

**MEMSim** Floating Gate Memory Simulator

The double-gate MOS has been introduced in MICROWIND for the simulation of non-volatile memories such as EPROM, EEPROM and FLASH. The command "UV exposure" erases floating gates and removes all electrons. The programming is performed by a very high voltage supply on the gate (7V in 0.12µm), a 1.2V voltage difference between drain and source. Some electrons are sufficiently accelerated to pass through the gate oxide by hot tunneling effect.

**Highlights**

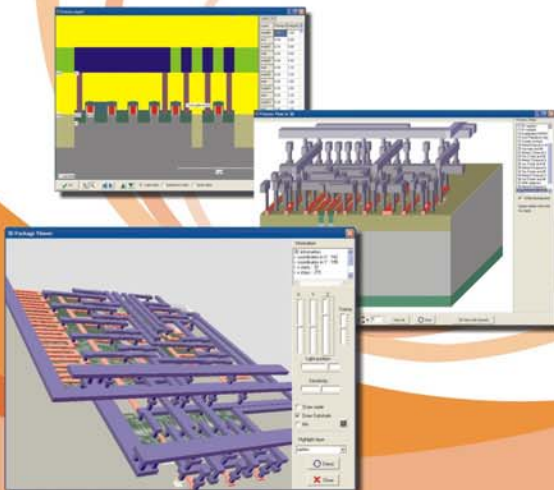
- λ Simulation of non-volatile memories such as EPROM, EEPROM and FLASH using double-gate MOS
- λ Erasure of floating gates and removal all electrons.
- λ Programming can be performed by a very high voltage supply on the gate

**VirtuosoFab** Cross sectional and 3D Viewer

You will never teach deep-sub micron technology like before. As VirtuosoFab offers you a facility to analyze and view cross sectional view of silicon layers and 3D view of circuits. With MICROWIND v3.1 a spectacular facility has been added to VirtuosoFab which enables to draw real-time images of the layout and navigate in full-3D on the surface or inside the IC. This command is based on OpenGL and offers outstanding picture quality. The user can modify the viewing position in X,Y,Z and play with light sources to create illustrative views of the layout.

**Highlights**

- λ 3D fabrication process simulator with cross sectional viewer.
- λ Step-by-step 3-D visualization of fabrication for any portion of layout.
- λ See how the contacts and metallizations are created.
- λ See the self-aligned diffusion after the polysilicon gate is fabricated.
- λ Check planes of VDD, VSS, and others signals.
- λ Check the oxide structure, the low dielectric (Low K) and high K (SiO<sub>2</sub>) Sandwich, and passivation.
- λ User can check the gate oxide and the MOS lateral drain diffusion structure.
- λ Advanced 3D layout view with GEL technology
- λ 2D cross sectional viewer with strain technology support.

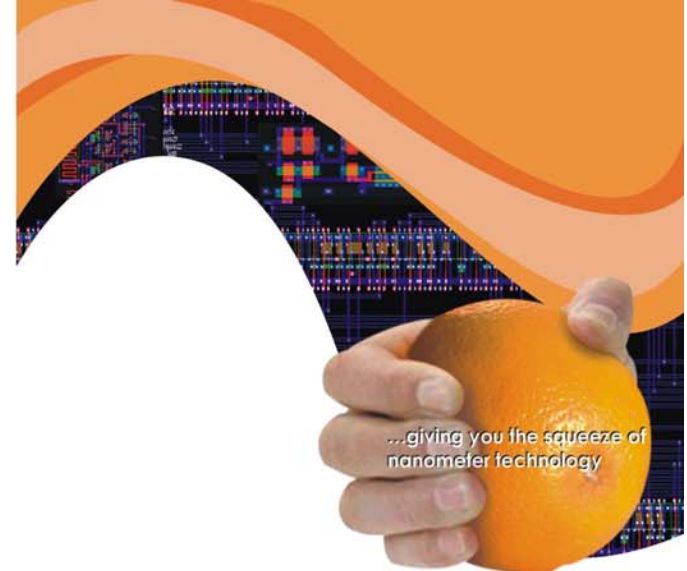
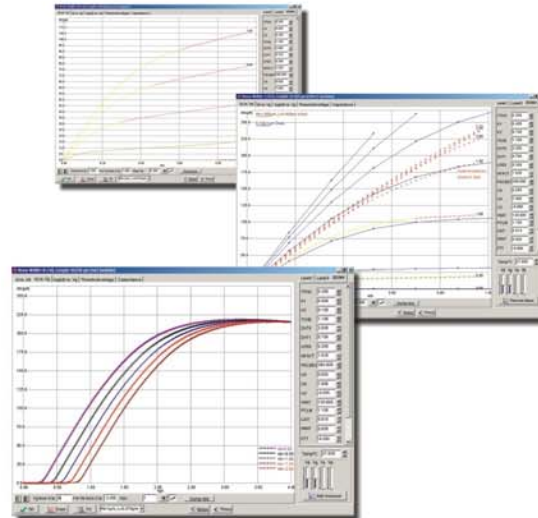


**PROtutor** MOS Characteristics tutor

A valuable screen to understand the MOS characteristics, with a user interface that designers will like. Change the model parameters and see their effects on Id/Vd, Id/Vg, Id(log)/Vg, threshold vs. length. You can also fit the simulations with measurements we made in test-chips fabricated in 0.35, 0.25 and 0.18µm. In the manual, a tutorial on MOS models is given, with details on all parameters. MICROWIND supports MOS models 1, 3 and BSIM4.

**Highlights**

- λ Change the model parameters and see their effects on Id/Vd, Id/Vg, Id(log)/Vg, threshold vs Length.
- λ You can also fit the simulations with measurements we made in test-chips fabricated in 0.35, 0.25 and 0.18 µm
- λ Full length tutorial on MOS models is provided in manual, with details on all parameters.
- λ Supports level1, level3 and BSIM4 MOS models.
- λ Documentation includes several aspects of MOS modeling.



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A Layout and Simulation tool for deep sub-micron CMOS design

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