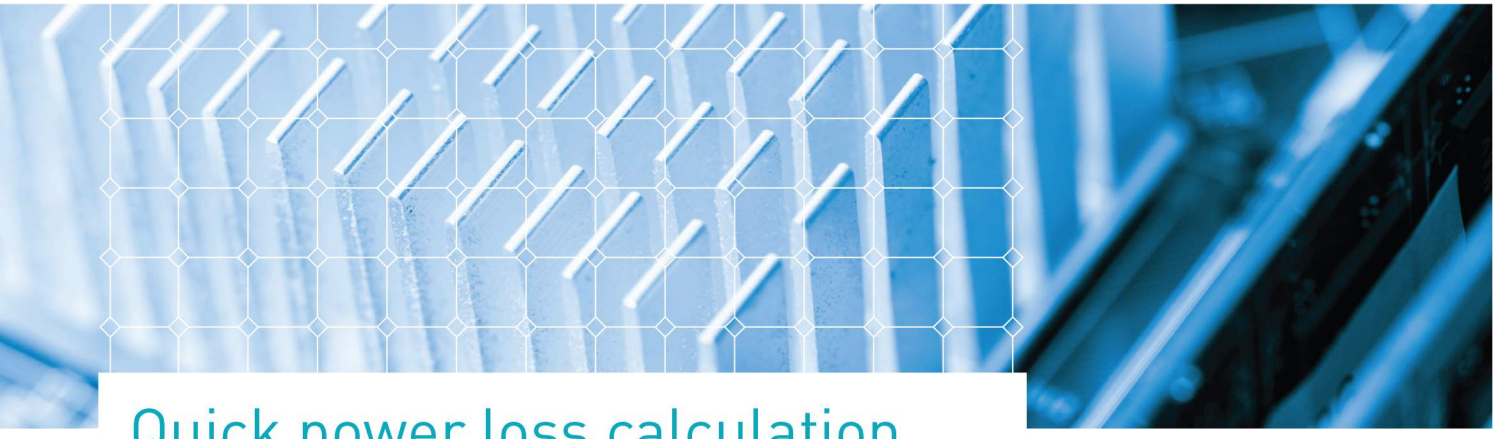
THERMAL MODULE

PSIM



Quick power loss calculation from manufacturer datasheet

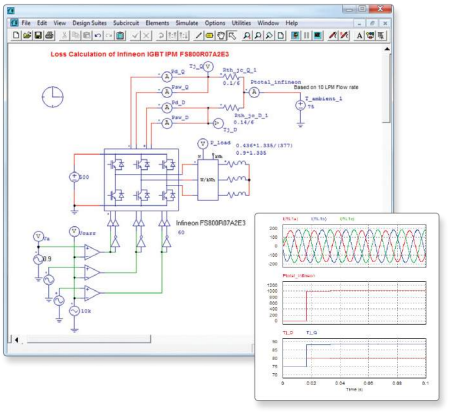
Power loss calculation is an important aspect in power converter design. Traditionally, users rely on detailed physical device models from device manufacturers or software vendors. Often the model of a particular device of interest is not available. Even if such a model is available, the complexity of the model often slows down simulation and results in a long simulation time.

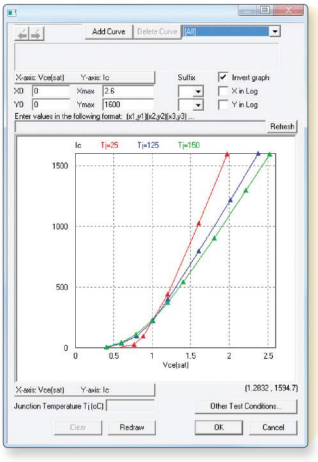
With the Thermal Module, users can add devices of any manufacturer into a database in minutes using an easy-to-use Device Database Editor. These devices can then be used in the PSIM schematic and their power losses calculated in the simulation.

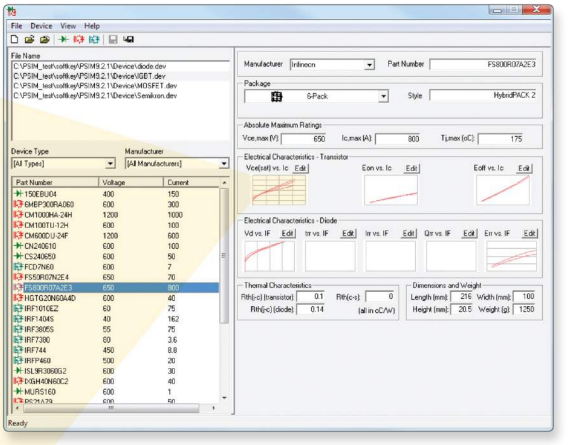
The Thermal Module provides a very quick way of estimating conduction and switching losses of semiconductor devices (diodes, IGBT, and MOSFET). One major advantage of the Thermal Module is that the loss calculation is done in such a way that it does not slow down the simulation. Also, the Database Editor provides a convenient way to add new devices and manage existing devices. In addition, utility tools are provided to capture device characteristics curves directly from device datasheet images.

FEATURES & BENEFITS

- Easy-to-use Device Database Editor
- New devices easily added to database
- Quick power loss calculation with no impact on simulation speed







Above: **Loss calculation** of IGBT IPM based inverter.

Right: **Device Database Editor** interface.