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## SIMetrix / eDSim model import

### Introduction

SIMetrix / eDSim are spice based simulators, therefore they are compatible with models developed with Orcad PSpice.

This document shows an example of protection model import on SIMetrix / eDSim:

- When only spice library file is available, example with ESDCAN04-2BWY
- When symbol and spice library files are available, for example with SM30TY TVS electrothermal models.

# 1 ESDCAN04-2BWY model import on SIMetrix / eDSim

SIMetrix / eDSim provide a procedure to import an external spice model.

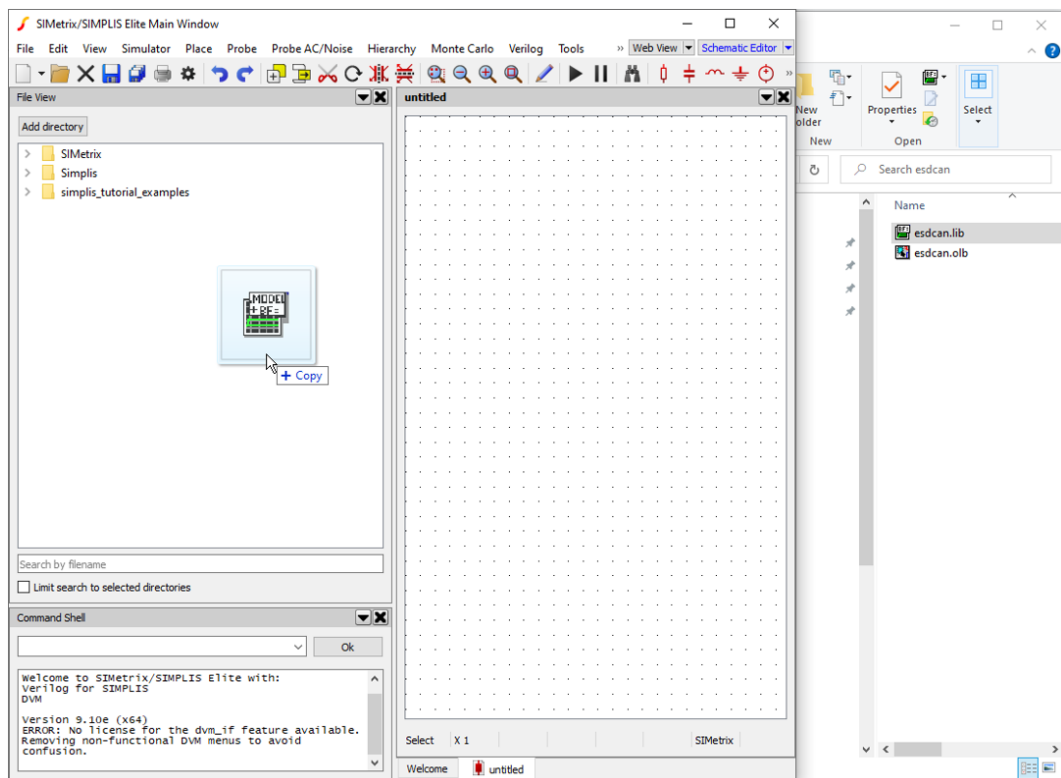
The same procedure has been performed to import the ESDCAN04-2BWY PSpice model, using the SIMetrix / eDSim version 9.10e.

**First step:** Download and unzip the ESDCAN library on the [www.st.com](http://www.st.com) web site (on ESDCAN04-2BWY web page), you get two files, esdcan.lib and esdcan.olb.

**The second step:** Launch SIMetrix or eDSim, select the menu (File / New / SIMetrix Schematic) to open a new schematic.

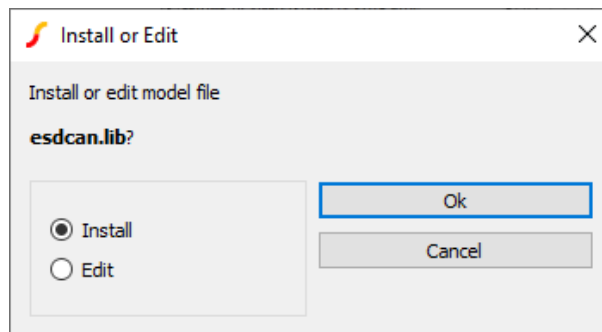
**The third step:** Drag and drop esdcan.lib into the command shell window.

Figure 1. Drag and drop lib on SIMetrix / eDSim



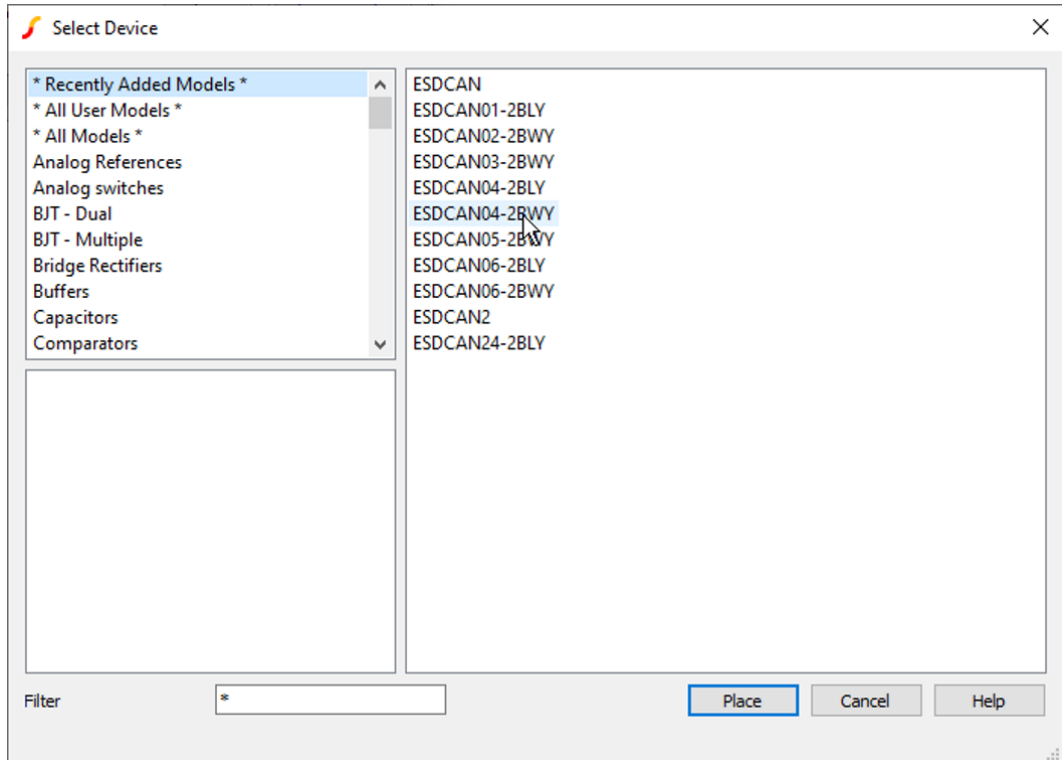
Then, if the following window appears, select "Install".

Figure 2. Library installation



**The fourth step:** Place the ESDCAN04-2BWY on the schematic, by selecting the menu (Place / From Model Library), and on the following window, select ESDCAN04-2BWY and then click on the "Place" button.

Figure 3. Part selection window



The software then asks you to associate a symbol to the model: connections between symbol and model are made by putting in order the symbol pin in the same way as the model.

Figure 4. Correspondence between part pins and symbol

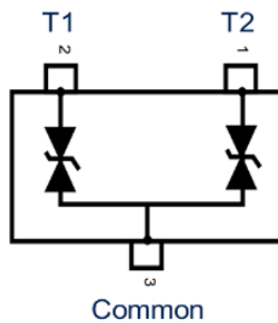


Figure 5. Association of symbol with model

Unassigned, as TVS doesn't exist

The right existing symbol

Same order:

- Pin 1 on PIN T2
- Pin 2 on PIN T1
- Pin 3 on PIN Common

The ESDCAN04-2BWY is ready to be used in your SIMetrix / eDSim simulation.

Figure 6. Part on schematic

## 2 TVS electrothermal model import on SIMetrix / eDSim

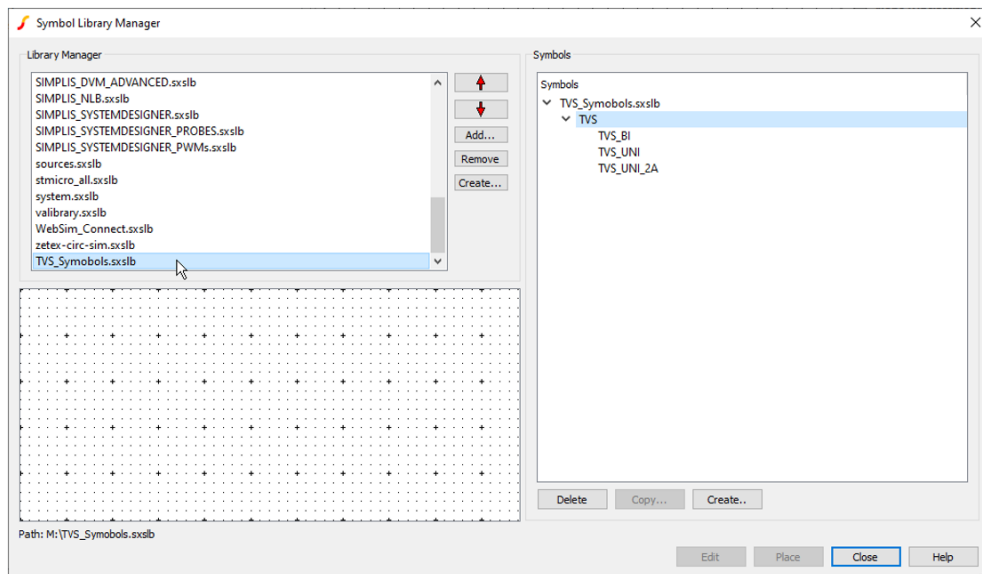
TVS electrothermal models, for SIMetrix and eDSim are provided with a symbol file: this eases the model importation. Let us take the SM30TY TVS family.

**First step:** Download and unzip “sm30ty-series electro-thermal model (.lib) for SIMetrix and eDSim” library on [www.st.com](http://www.st.com), you get two files, TVS\_Symbols.sxslb, sm30ty\_thermal\_XXXX.lib.

**The second step:** Launch SIMetrix or eDSim, select the menu (File / New / SIMetrix Schematic) to open a new schematic.

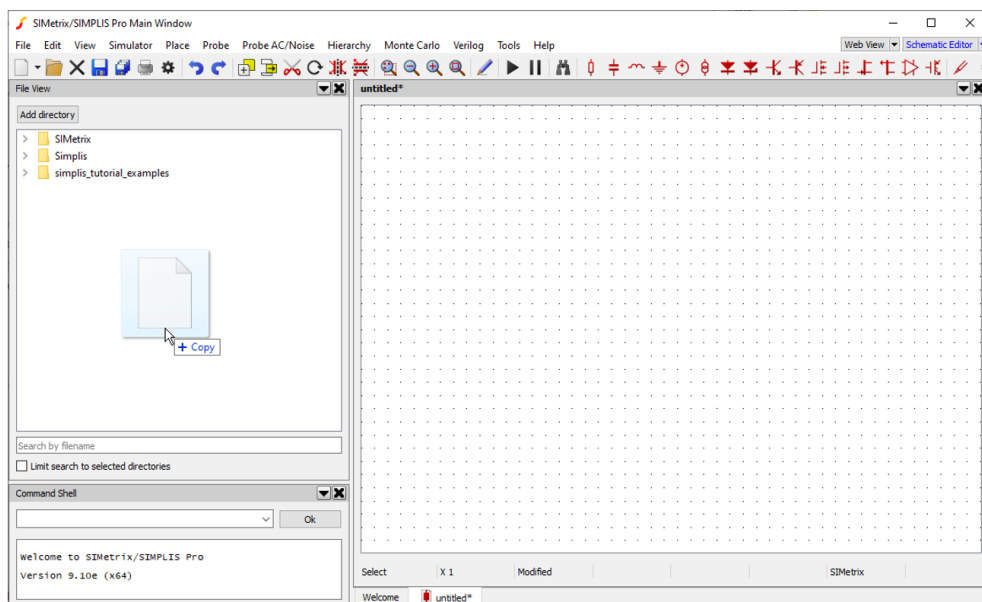
**The third step:** To import the symbol file, select the menu (File / Symbol Manager...), click on Add, and select TVS\_Symbols.sxslb and then close.

**Figure 7. Importing symbol file**



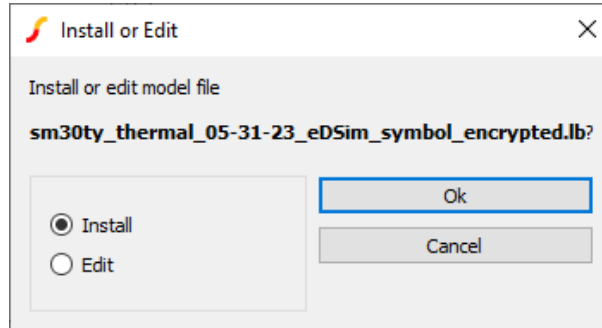
**The fourth step:** Drag and drop sm30ty\_thermal\_XXXX.lib into the command shell window.

**Figure 8. Drag and drop lib on SIMetrix / eDSim**



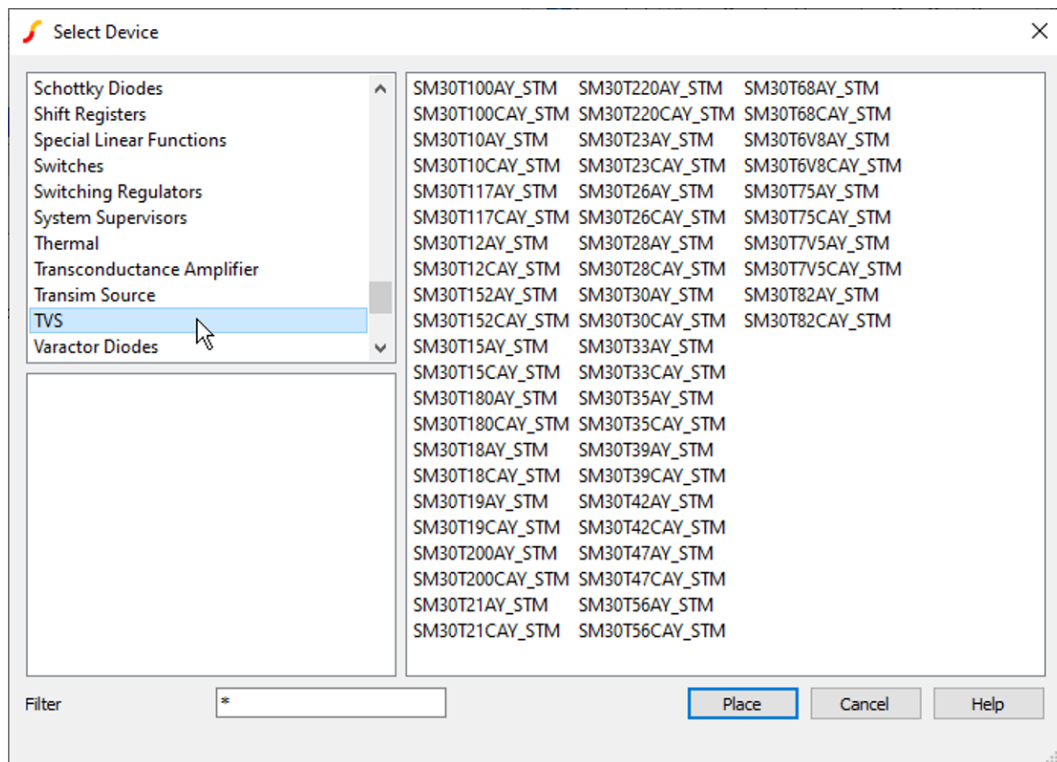
Then, if the following window appears, select Install.

**Figure 9. Library installation**



**The fifth step:** Place TVS on the schematic, select the menu (Place / From Model Library...), select the TVS category, and choose the TVS.

**Figure 10. TVS selection**



With these two procedures, all protection device models available on [www.st.com](http://www.st.com) can be imported on SIMetrix / eDSim.

## Revision history

**Table 1. Document revision history**

| Date        | Revision | Changes  |
|-------------|----------|--|
| 02-Jul-2019 | 1        | Initial release.   |
| 17-Oct-2023 | 2        | Updated <a href="#">Figure 1</a> , <a href="#">Figure 2</a> , <a href="#">Figure 3</a> , and <a href="#">Figure 6</a> . Added Section 2 TVS electrothermal model import on SIMetrix / eDSim. |

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