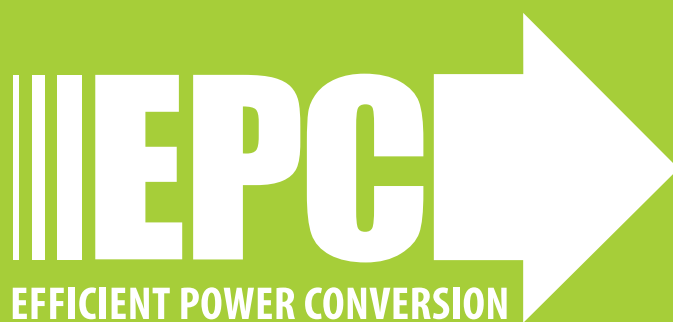


# Using eGaN FET SPICE Models in SIMetrix/SIMPLIS Quick Start Guide

*User Instructions*

Revision 1.0



## DESCRIPTION

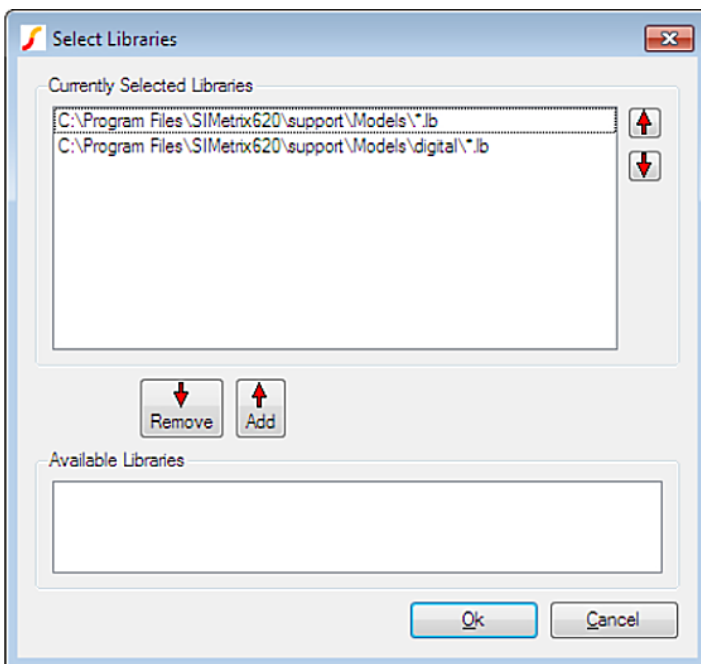
This document provides instructions on how to implement eGaN FET SPICE models in SIMetrix/SIMPLIS for circuit simulation. The simulation models of eGaN FETs can be installed into the SIMetrix/SIMPLIS simulator for evaluating device performance. The detailed SPICE model installation process is described in the user manuals [1]–[3].

Follow the next steps for the full model installation procedure of eGaN FETs.



### A. Install eGaN FET SPICE models

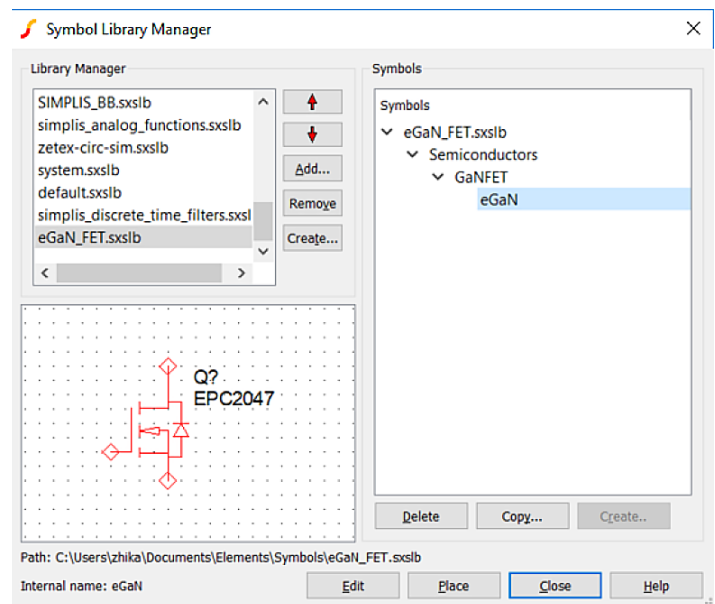
1. Download the PSPICE model from the product page of EPC website <http://epc-co.com/epc/Products/>. Save the model using a text editor.
2. Save the PSPICE model in a directory with a filename suffixed with “.lib”. For example, the filename can be “EPC2001C.lib”.
3. In the schematic main window, select **File** → **Model Library** → **Add/Remove Libraries**. Select the folder where the simulation model libraries created in Step 2 is located. Select the items to be installed in **Available Libraries** and add them to the **Currently Selected Libraries**. Another easy way for this step is pick up the files in Step 2 and drop it into the message window of the **Simetrix command shell**. The models are installed successfully if no error is reported in the command shell.



### B. (Optional) Create the corresponding schematic symbol of the device

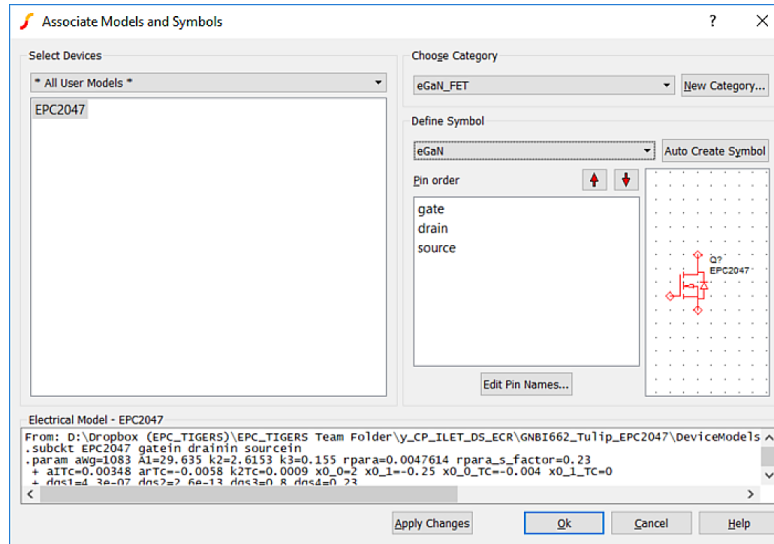
For convenient use of the model in the circuit schematic, a corresponding schematic symbol of the device is necessary. EPC provides a schematic symbol for eGaN FET products. It is stored as a symbol file named “eGaN\_FET.sxslb”. This is optional since a device symbol can be auto created in next steps but it is recommended.

If the user chooses to use the recommended schematic symbol from EPC, select **File** → **Model Library** → **Symbol Manager** to add the symbol stored in “eGaN\_FET.sxslb” into the **Symbol Library**.



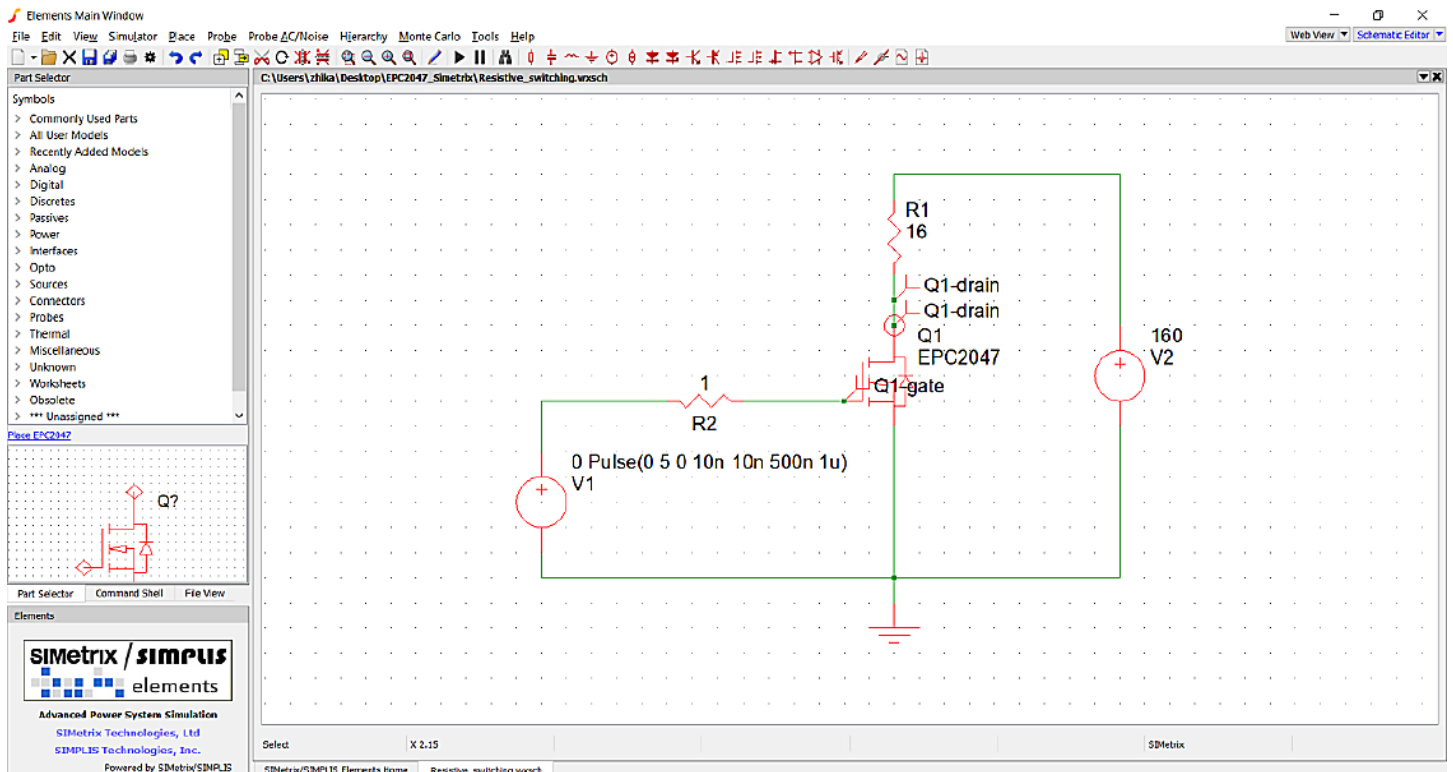
### C. Associate the model(s) with a schematic symbol

1. Select **File** → **Model Library** → **Associate Models and Symbols** and select the device model(s) recently added.
2. A new category called **eGaN\_FET** is added.
3. If Step B has been performed, then the symbol called eGaN can be selected in the “**Define Symbol**” section. If not, click “**Auto Create Symbol**” to create a new symbol for the device.
4. **Click OK** to complete the process of associating the model(s) with a schematic symbol.



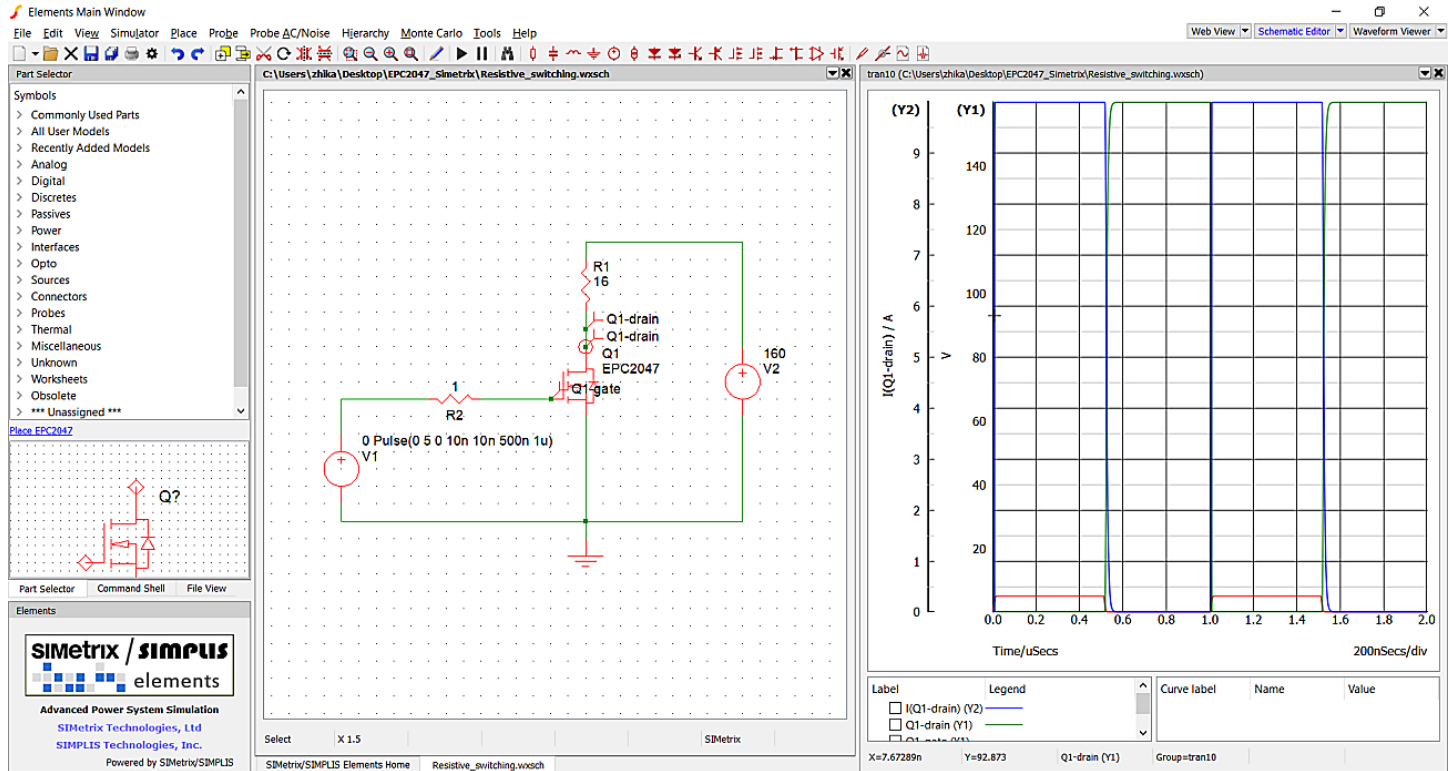
### D. Draw the circuit schematic

A simple resistive switching circuit schematic is plotted as an example.



## E. Run simulation

The simulation of a circuit using eGaN FET can be successfully performed after correctly following steps A–D.



## References

- [1]SIMetrix/SIMPLIS User’s Manual Version 8.2, Feb. 2018.
- [2]SIMetrix Simulator Reference Manual Version 8.2, Jan. 2018.

**For More Information:**

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