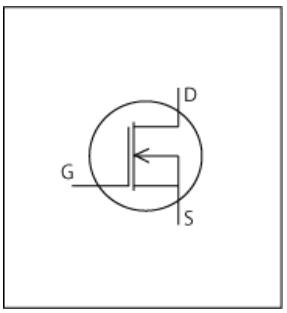
PSpice Model
NMOS
Renesas Electronics Corporation
2SK1516



Model Information

Model	A macro model based on BSIM3 model	
Call Name	MDC_2SK1516_PS	
Pin Assign	1:G 2:D 3:S	
File List	Model Library	MDC_2SK1516_PS01.lib
	Model Report	MDC_2SK1516_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 Unknown
- ●Product name 2SK1516
- ●Company name Renesas Electronics Corporation
- ●Characteristics IdVgs[Temp],IdVds[Vgs],VdsVgs[Id],Rds(on)Id[Vgs],Rds(on)Temp[Id],Crss,Ciss,Coss,VgsQg[Vdd],VdsQg[Vdd],IsVsd[Vgs],tdon,tdoff,tf,tr

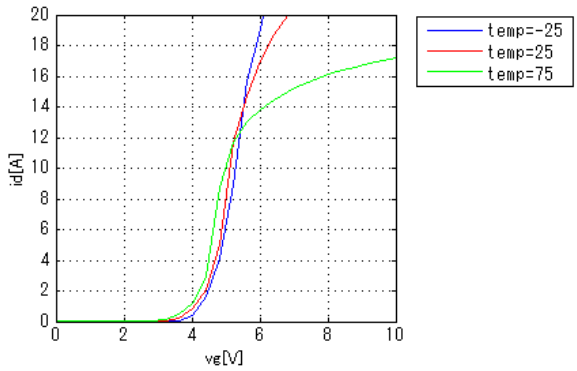
Simulation Range

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

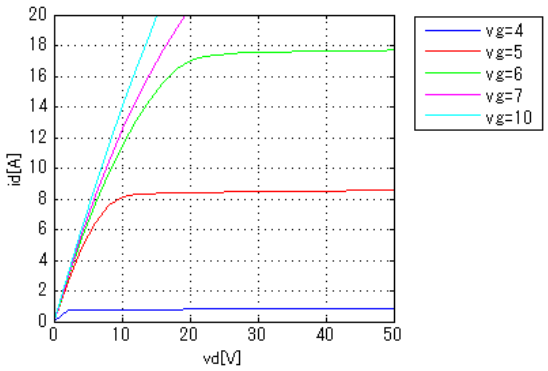
Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	500	V
Gate-source voltage (DC)	0	to	30	V
Temperature	-55	to	150	deg C

Simulation results are following.
Explanatory notes — : simulated

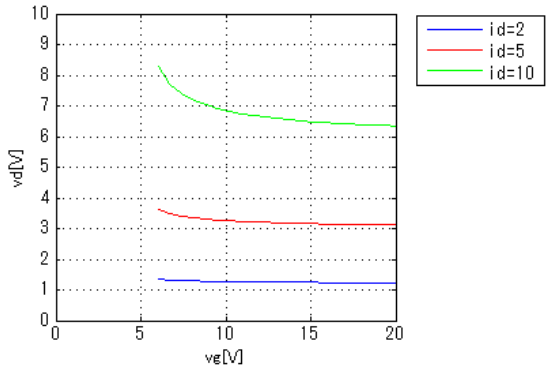
IdVgs[Temp]
Vds = 20V



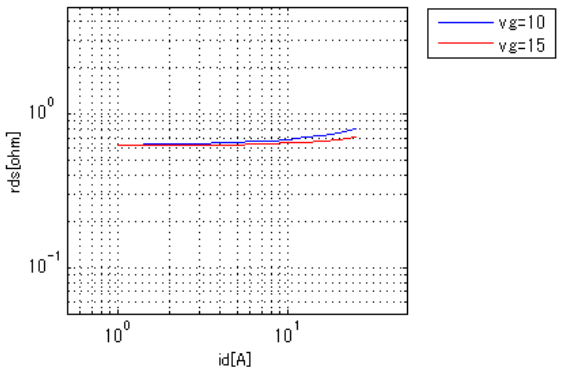
IdVds[Vgs]
Temp. = 25deg C



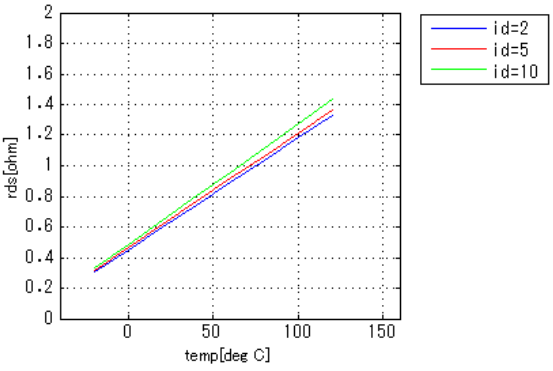
VdsVgs[Id]



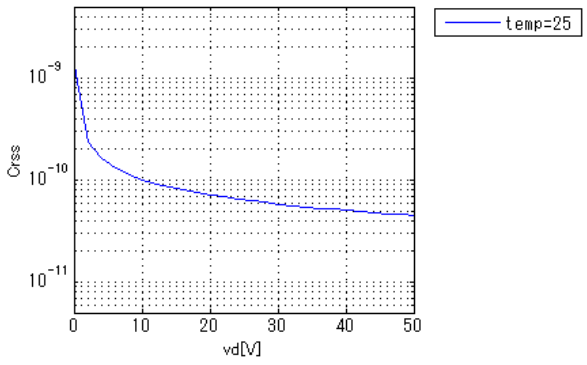
Rds(on)Id[Vgs]



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

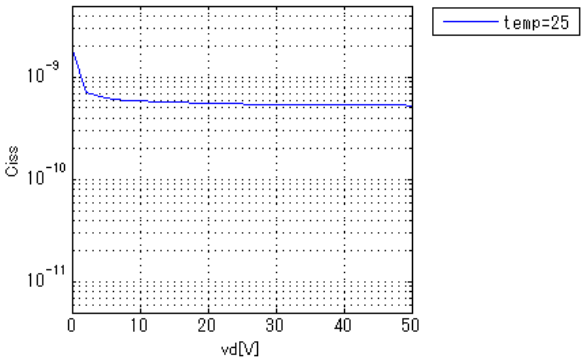


Crss
Freq. = 1MHz

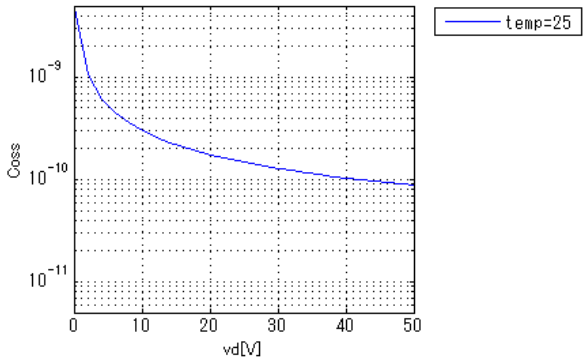


Simulation results are following.
Explanatory notes — : simulated

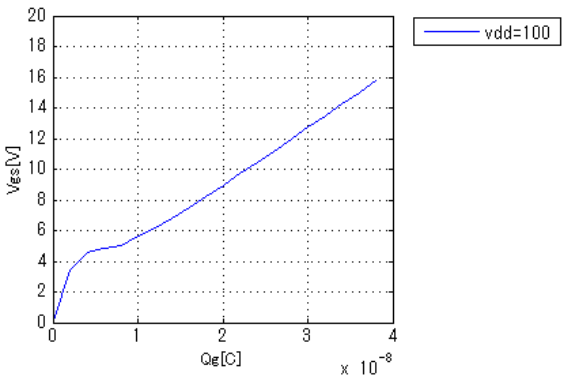
Ciss
Freq. = 1MHz



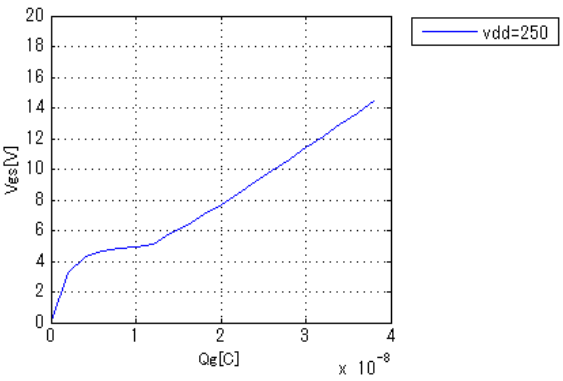
Coss
Freq. = 1MHz



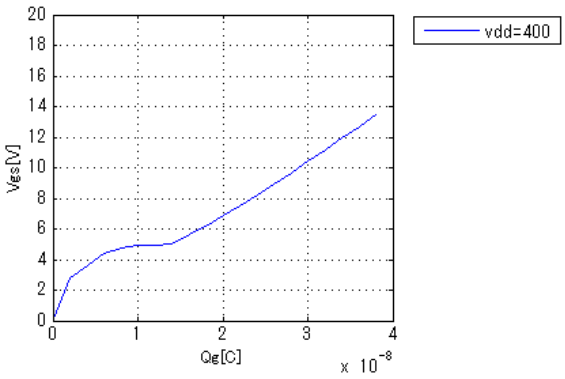
VgsQg[Vdd]
Id = 7A



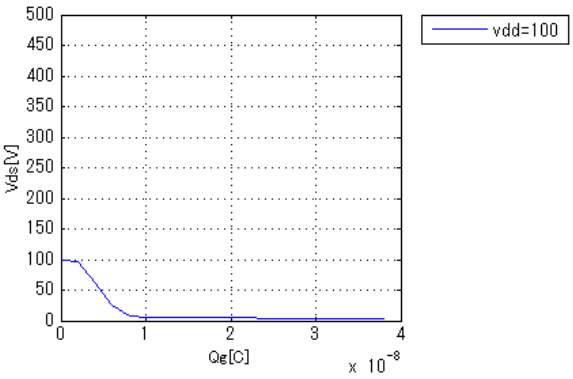
VgsQg[Vdd]
Id = 7A



VgsQg[Vdd]
Id = 7A

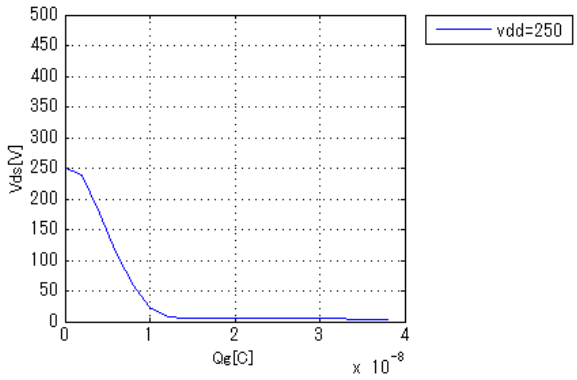


VdsQg[Vdd]
Id = 7A

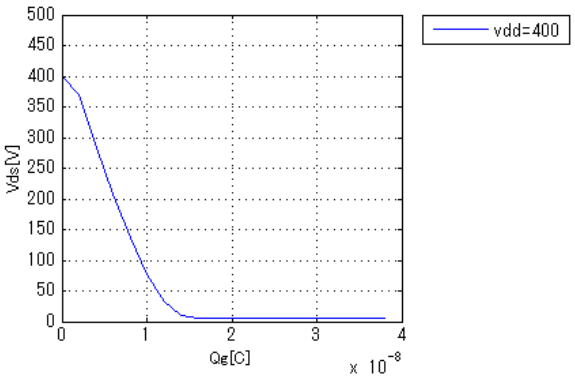


Simulation results are following.
Explanatory notes — : simulated

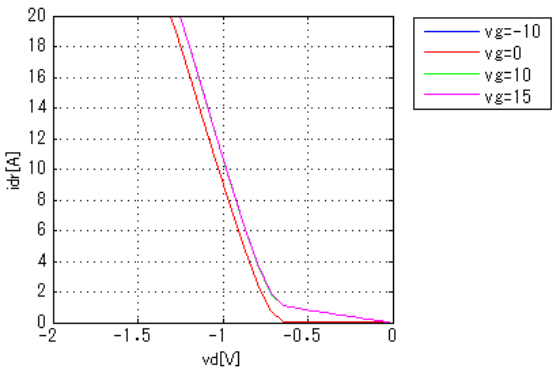
VdsQg[Vdd]
Id = 7A



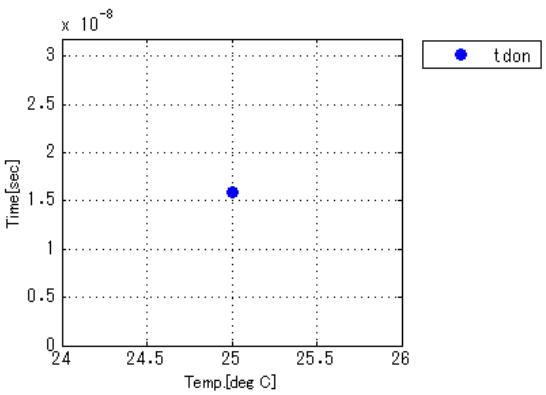
VdsQg[Vdd]
Id = 7A



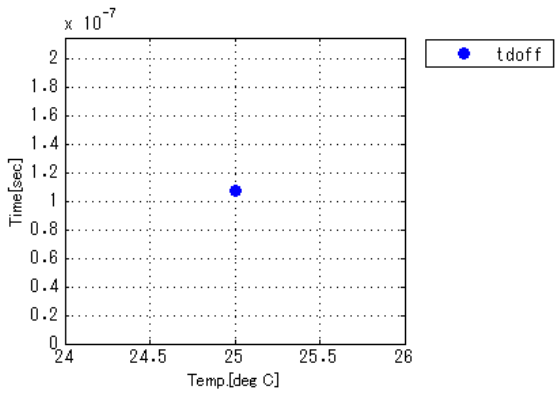
IsVsd[Vgs]



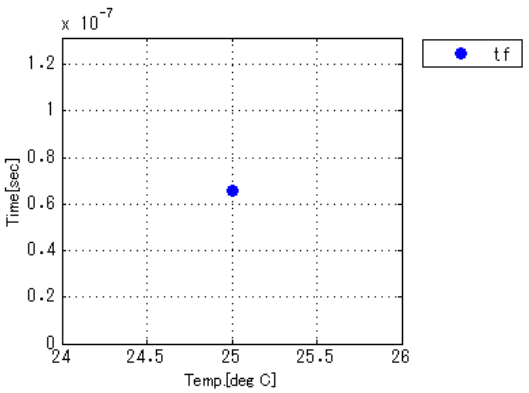
tdon
Vdd = 30V, Id = 5A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



tdoff
Vdd = 30V, Id = 5A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



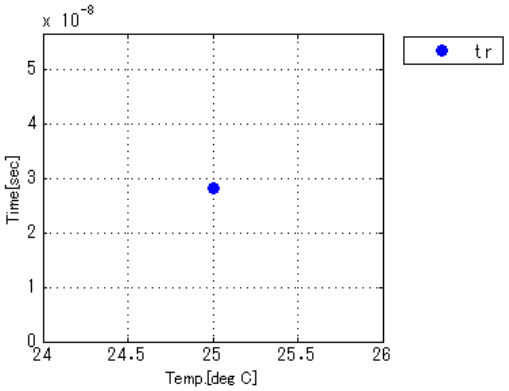
tf
Vdd = 30V, Id = 5A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



Simulation results are following.
Explanatory notes — : simulated

tr

Vdd = 30V, Id = 5A, +Vg = 10V, -Vg = 0V, Rg = 0.001ohm



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