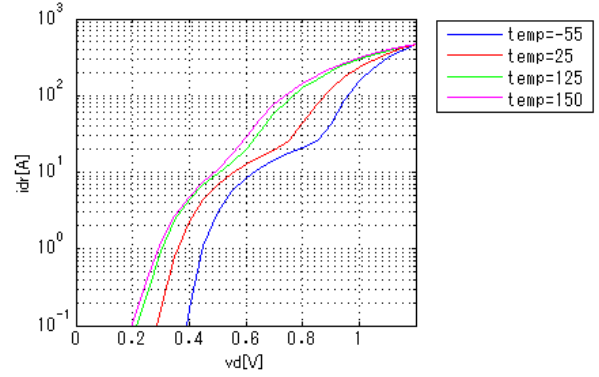
CapacitanceVds[Cname]

freq = 1000000Hz



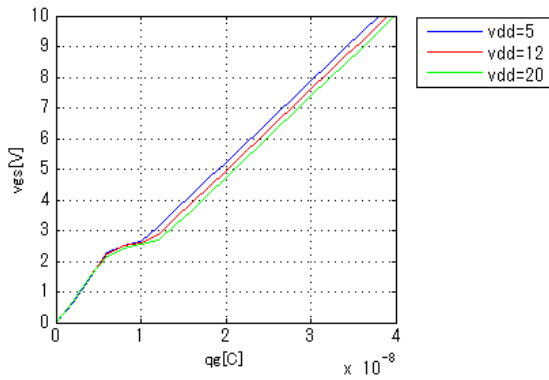
IsVsd[Temp]

vg = 0V



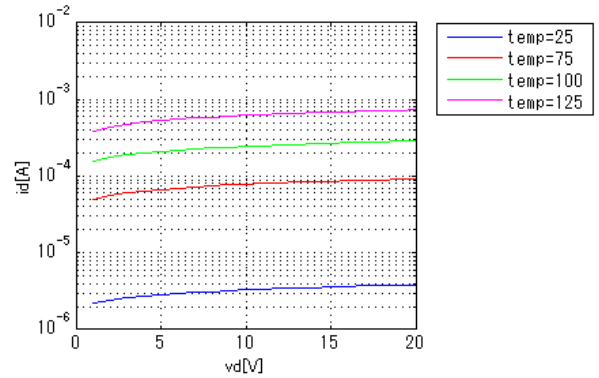
VgsQg[Vdd]

Id = 30A



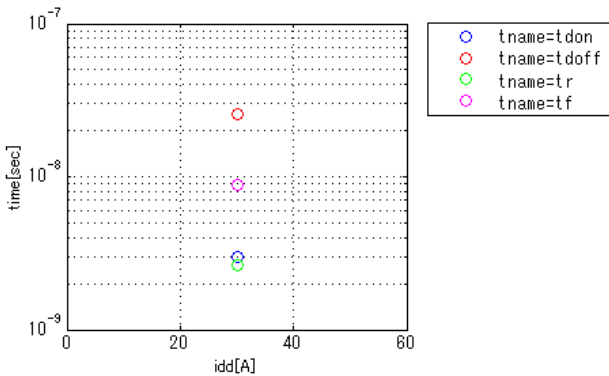
IdVds[temp]

vg = 0V



SwitchingIdd[Tname]

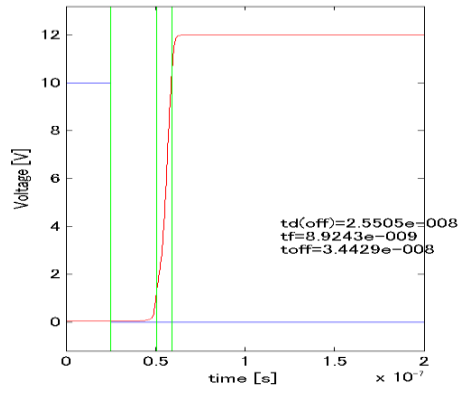
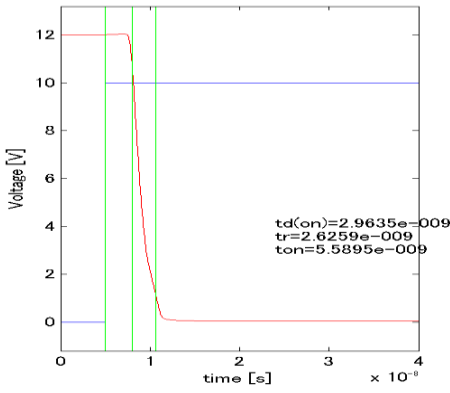
vgg = 10V, vdd = 12V, RGG = 1.6ohm



Simulation results are following.
 Explanatory notes — : simulated

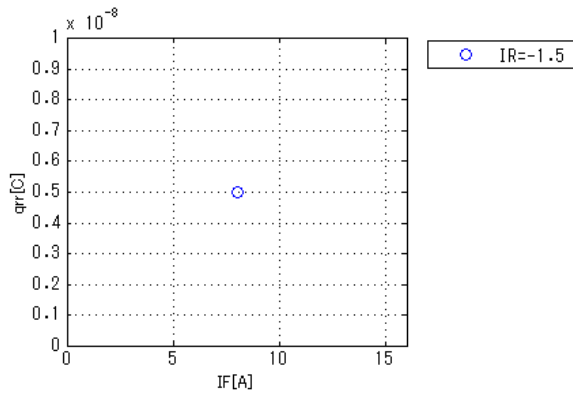
SwitchingWaveform

Blue : INPUT Red : OUTPUT

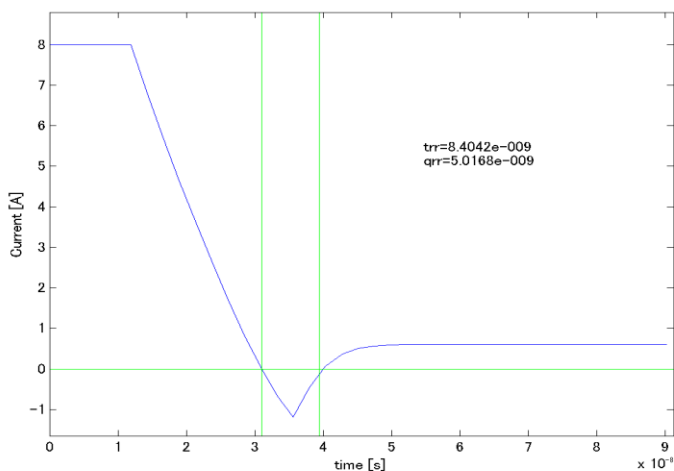


Qrrf[Ir]

vdd = 15V, didt = 400A/us



QrrWaveform



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