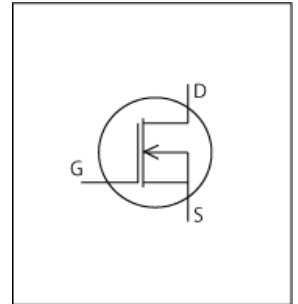


# LTspice Model

## NMOS

### Infineon

## IAUC120N04S6N009



### Model Information

**Model** A macro model based on BSIM3 model  
**Call Name** MDC\_IAUC120N04S6N009\_LT  
**Pin Assign** 1:S 2:S 3:S 4:G 5:D 6:D 7:D 8:D  
**File List** Model Library MDC\_IAUC120N04S6N009\_LT01.lib  
 Model Report MDC\_IAUC120N04S6N009\_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 2018-09-27 Rev. 1.0
- Product name IAUC120N04S6N009
- Company name Infineon Technologies AG
- Characteristics IdVds[Vgs],Rds(on)Id[Vgs],IdVgs[Temp],Rds(on)Temp[Id],Vt hTemp[Id],Ciss,Coss,Crss,IsVsd[Temp],VgsQg[Vdd],tdon,td off,tf,tr,trr,qrr

### Simulation Range

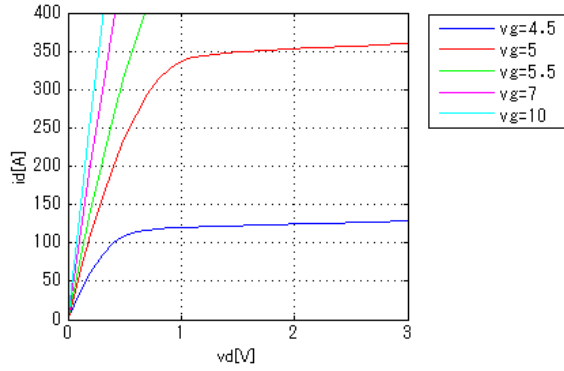
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

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

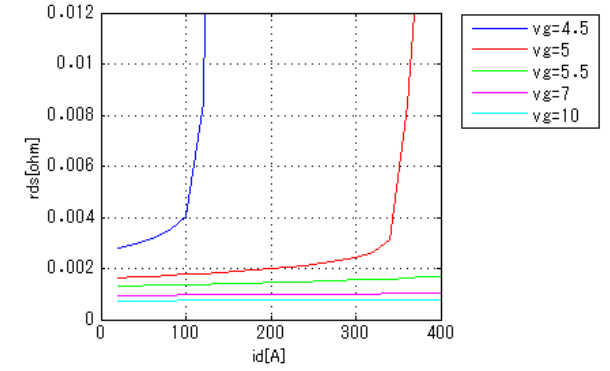
Simulation results are following.  
 Explanatory notes — : simulated

**IdVds[Vgs]**

Temp. = 25deg C

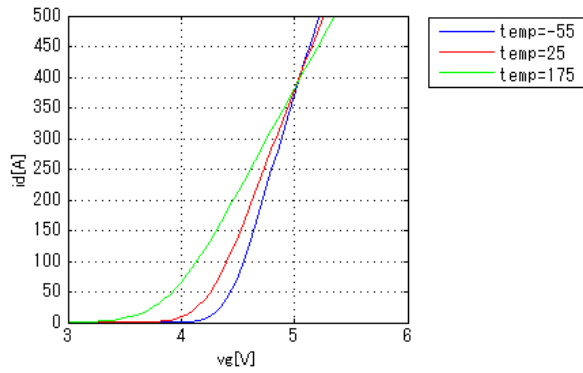


**Rds(on)Id[Vgs]**



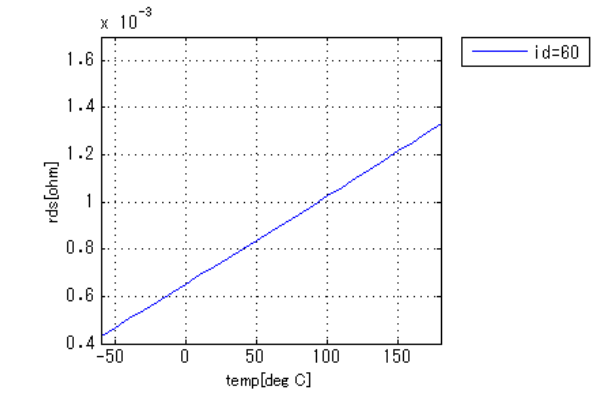
**IdVgs[Temp]**

Vds = 6V



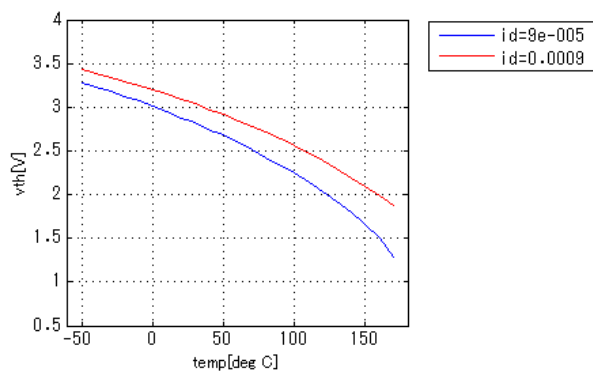
**Rds(on)Temp[Id]**

Vgs = 10V



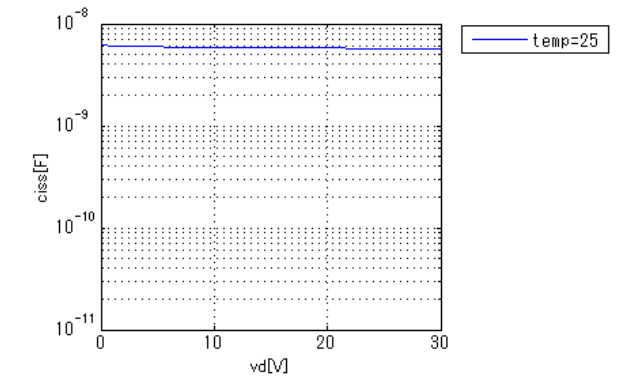
**VthTemp[Id]**

Vd = Vg



**Ciss**

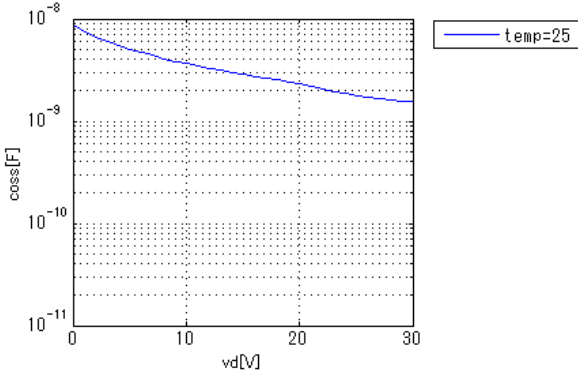
Freq. = 1MHz



Simulation results are following.  
 Explanatory notes — : simulated

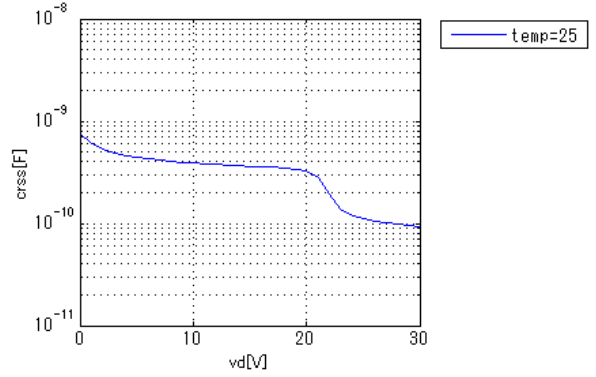
**Coss**

Freq. = 1MHz

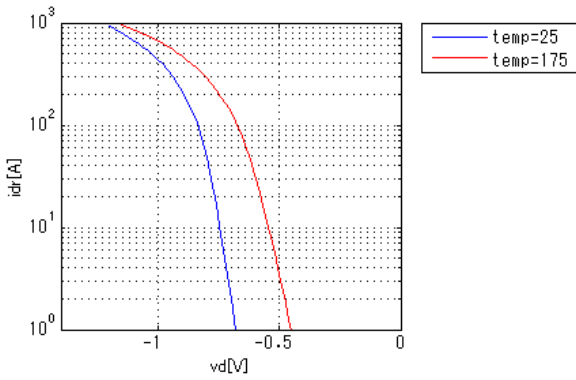


**Crss**

Freq. = 1MHz

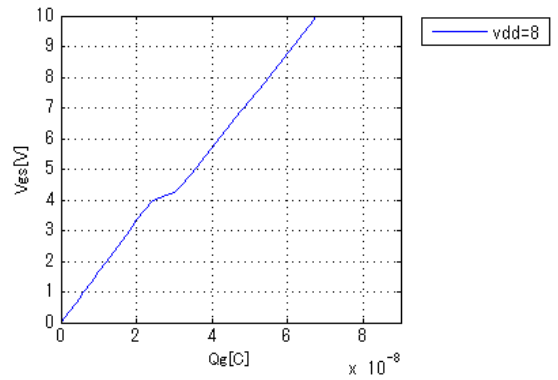


**IsVsd[Temp]**



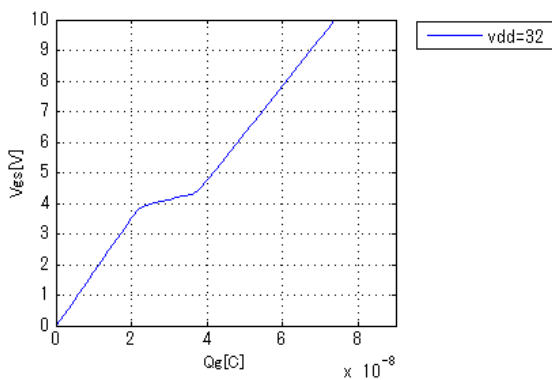
**VgsQg[Vdd]**

Id = 40A



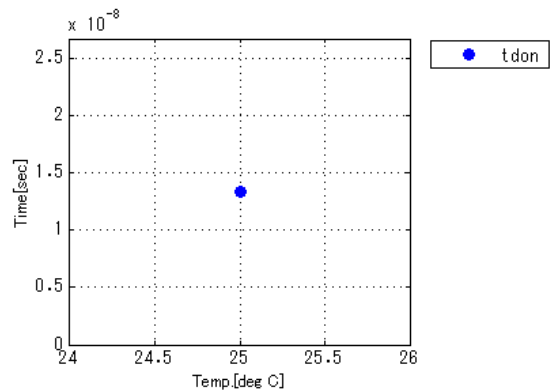
**VgsQg[Vdd]**

Id = 40A



**tdon**

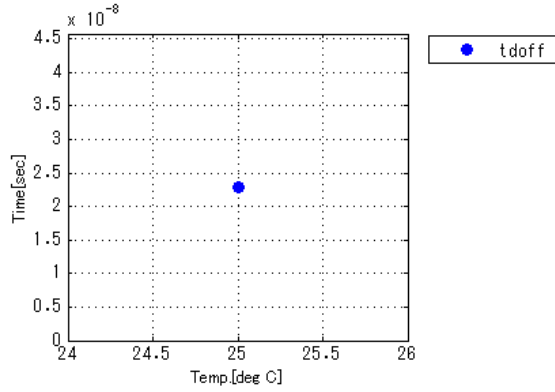
Vdd = 20V, Id = 120A, +Vg = 10V, -Vg = 0V, Rg = 3.5ohm



Simulation results are following.  
 Explanatory notes — : simulated

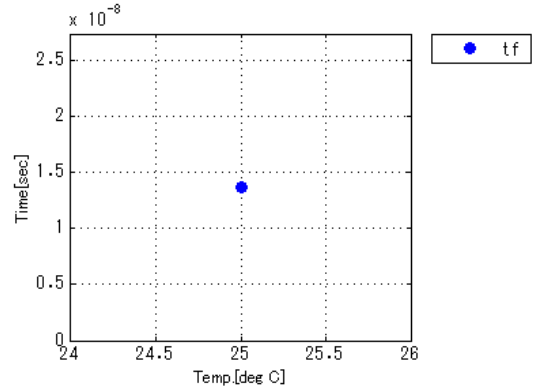
**tdoff**

Vdd = 20V, Id = 120A, +Vg = 10V, -Vg = 0V, Rg = 3.5ohm



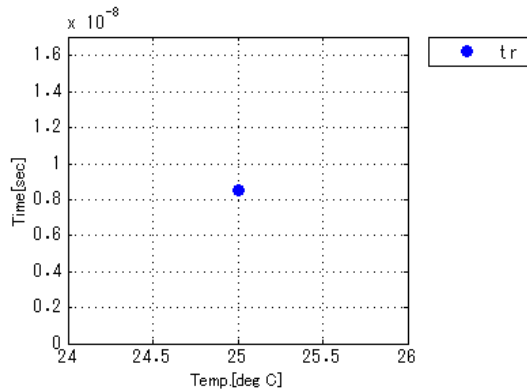
**tf**

Vdd = 20V, Id = 120A, +Vg = 10V, -Vg = 0V, Rg = 3.5ohm



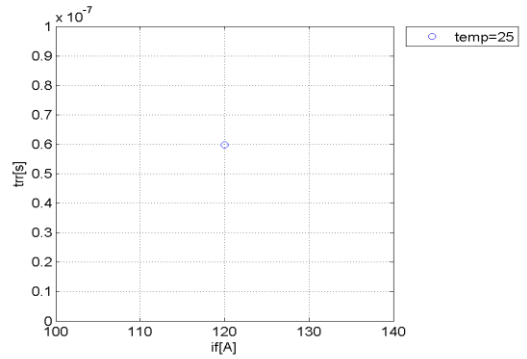
**tr**

Vdd = 20V, Id = 120A, +Vg = 10V, -Vg = 0V, Rg = 3.5ohm



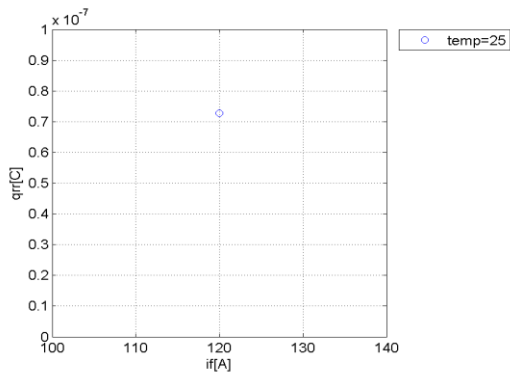
**trr**

ir=2.43A



**qrr**

ir=2.43A



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