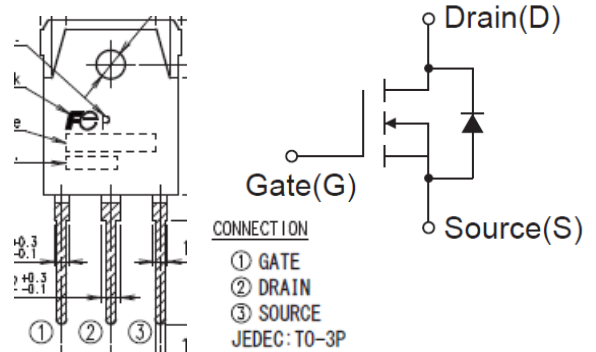


# LTspice Model NMOS FUJI ELECTRIC FMH06N90E

## Model Information

**Model** A macro model based on BSIM3 model  
**Call Name** MDC\_FMh06N90E\_LT  
**Pin Assign** 1:G 2:D 3:S  
**File List** Model Library MDC\_FMh06N90E\_LT01.lib  
 Model Report MDC\_FMh06N90E\_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 FMH06N90E
- Company name FUJI ELECTRIC CO., LTD.
- Characteristics IdVds[Vgs], IdVgs[Temp], YfsId[Temp], Rds(on)Id[Vgs], Rds(on)Temp[Id], VthTemp[Id], VgsQg[Vdd], CapacitanceVds[Cname], IsVsd[Temp], SwitchingIdd[Tname], TrrIf[Ir], QrrIf[Ir], Switching Waveform, TrrWaveform

## Simulation Range

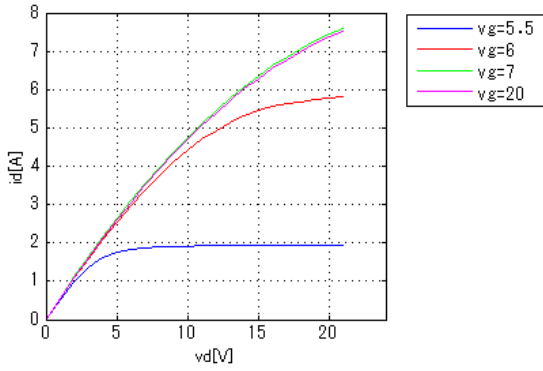
This table shows the range of evaluated simulation range that was not occurs any convergence problems in this area.

Item	Range			Unit
	Min.		Max.	
Drain-source voltage (DC)	0	to	900	V
Gate-source voltage (DC)	-30	to	30	V
Temperature	-55	to	150	deg C

Simulation results are following.  
 Explanatory notes — : simulated

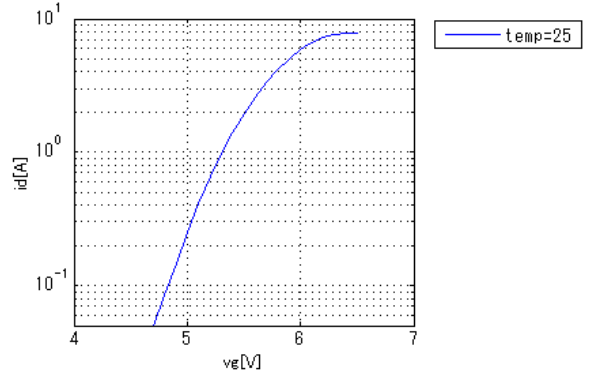
**IdVds[Vgs]**

Temp = 25degC



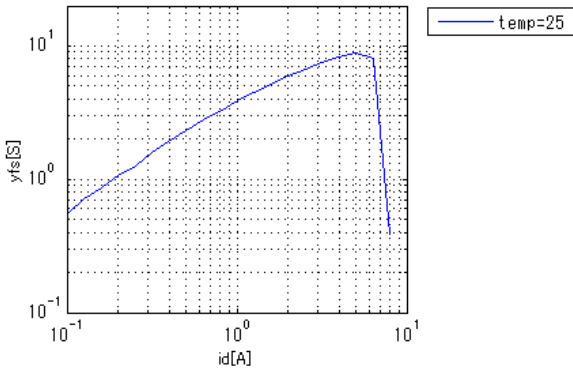
**IdVgs[Temp]**

Vds = 25V



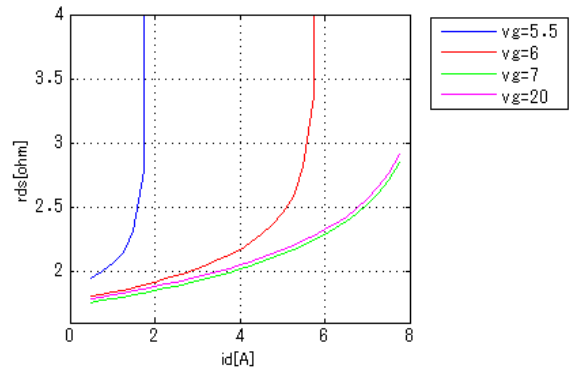
**YfsId[Temp]**

Vds = 25V



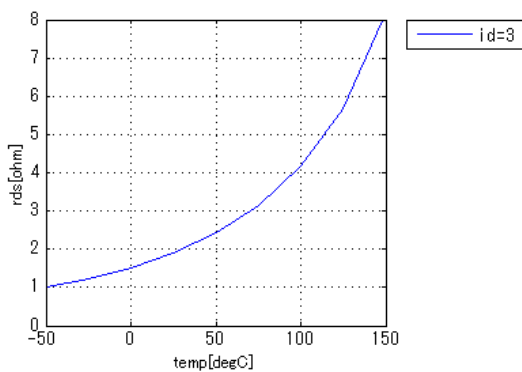
**Rds(on)Id[Vgs]**

Temp = 25degC



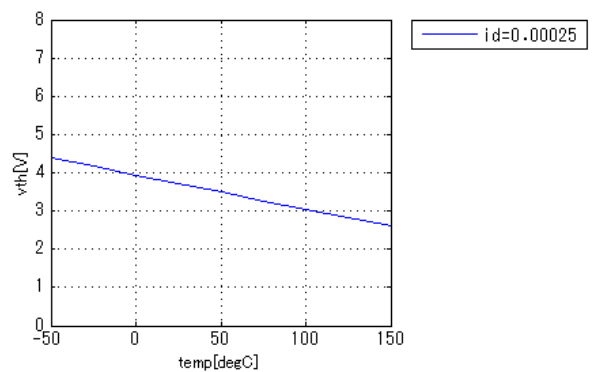
**Rds(on)Temp[Id]**

Vgs = 10V



**VthTemp[Id]**

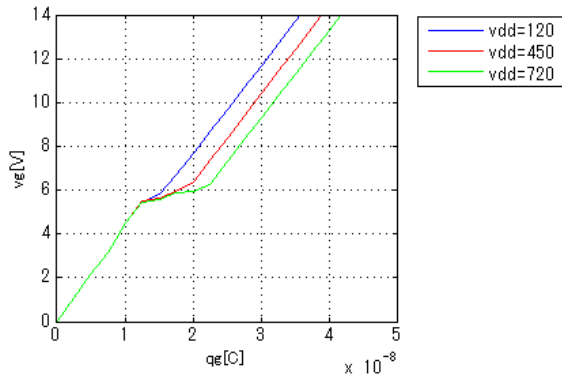
Vd = Vg



Simulation results are following.  
 Explanatory notes — : simulated

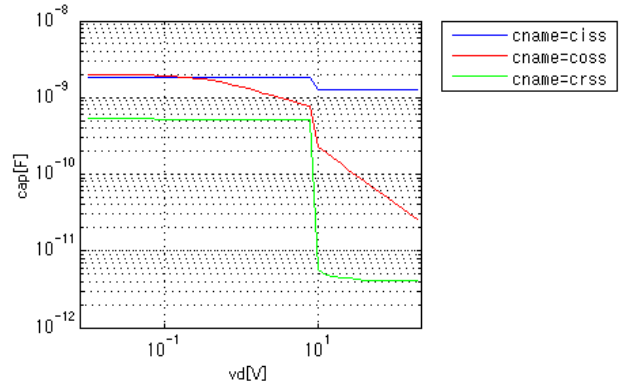
**VgsQg[Vdd]**

Id = 6A



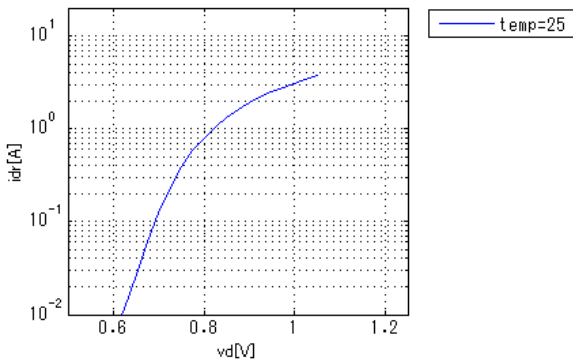
**CapacitanceVds[Cname]**

freq = 1000000Hz



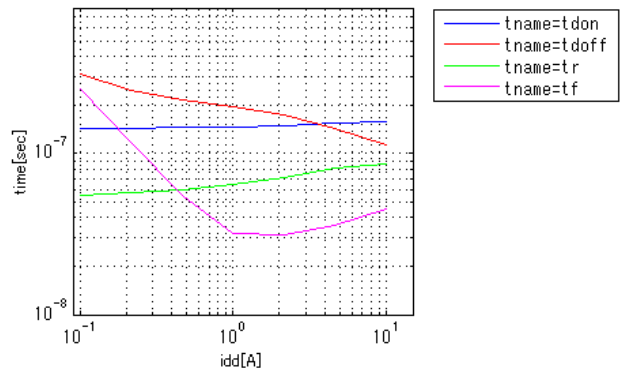
**IsVsd[Temp]**

vg = 0V



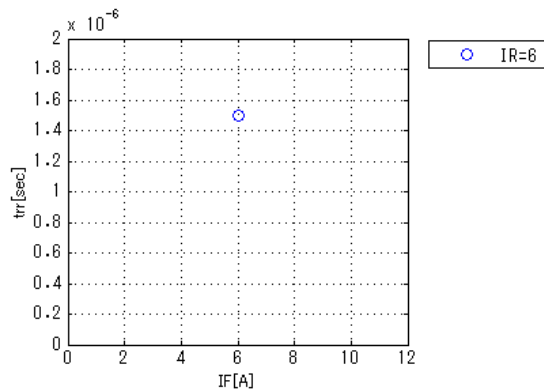
**SwitchingIdd[Tname]**

vgg = 10V, vdd = 600V, RGG = 39ohm



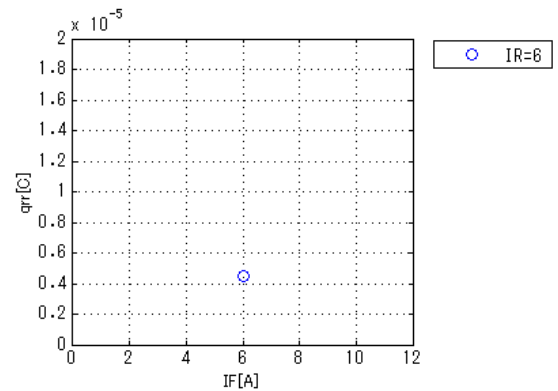
**Trrlf[Ir]**

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



**Qrrlf[Ir]**

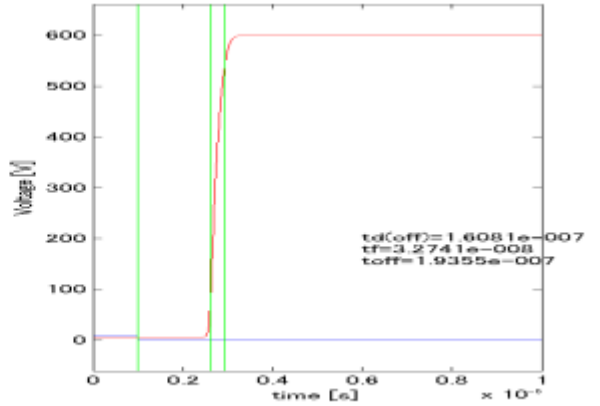
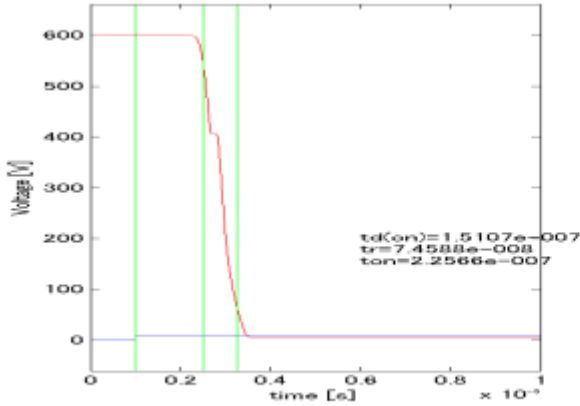
vdd = 25V, didt = 100A/us, Temp = 25degC



Simulation results are following.  
 Explanatory notes — : simulated

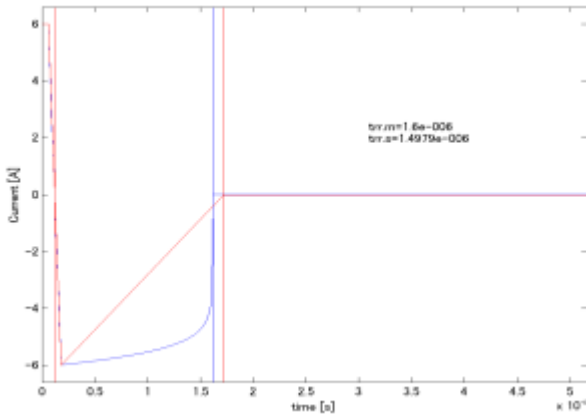
**Switching Waveform (Blue : INPUT Red: OUTPUT)**

v<sub>gg</sub> = 10V, v<sub>dd</sub> = 600V, R<sub>GG</sub> = 39ohm, i<sub>dd</sub> = 3A



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

v<sub>dd</sub> = 25V, didt = 100A/us, Temp = 25degC, I<sub>F</sub> = 6A



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