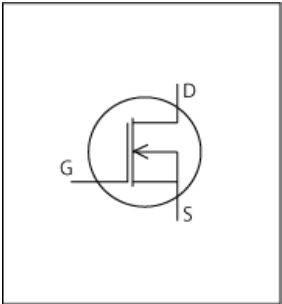


LTspice Model

NMOS

Infineon

BSC123N08NS3 G



Model Information

Model	A macro model based on BSIM3 model		
Call Name	MDC_BSC123N08NS3_G_LT		
Pin Assign	1:D 2:G 3:S		
File List	Model Library	MDC_BSC123N08NS3_G_LT01.lib	
	Model Report	MDC_BSC123N08NS3_G_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. 2.5
●Product name	BSC123N08NS3 G
●Company name	Infineon Technologies AG
●Characteristics	IdVds[Vgs],Rds(on)Id[Vgs],IdVgs[Temp],Rds(on)Temp[Vgs], VthTemp[Id],Crss,Coss,Ciss,IsVsd[Temp],VgsQg[Vdd],tdon,t doff,tf,tr

Simulation Range

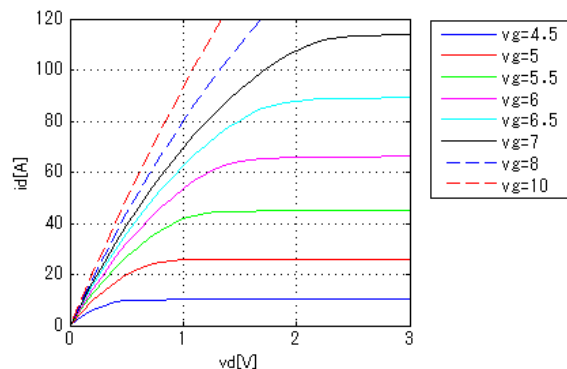
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	80	V
Gate-source voltage (DC)	0	to	20	V
Temperature	-55	to	150	deg C

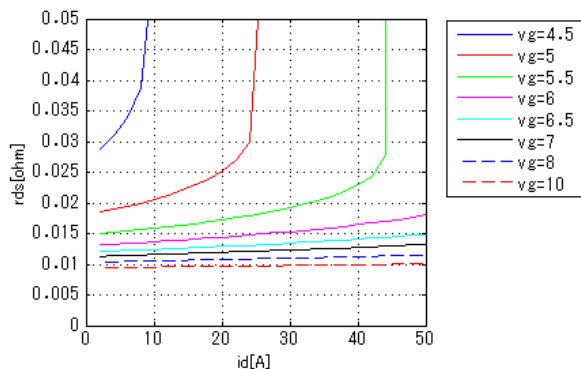
Simulation results are following.
Explanatory notes — : simulated

IdVds[Vgs]

Temp. = 25deg C

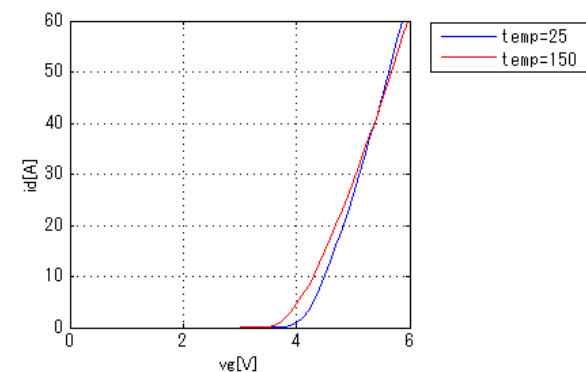


Rds(on)Id[Vgs]



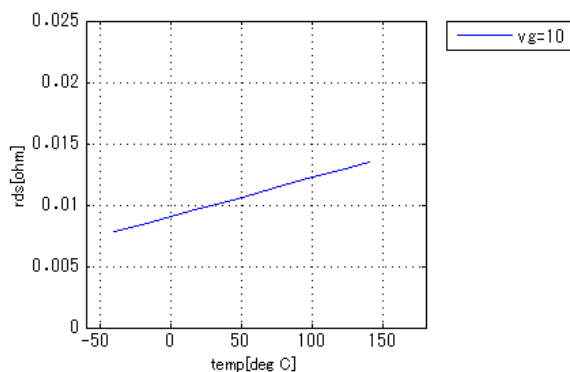
IdVgs[Temp]

Vds = 2V



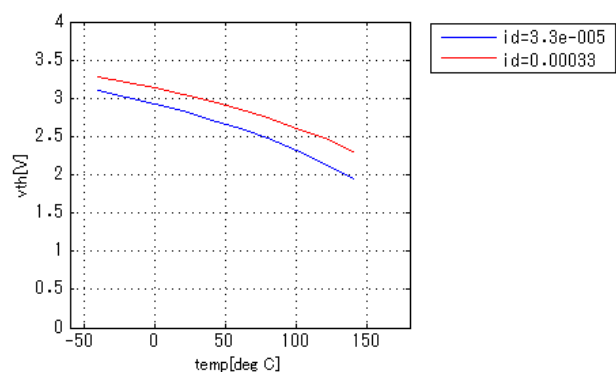
Rds(on)Temp[Vgs]

Id = 33A



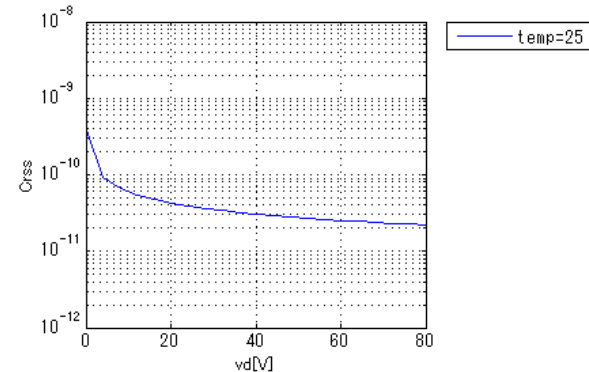
VthTemp[Id]

Vd = Vg



Crss

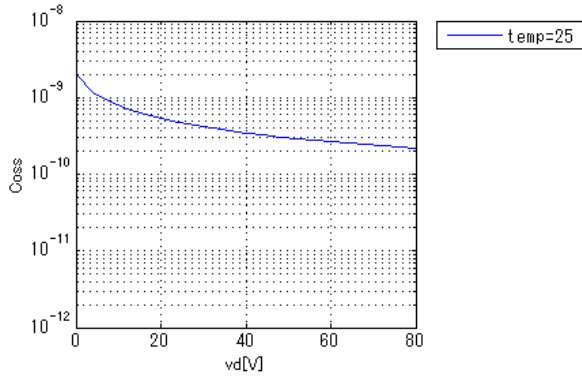
Freq. = 1MHz



Simulation results are following.
Explanatory notes — : simulated

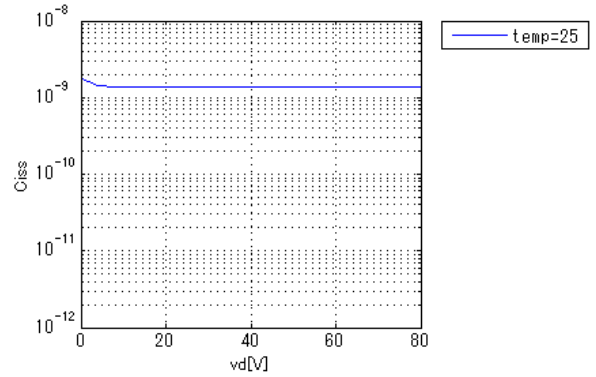
Coss

Freq. = 1MHz

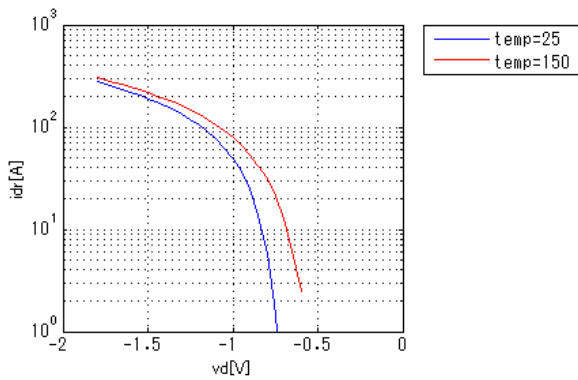


Ciss

Freq. = 1MHz

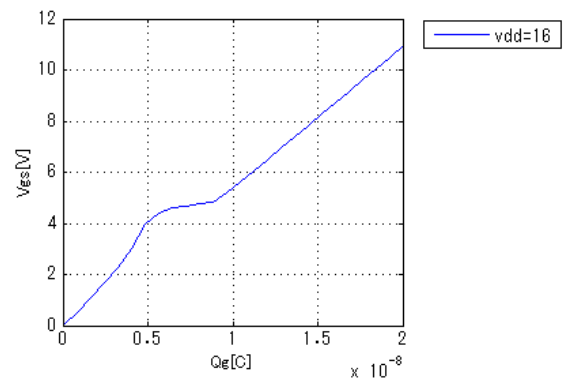


IsVsd[Temp]



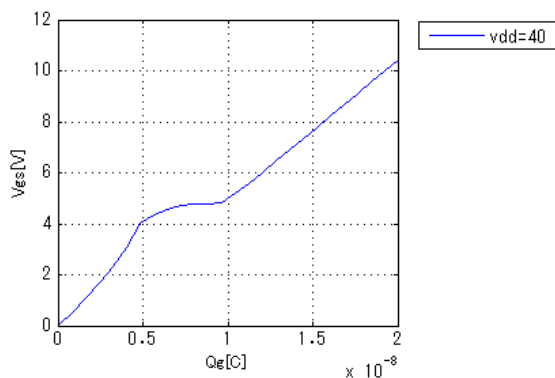
VgsQg[Vdd]

$I_d = 20A$



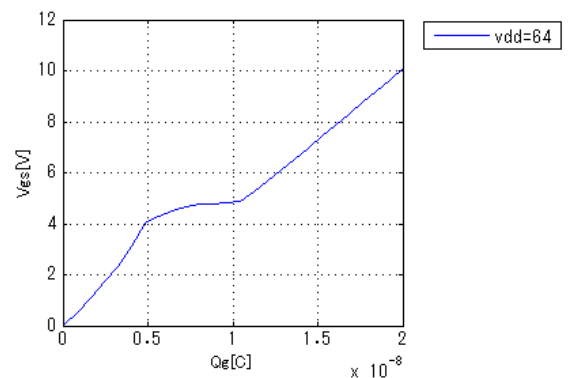
VgsQg[Vdd]

$I_d = 20A$



VgsQg[Vdd]

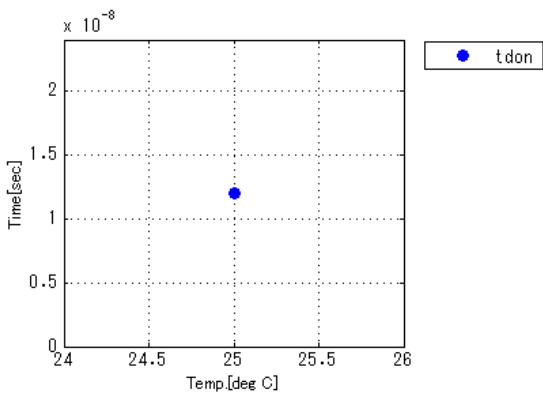
$I_d = 20A$



Simulation results are following.
Explanatory notes — : simulated

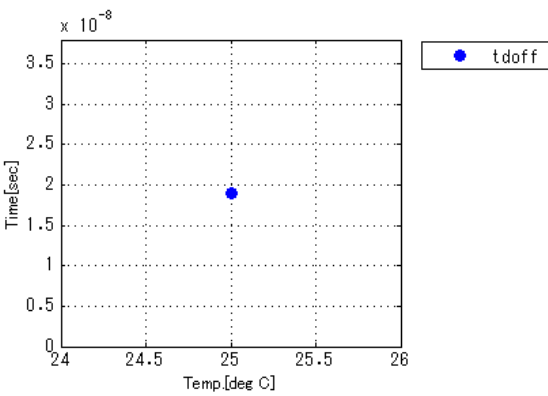
tdon

Vdd = 40V, Id = 20A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



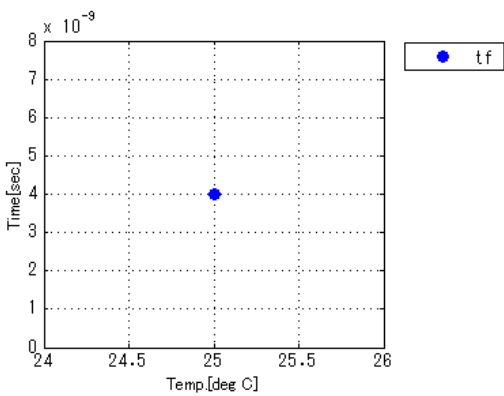
tdoff

Vdd = 40V, Id = 20A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



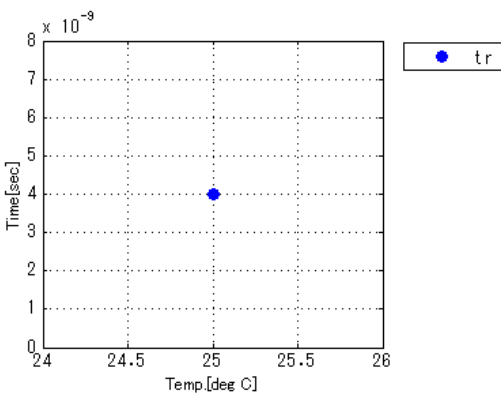
tf

Vdd = 40V, Id = 20A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



tr

Vdd = 40V, Id = 20A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



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MoDeCH Inc.

Head Office

Location: Mitsuiiseimei Hachioji Bldg., 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/>