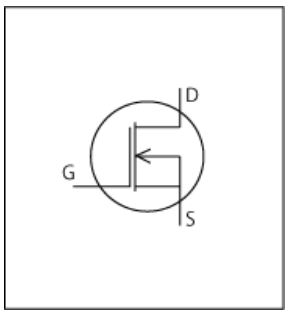
# LTspice Model
# NMOS
# STM
# STP110N8F6




## Model Information

| | | |
|---|---|---|
| **Model** | A macro model based on BSIM3 model | |
| **Call Name** | MDC_STP110N8F6_LT | |
| **Pin Assign** | 1:G 2:D 3:S | |
| **File List** | Model Library | MDC_STP110N8F6_LT01.lib |
| | Model Report | MDC_STP110N8F6_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: December 2014
- ●Product name: STP110N8F6
- ●Company name: STMicroelectronics N.V.
- ●Characteristics: IdVds[Vgs],IdVgs[Temp],VgsQg[Vdd],Rds(on)Id[Vgs],CapacitanceVds[Cname],VthTemp[Id],Rds(on)Temp[Vgs],BvTemp[ir],VsdIs[Temp],SwitchingIdd[Tname],TrrIf[Ir],QrrIf[Ir]SwitchingWaveform,TrrQrrWaveform

### Simulation Range

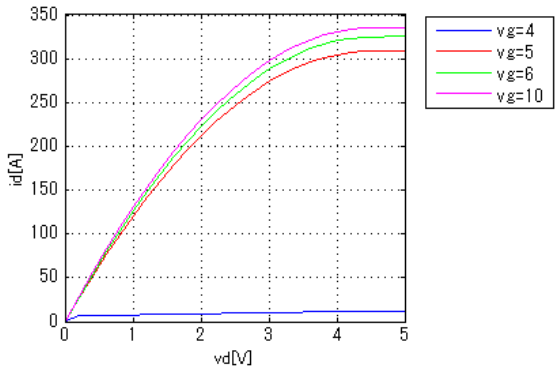
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

| Item | Range | | | Unit |
|---|---|---|---|---|
| | Min. | | Max. | |
| Drain-source voltage (DC) | 0 | to | 80 | V |
| Gate-source voltage (DC) | -20 | to | 20 | V |
| Temperature | -55 | to | 175 | deg C |

Simulation results are following.
Explanatory notes — : simulated

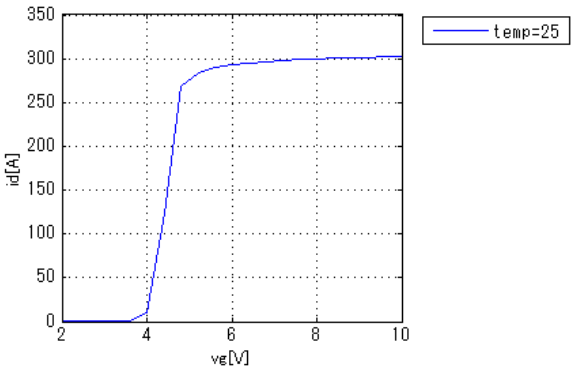
### IdVds[Vgs]

Temp. = 25degC



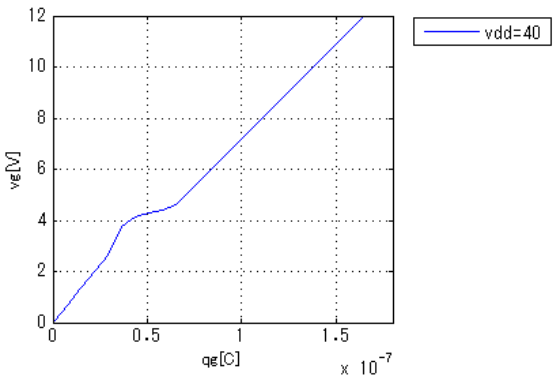

### IdVgs[Temp]

Vds = 3V

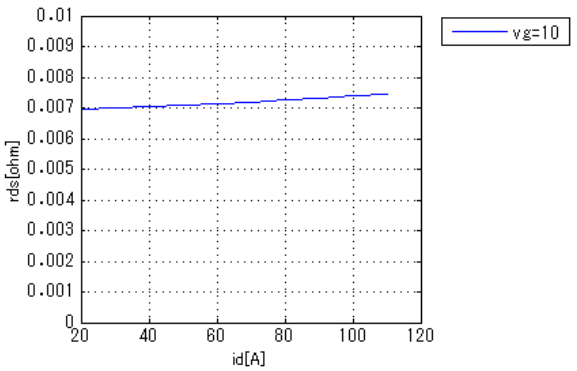



### VgsQg[Vdd]

Id = A

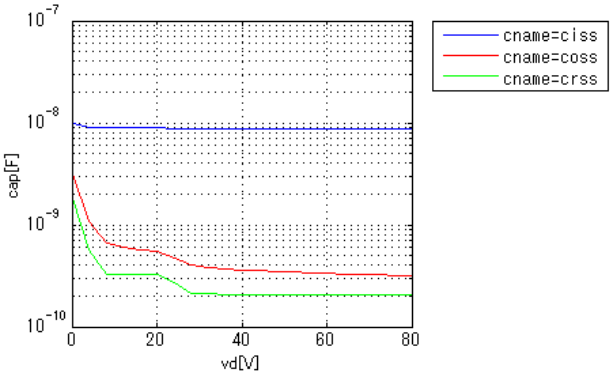



### Rds(on)Id[Vgs]



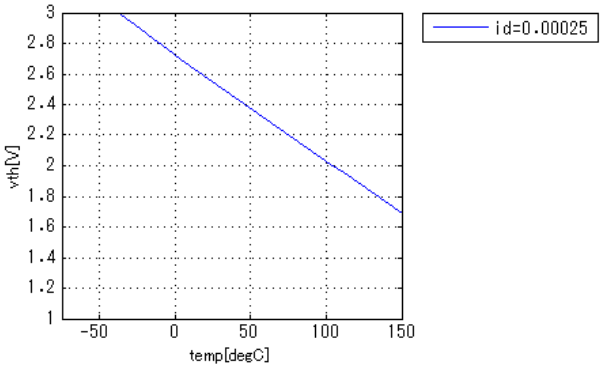

### CapacitanceVds[Cname]

freq = 1000000Hz




### VthTemp[Id]

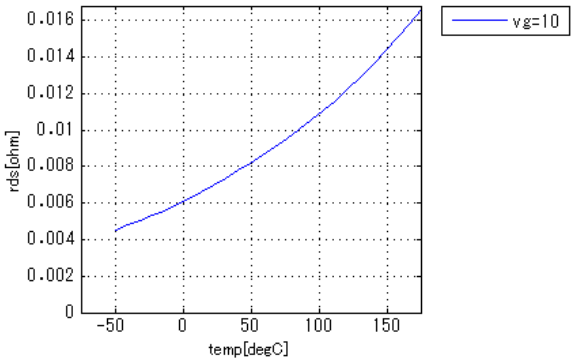
Vd = Vg



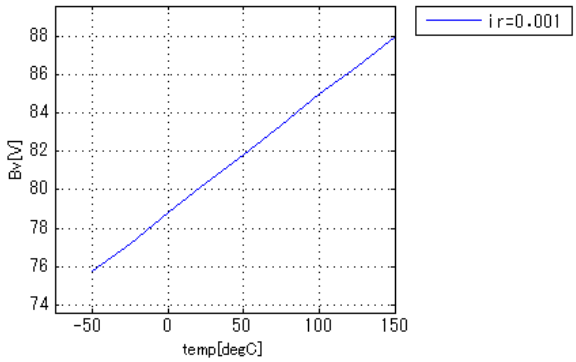
Simulation results are following.
Explanatory notes — : simulated

### Rds(on)Temp[Vgs]

Id = 55A

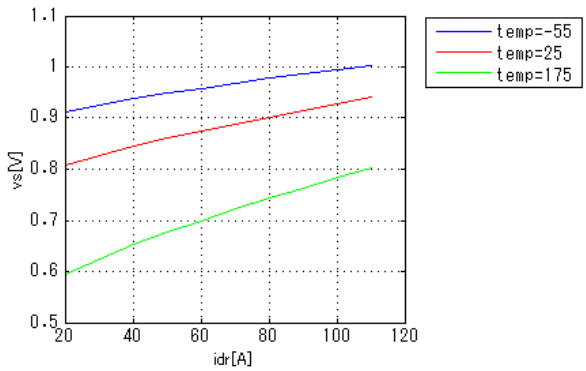



### BvTemp[ir]



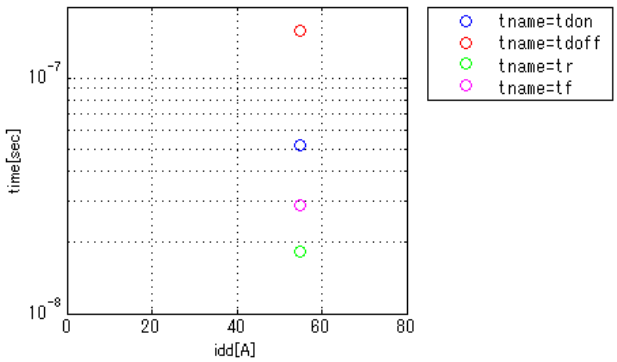

### VsdIs[Temp]

vg = 0V



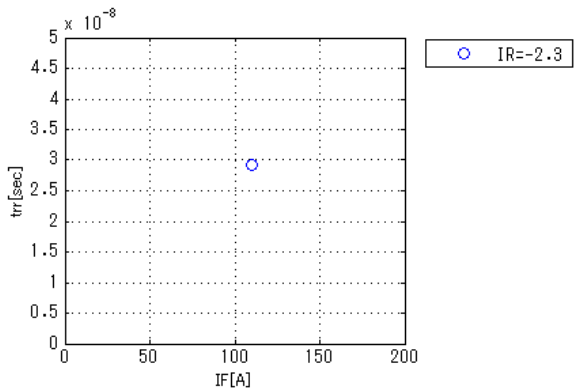

### SwitchingIdd[Tname]

vgg = 10V, vdd = 40V, RGG = 4.7ohm



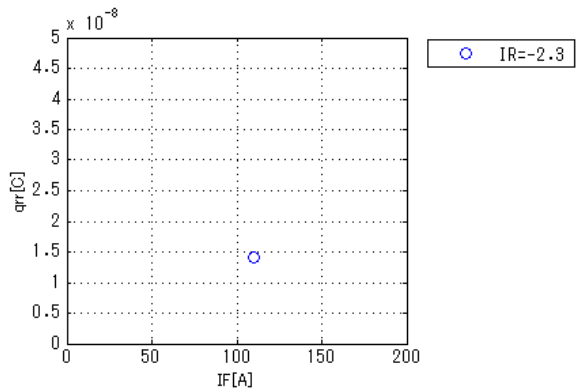

### TrrIf[Ir]

vdd = 64V, didt = 100A/us, Temp = 25degC




### QrrIf[Ir]

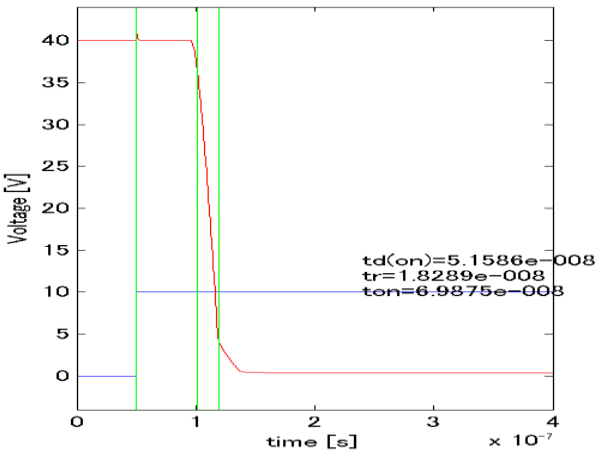
vdd = 64V, didt = 100A/us, Temp = 25degC

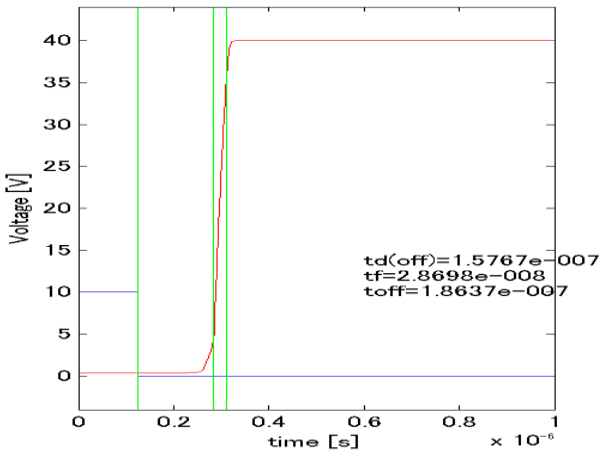


Simulation results are following.
Explanatory notes — : simulated

### SwitchingWaveform

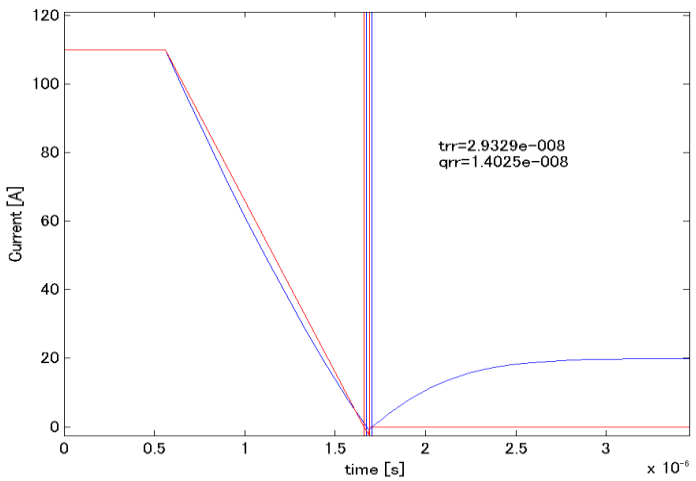
Blue : INPUT Red : OUTPUT




### Trr Qrr Waveform

Red : Datasheet Blue : Simulation



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