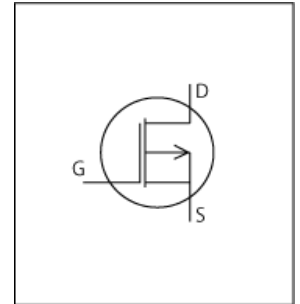


# LTspice Model

## PMOS

## TOREX

## XP162A11C0PR-G



### Model Information

**Model** A macro model based on BSIM3 model  
**Call Name** MDC\_XP162A11C0PR-G\_LT  
**Pin Assign** 1:G 2:D 3:S  
**File List** Model Library MDC\_XP162A11C0PR-G\_LT02.lib  
 Model Report MDC\_XP162A11C0PR-G\_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 JTR1125-003
- Product name XP162A11C0PR-G
- Company name TOREX SEMICONDUCTOR LTD.
- Characteristics IdVds[Vgs], IdVgs[Temp], Rds(on)Vgs[Id], Rds(on)Id[Vgs], Rds(on)Temp[Vgs], Rds(on)Temp[Vgs]2, CapacitanceVds[Cname], SwitchingIdd[Tname], VgsQg[Vdd], IsVsd[Vgs], YfsId[Temp], SwitchingWaveform

### 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	-30	V
Gate-source voltage (DC)	20	to	-20	V
Temperature	-55	to	150	deg C

## MOSFET

○ : Implemented  
× : Not Implemented  
— : Not applicable

Model Functions Table

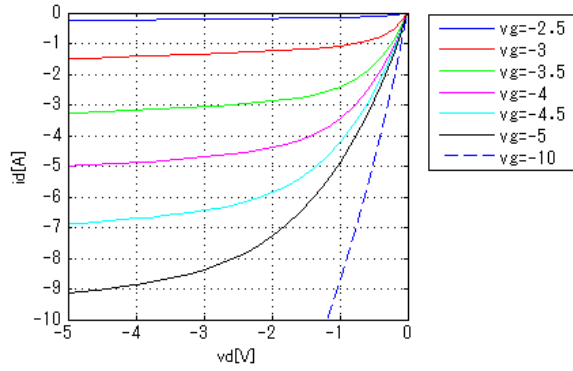
RANK=1

Functions	RANK	Implemented
ID-VDS-VGS	1	○
ID-VGS(Temp)	1	○
RDS(on)-VGS-ID	1	○
RDS(on)-VGS-Temp	1	—
RDS(on)-ID-VGS	1	○
RDS(on)-ID-Temp	1	—
RDS(on)-Temp-VGS	1	○
RDS(on)-Temp-ID	1	—
Capacitance	1	○
Gate Charge	1	○
IS-VSD(Forward)	1	○
Reverse recovery characteristics	1	—
Switching(Typ.)	1	○
Bv-Temp	1	—
Yfs-ID-Temp	1	○

Simulation results are following.  
 Explanatory notes — : simulated

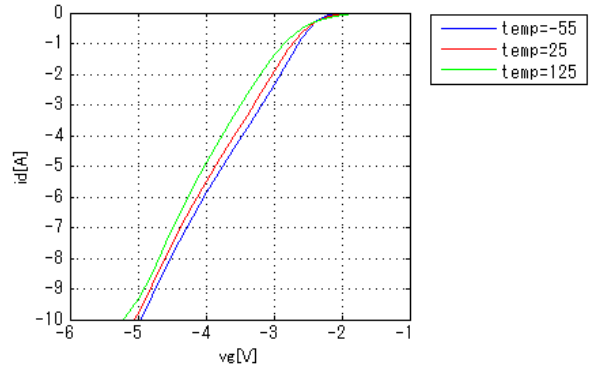
**IdVds[Vgs]**

Temp. = 25degC

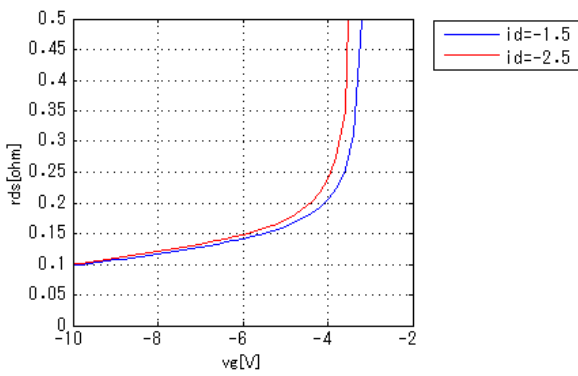


**IdVgs[Temp]**

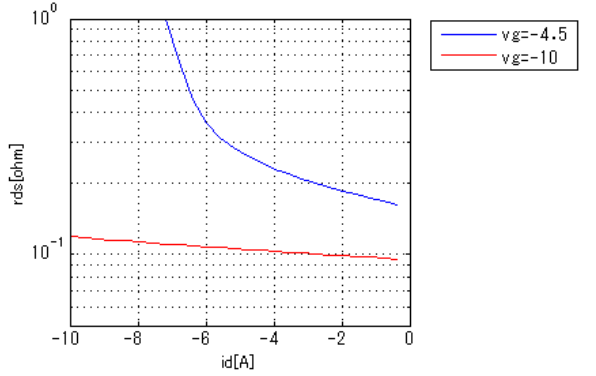
Vds = -10V



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

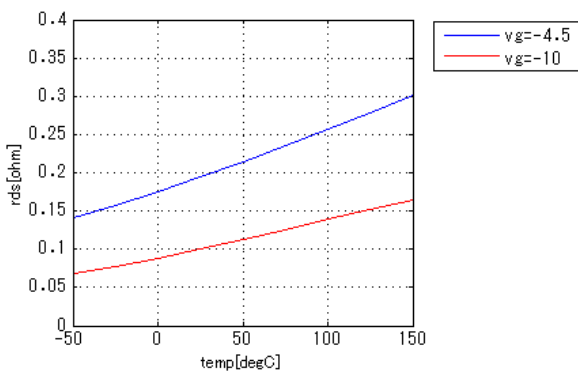


**Rds(on)Id[Vgs]**



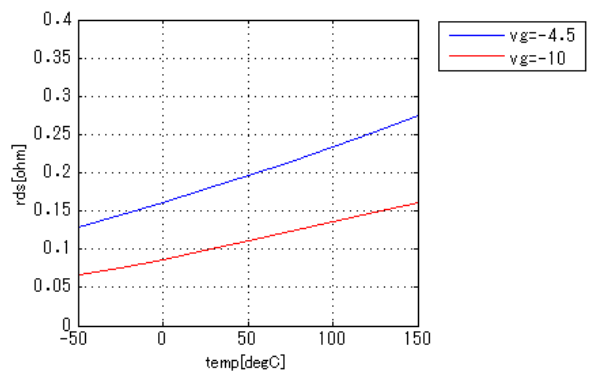
**Rds(on)Temp[Vgs]**

Id = -2.5A



**Rds(on)Temp[Vgs]2**

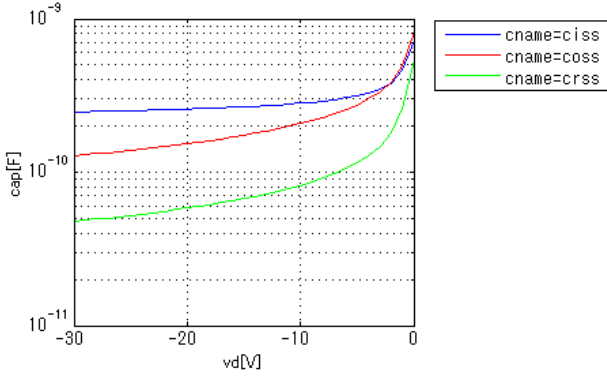
Id = -1.5A



Simulation results are following.  
 Explanatory notes — : simulated

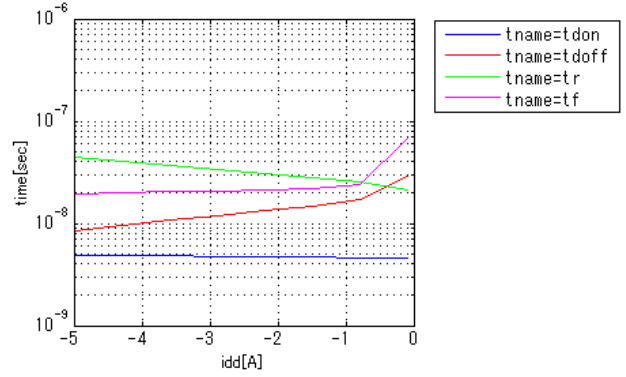
**CapacitanceVds[Cname]**

freq = 1000000Hz



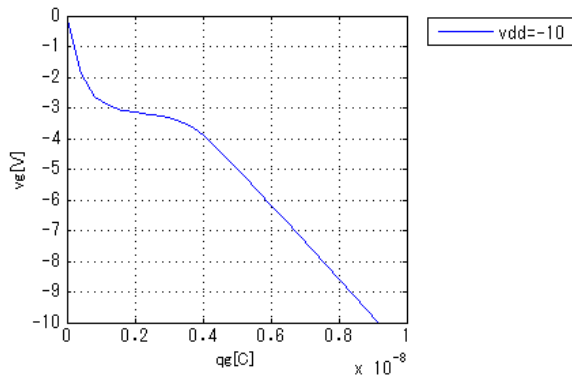
**SwitchingIdd[Tname]**

vgg = -5V, vdd = -10V, RGG = 5ohm

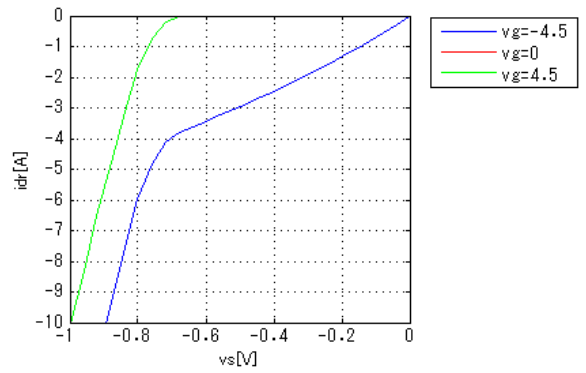


**VgsQg[Vdd]**

Id. = A

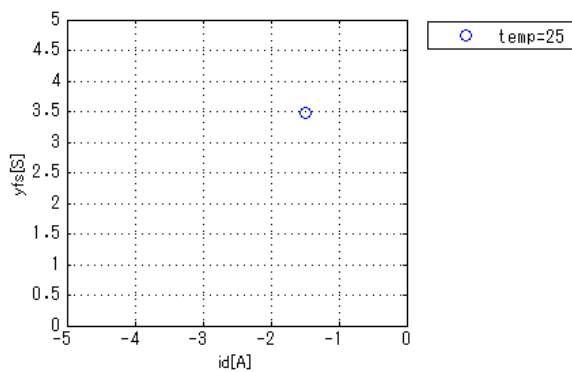


**IsVsd[Vgs]**



**YfsId[Temp]**

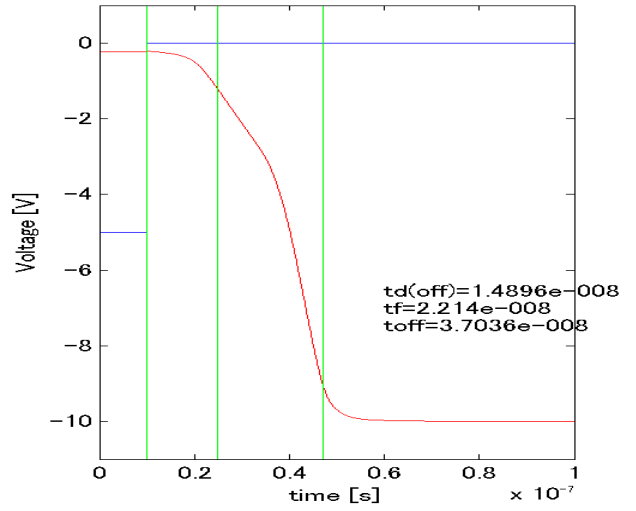
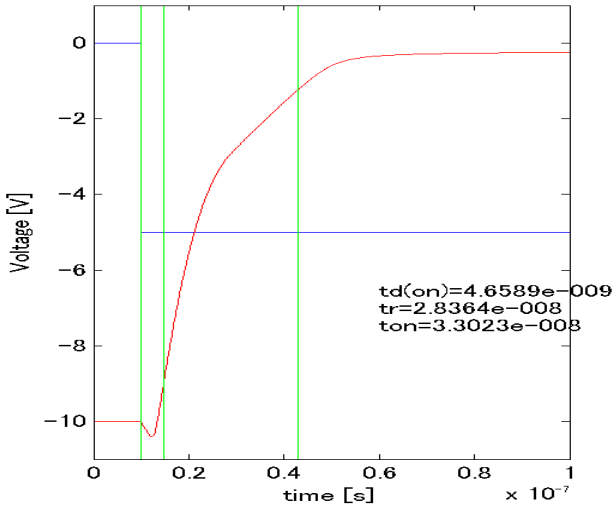
Vds = -10V



Simulation results are following.  
 Explanatory notes — : simulated

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

v<sub>gg</sub> = -5V, v<sub>dd</sub> = -10V, R<sub>GG</sub> = 5ohm I<sub>d</sub> = -1.5A



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