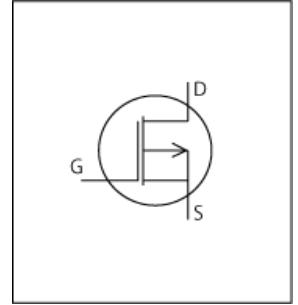


LTspice Model

PMOS

STM

STL42P4LLF6



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_STL42P4LLF6_LT
Pin Assign 1:S 2:S 3:S 4:G 5:D 6:D 7:D 8:D
File List Model Library MDC_STL42P4LLF6_LT03.lib
 Model Report MDC_STL42P4LLF6_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 3 - February 2020
- Product name STL42P4LLF6
- Company name STMicroelectronics N.V.
- Characteristics IdVds[Vgs], IdVgs[Temp], VthTemp[Id], BvTemp[ir], Rds(on)Id[Vgs], Rds(on)Temp[Vgs], VgsQg[Vdd], CapacitanceVds[Cname], Vsds[Temp], SwitchingIdd[Tname], Trrlf[Ir], Qrrlf[Ir], IdVds[Vgs]_BROAD, IdVgs[Temp]_BROAD, SwitchingWaveform, TrrrWaveform

Simulation Range

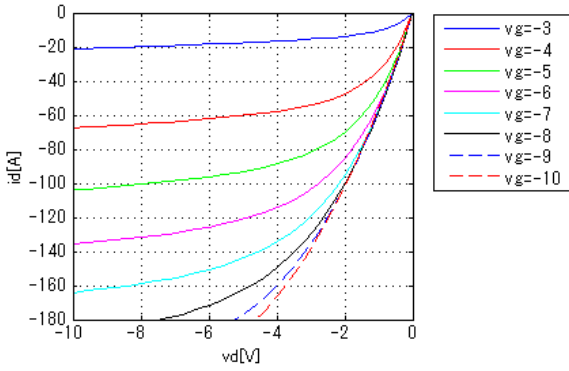
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	-40	V
Gate-source voltage (DC)	20	to	-20	V
Temperature	-55	to	175	deg C

Simulation results are following.
 Explanatory notes — : simulated

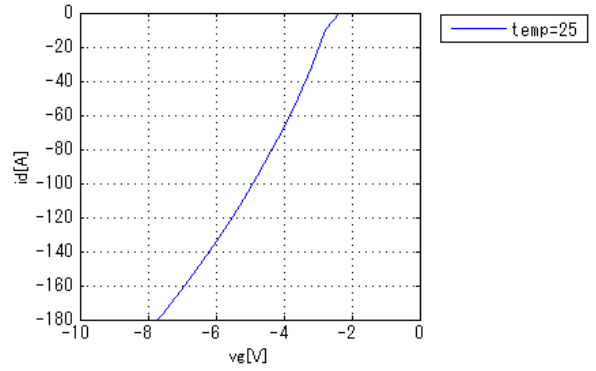
IdVds[Vgs]

Temp. = 25degC



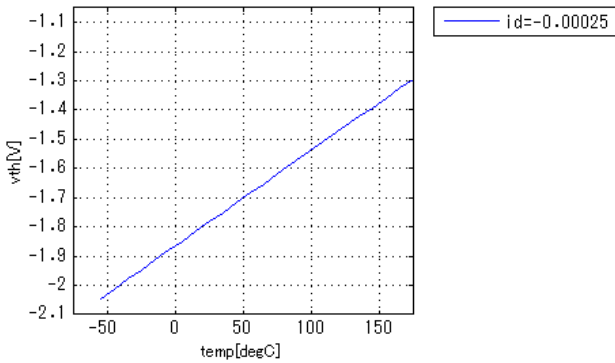
IdVgs[Temp]

Vds = -9V

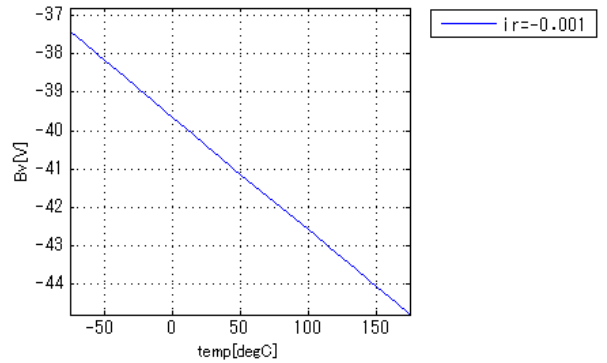


VthTemp[Id]

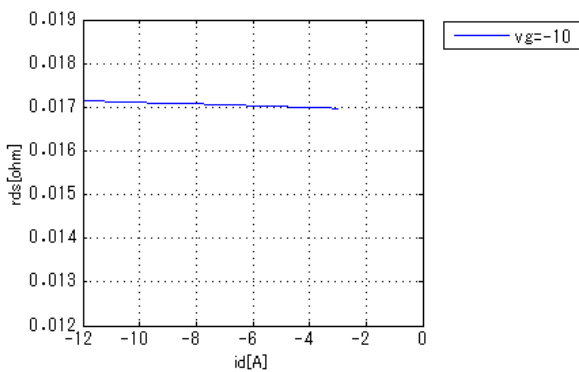
Vd = Vg



BvTemp[ir]

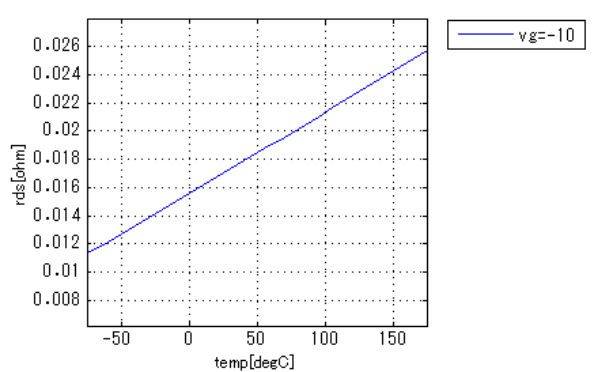


Rds(on)Id[Vgs]



Rds(on)Temp[Vgs]

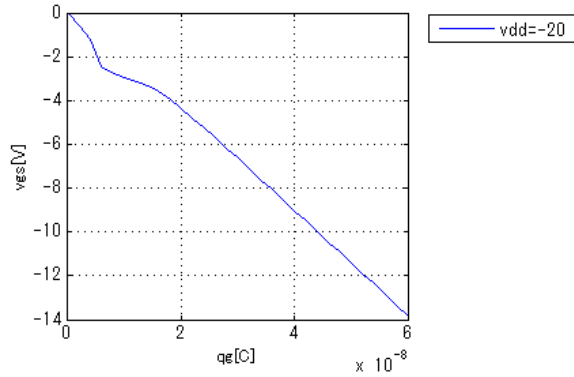
Id = -5A



Simulation results are following.
 Explanatory notes — : simulated

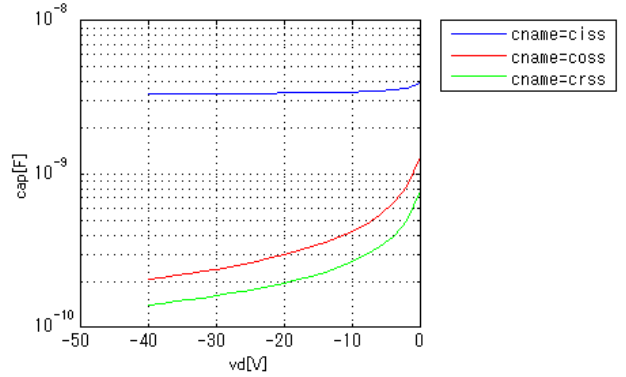
VgsQg[Vdd]

Id = -36A



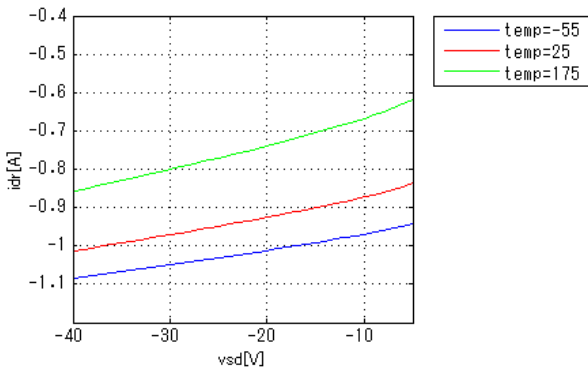
CapacitanceVds[Cname]

freq = 1000000Hz



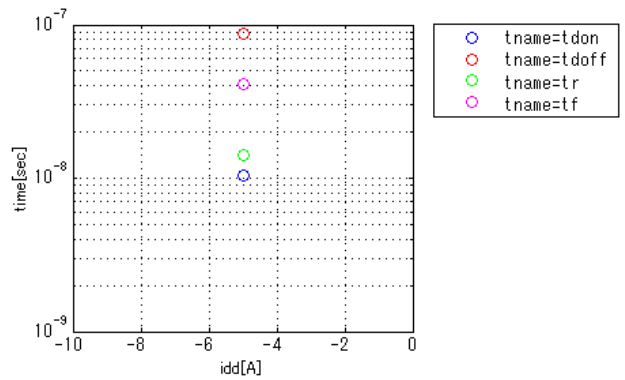
VsdIs[Temp]

vg = 0V



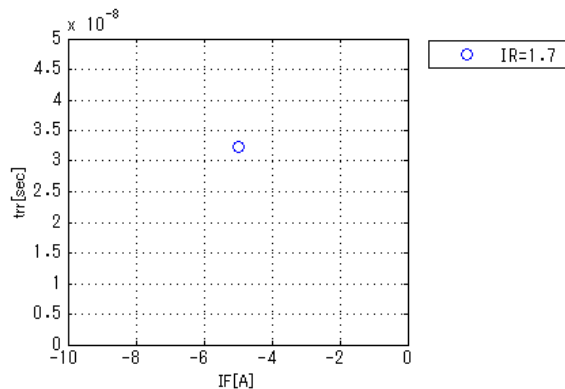
SwitchingIdd[Tname]

vgg = -10V, vdd = -20V, RGG = 4.7ohm



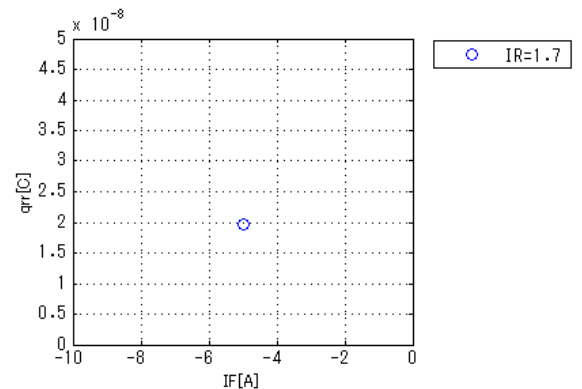
Trrlf[Ir]

vdd = -32V, didt = 100A/us



Qrrlf[Ir]

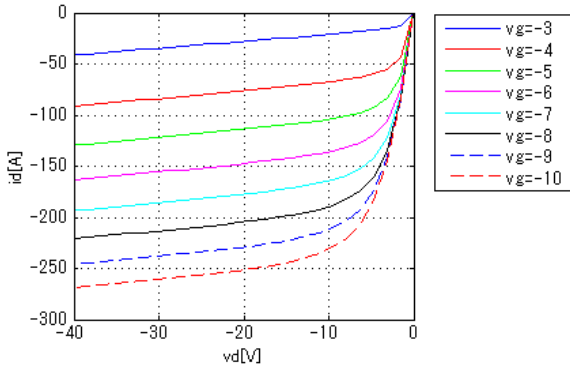
vdd = -32V, didt = 100A/us



Simulation results are following.
 Explanatory notes — : simulated

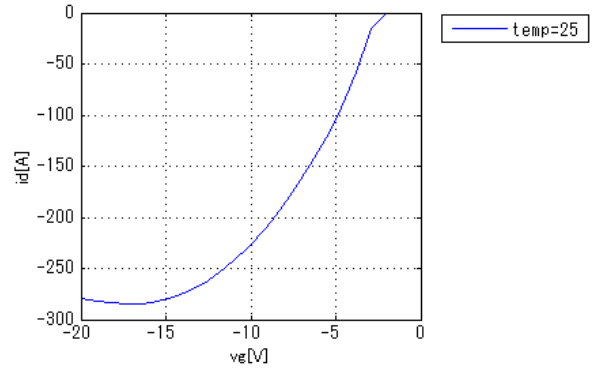
IdVds[Vgs]_BROAD

Temp. = 25degC



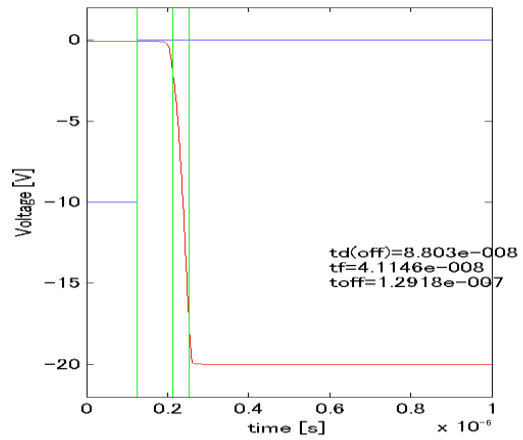
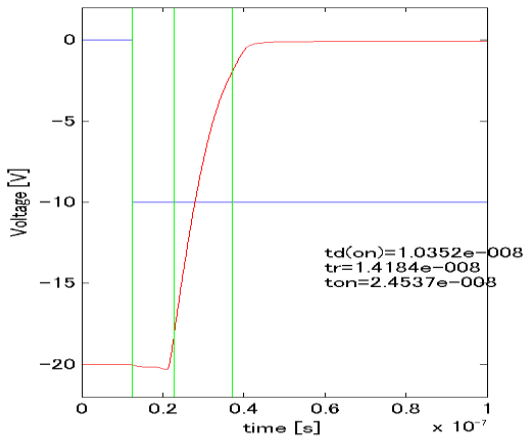
IdVgs[Temp]_BROAD

Vds = -9V

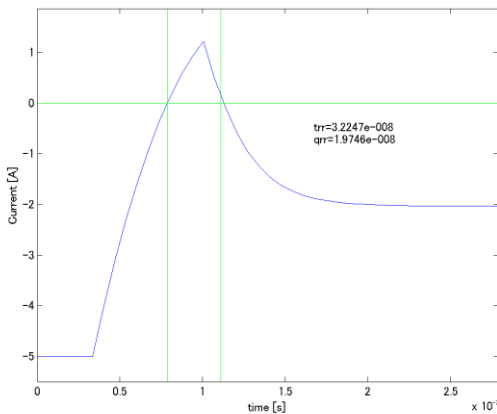


SwitchingWaveform

Blue : INPUT Red : OUTPUT



TrrQrrWaveform



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