

Interactive Tools

DeckBuild and Victory Visual

SILVACO

Overview

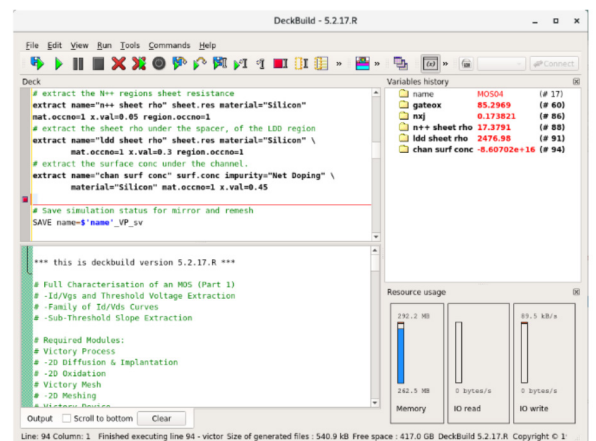
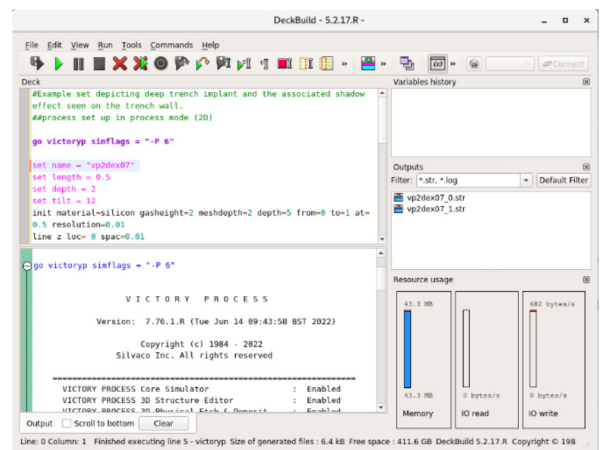
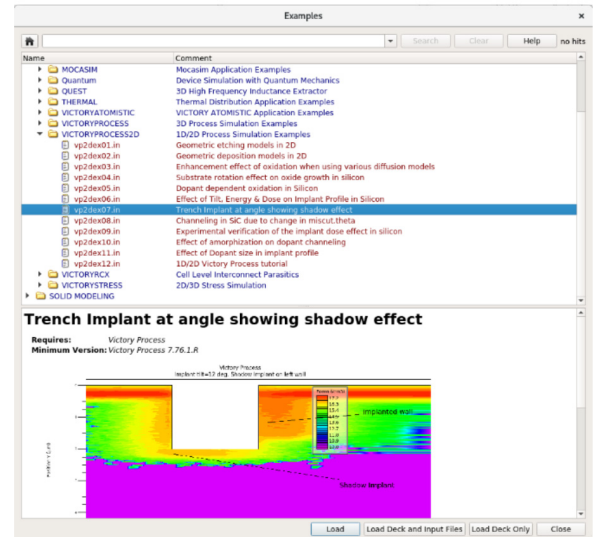
TCAD Interactive Tools are a suite of applications that provide interactive GUI-based pre and post processing services to Silvaco's TCAD simulators.

TCAD Input Deck and Runtime Environment

DeckBuild is Silvaco's state of the art GUI platform used for all TCAD related tasks. It is an easy to use, intuitive front end supporting all of Silvaco's simulators and tools. DeckBuild has numerous simulator-specific and general debugger style tools, such as powerful extract statements, GUI-based process file input, line-by-line runtime execution, and intuitive error messages. It contains an extensive library of example decks which cover a wide range of technologies and materials, and rapidly allow the user to become highly productive in TCAD.

Key Features

- Interactive, GUI-driven development and debugging of simulation decks
- Streamline simulation flows by integrating all Silvaco simulators and TCAD visualization tools into one GUI
- Powerful extraction language capable of measuring process and device parameters like thicknesses or voltages and to create all forms of 1D curves (IdVd / IdVg.)
- Automated visualization of simulation created structures
- Monitor simulation progress by browsing the structures and output created by each process step
- Includes hundreds of TCAD simulation examples that are categorized and indexed for quick retrieval
- Fully integrated queuing system allows to load balance simulation jobs on Oracle Grid Engine, LSF or the Silvaco built-in queue
- Integrated optimization engine to handle calibration and optimization tasks
- Supported on Linux and Windows (including virtual machines)



TCAD Visualization

Victory Visual is a powerful visualization tool for displaying 1D, 2D and 3D data generated by Silvaco's TCAD tools.

Designed for intuitive interaction, Victory Visual's vivid visualization modes support tetrahedral structures, atoms, contours, isosurfaces, rays and vectors. It provides many TCAD specific visualization functions, such as 1D cut lines & 2D cut planes from 2D & 3D structures respectively, probes, rulers and other measurement tools, integration of 1D data files and fully customizable TCAD specific colors and styles.

Key Features

- Rotation and zooming by intuitive mouse actions
- Point and click probing of points within the structure
- Plot surface contours and isosurfaces for any simulated variable
- Cut-line/plane for creating 1D/2D slices
- Supports all common 1D and 2D data
- Integrated suite of probes, rulers, and other measurement tools allows detailed analysis of 1D and 2D structures
- Function and macro editor allows complex functions and macros to be defined.
- Comprehensive set file system to facilitate sharing of custom visualization presets and examples
- Tool suite for displaying Victory Atomistic data. Local density of state meshing, meshing of atomistic files for contour and volume visualization with the use of cut planes
- Intuitive and data agnostic overlay system to compare files
- Automatic reloading of file while preserving the current view
- Direct integration with DeckBuild
- Auto axis selection on plotting of .log files
- Load multiple files to be stacked in a slideshow
- High resolution screenshots
- Victory Mesh integration
- Supports range of complementary file types (.lay, .gds, .h5, .3mf, .stl etc)

