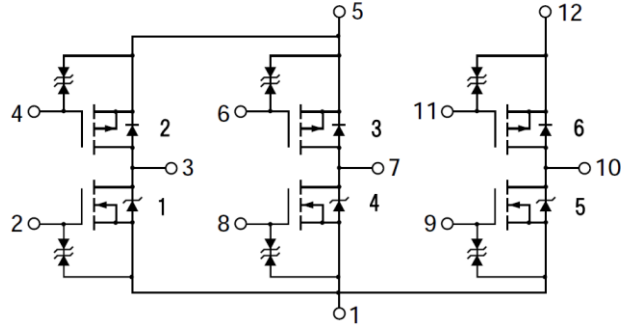


LTspice Model

NMOS+PMOS

SanKen

SLA5064



Model Information

Model A macro model based on BSIM3 model
Call Name MDC_SLA5064_LT
Pin Assign 1:1S4S5S 2:1G 3:1D2D 4:2G 5:2S3S 6:3G 7:3D4D 8:4G 9:5G 10:5D6D 11:6G 12:6S
File List Model Library MDC_SLA5064_LT02.lib
 Model Report MDC_SLA5064_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 Unknown
- Product name SLA5064
- Company name Sanken Electric Co., Ltd.
- Characteristics N:
 IdVds[Vgs],IdVgs[Temp],Rds(on)Id[Temp],Rds(on)Temp[Id],
 YfslId[Temp],CapacitanceVds[Cname],IsVsd[Vgs],SwitchingIgl
 dd[Tname],Trrlf[Ir]
 P:
 IdVds[Vgs],IdVgs[Temp],Rds(on)Id[Temp],Rds(on)Temp[Id],
 YfslId[Temp],CapacitanceVds[Cname],IsVsd[Vgs],SwitchingIgl
 dd[Tname],Trrlf[Ir]
 N:SwitchingWaveform,N:TrrWaveform,P:SwitchingWavefor
 m,P:TrrWaveform

Simulation Range

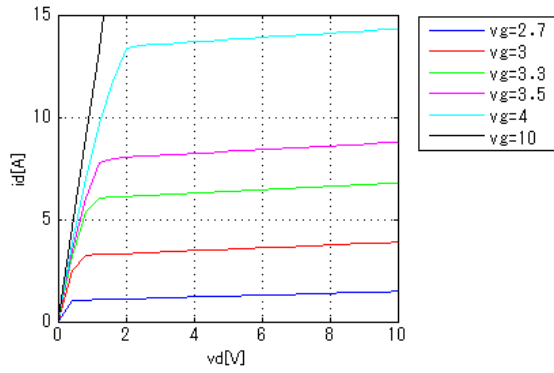
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	±60	V
Gate-source voltage (DC)	±20	to	±20	V
Temperature	-40	to	150	deg C

Simulation results are following.
 Explanatory notes — : simulated

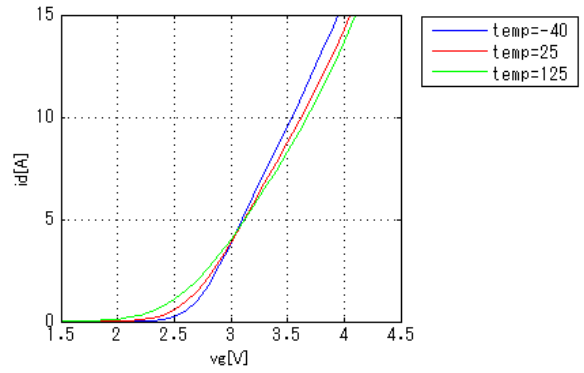
N: IdVds[Vgs]

Temp. = 25degC



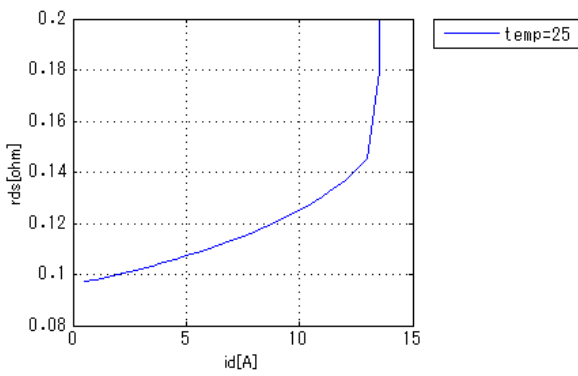
N: IdVgs[Temp]

Vds = 10V



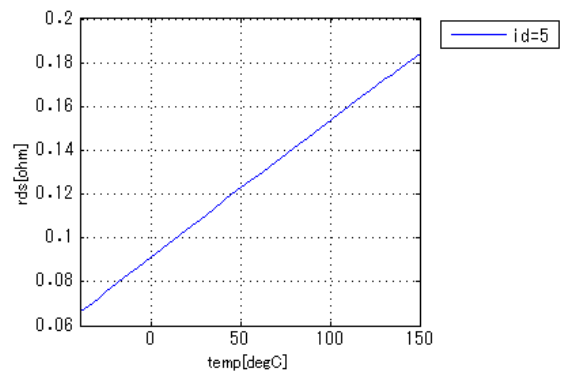
N: Rds(on)Id[Temp]

Vgs = 4V



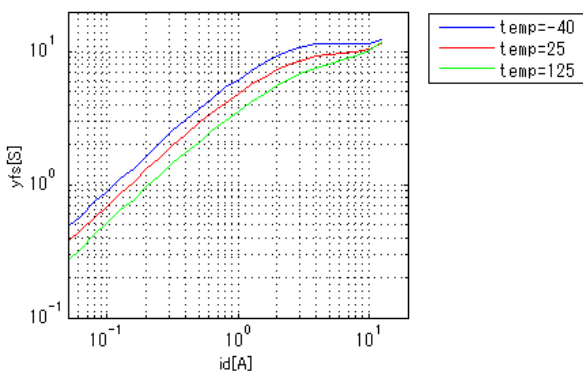
N: Rds(on)Temp[Id]

Vgs = 4V



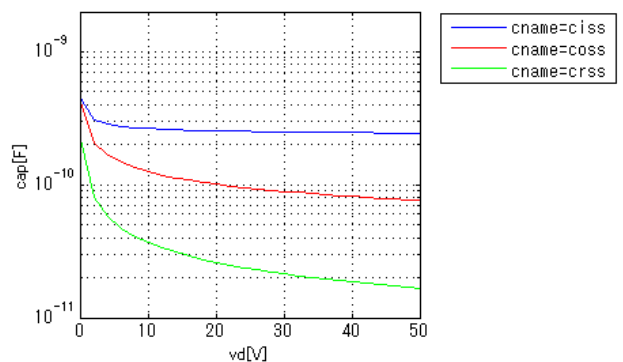
N: YfsId[Temp]

Vds = 10V



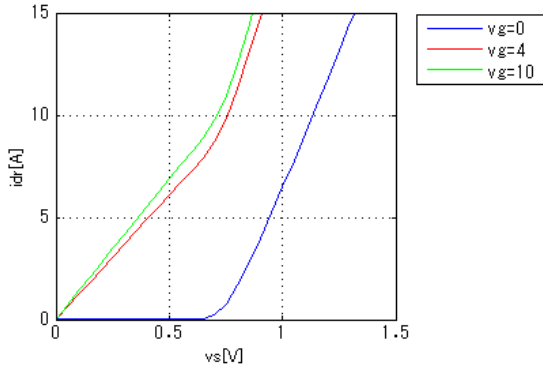
N: CapacitanceVds[Cname]

freq = 1000000Hz



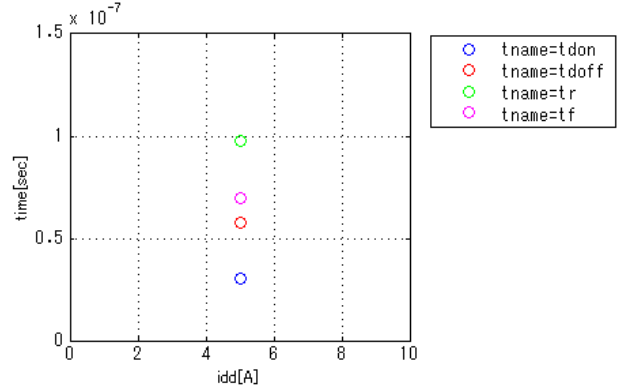
Simulation results are following.
 Explanatory notes — : simulated

N: IsVsd[Vgs]



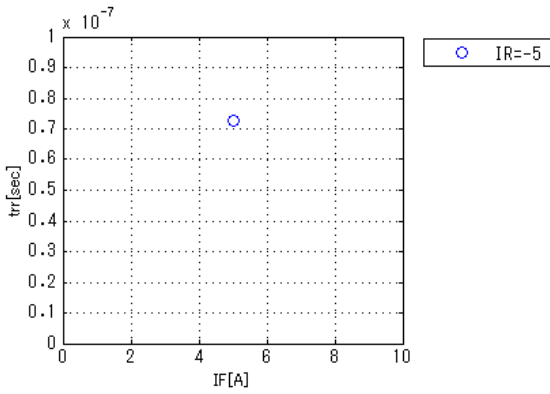
N: SwitchingIdd[Tname]

$v_{gg} = 5V, v_{dd} = 20V, R_{GG} = 150\Omega$



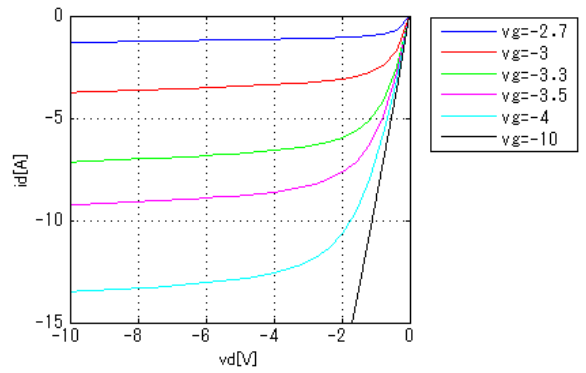
N: Trrlf[Ir]

$v_{dd} = 60V, di_{dt} = 100A/us, Temp = 25degC$



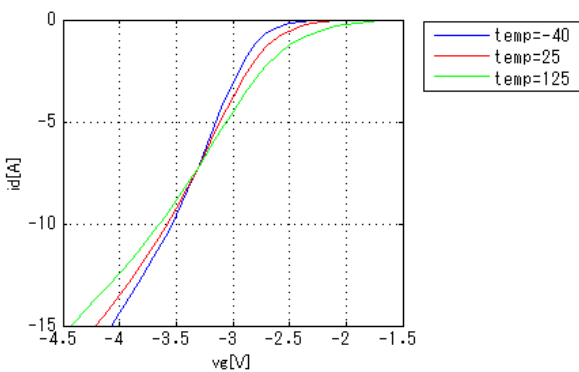
P: IdVds[Vgs]

Temp. = 25degC



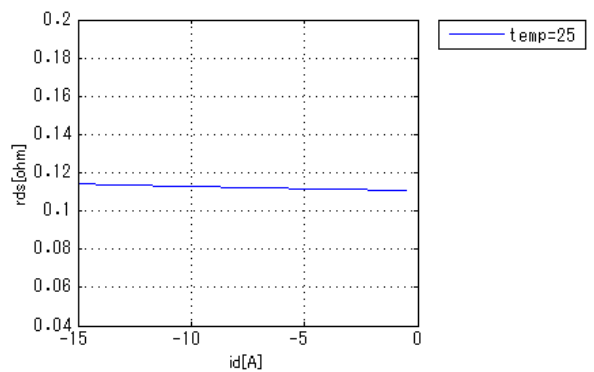
P: IdVgs[Temp]

$V_{ds} = -10V$



P: Rds(on)Id[Temp]

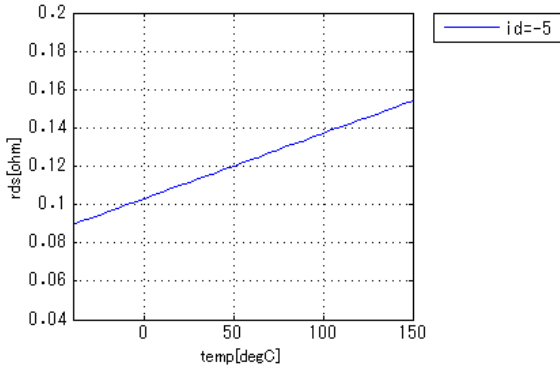
$V_{gs} = -10V$



Simulation results are following.
 Explanatory notes — : simulated

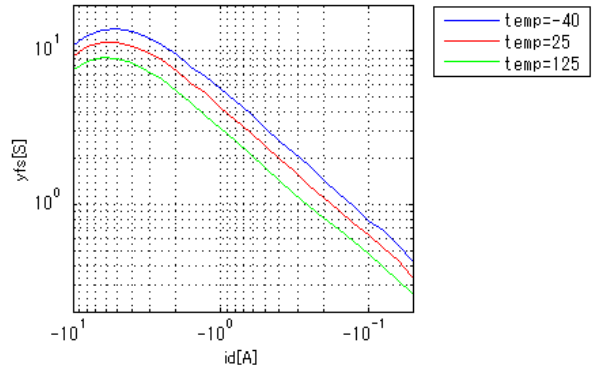
P: Rds(on)Temp[Id]

Vgs = -10V



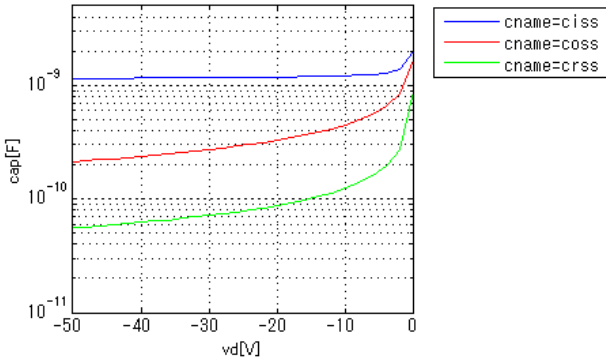
P: YfsId[Temp]

Vds = -10V

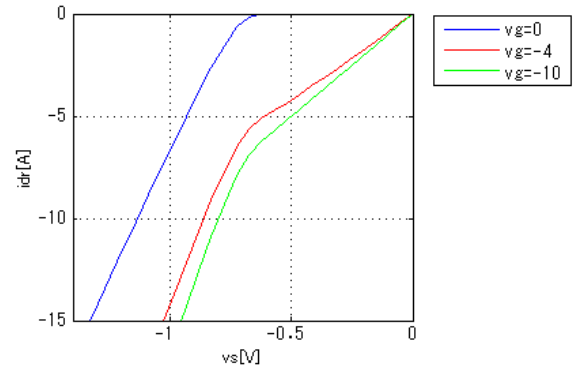


P: CapacitanceVds[Cname]

freq = 1000000Hz

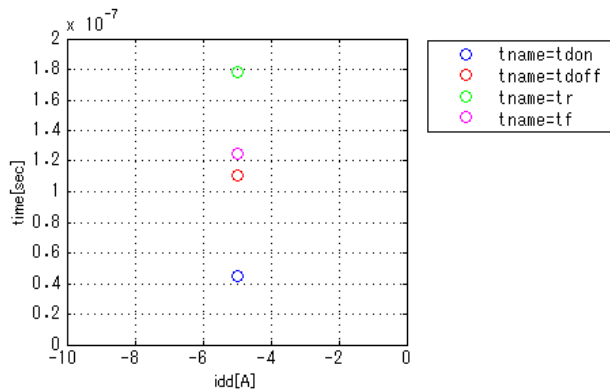


P: IsVsd[Vgs]



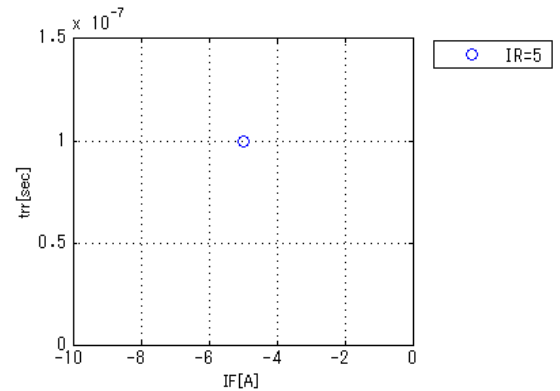
P: SwitchingIdd[Tname]

vgs = -5V, vdd = -20V, RGG = 75ohm



P: Trrlf[Ir]

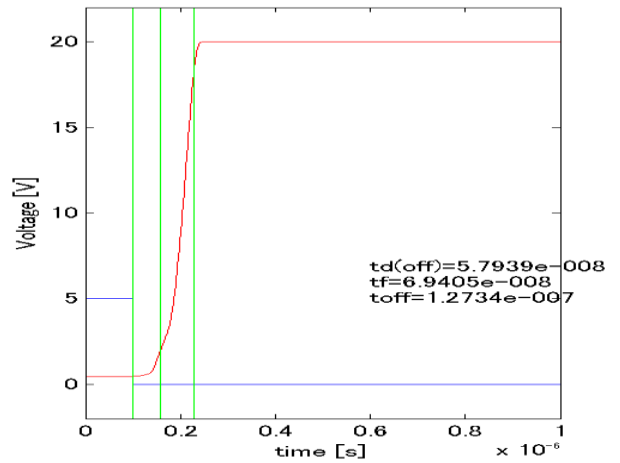
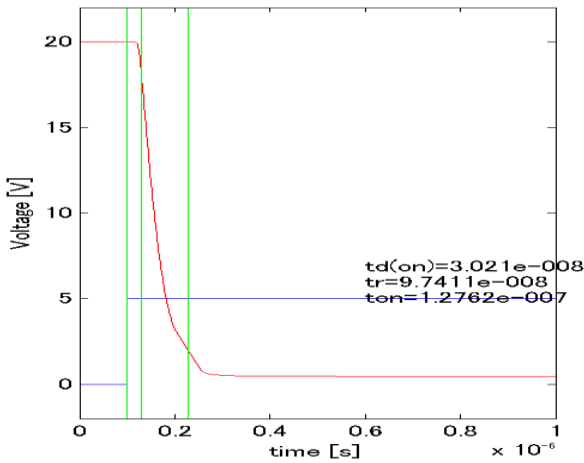
vdd = -60V, didt = 100A/us, Temp = 25degC



Simulation results are following.
 Explanatory notes — : simulated

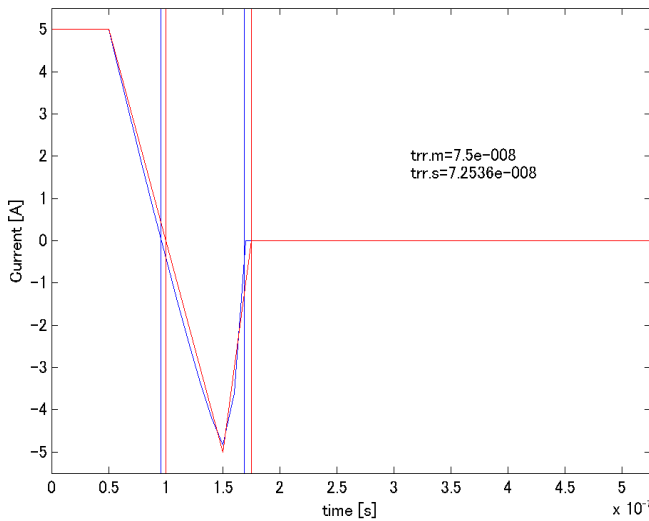
N: Switching Waveform (Blue : INPUT Red : OUTPUT)

v_{gg} = 5V, v_{dd} = 20V, R_{GG} = 150ohm, i_{dd} = 5A



N: Trr Waveform (Red : Datasheet Blue : Simulation)

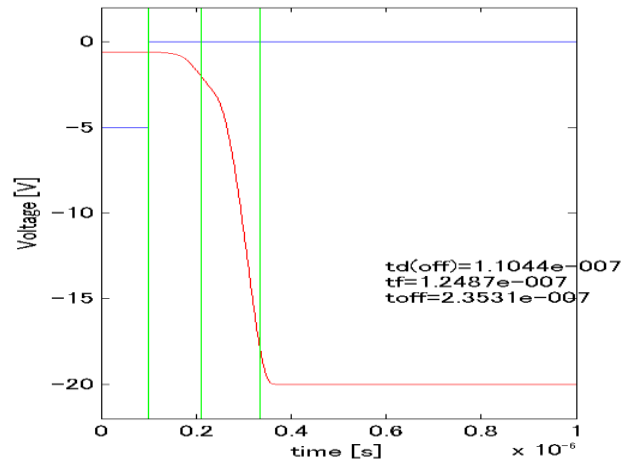
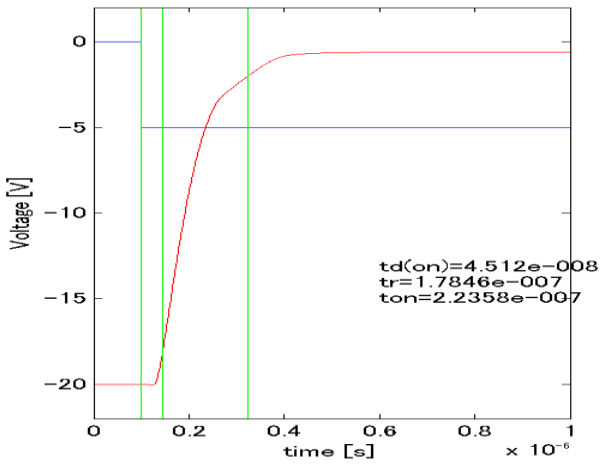
v_{dd} = 60V, di/dt = 100A/us, Temp = 25degC



Simulation results are following.
 Explanatory notes — : simulated

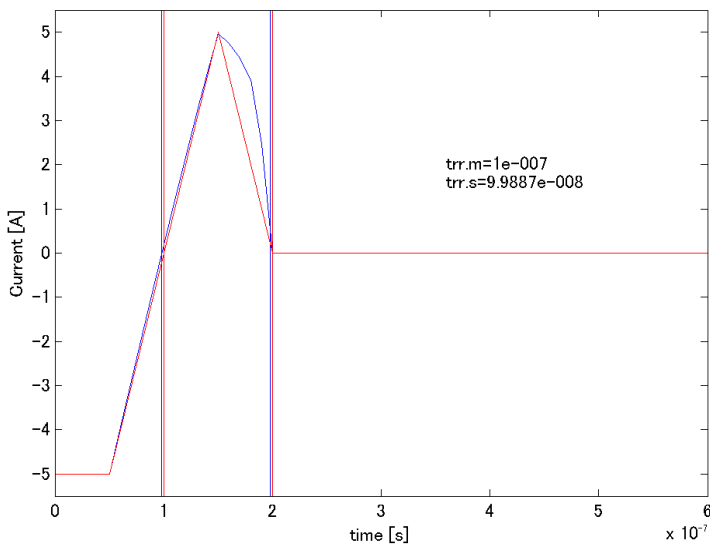
P: Switching Waveform (Blue : INPUT Red : OUTPUT)

v_{gg} = -5V, v_{dd} = -20V, R_{GG} = 75ohm, i_{dd} = -5A



P: Trr Waveform (Red : Datasheet Blue : Simulation)

v_{dd} = -60V, didt = 100A/us, Temp = 25degC



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