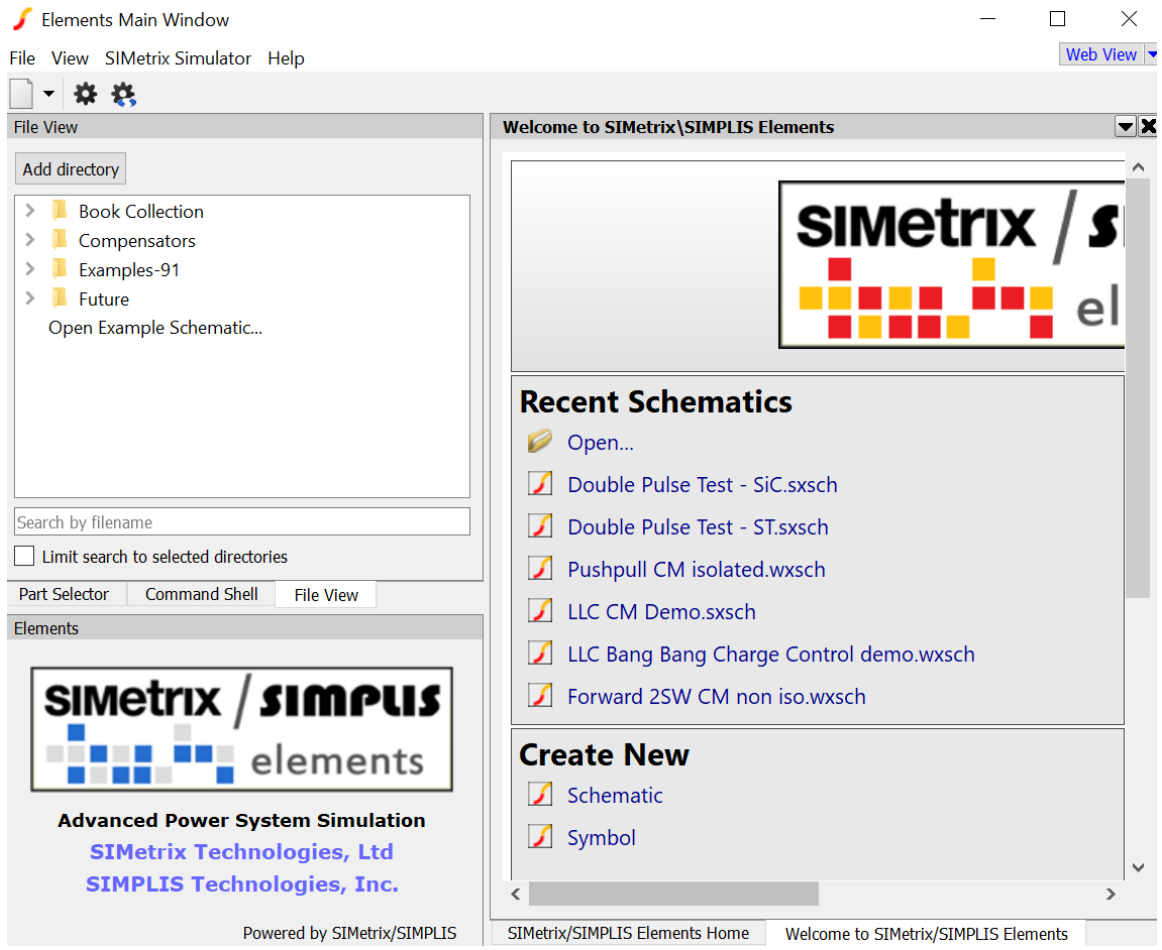
SCT020HU120G3AG_LT.LIB - Notepad

File Edit Format View Help

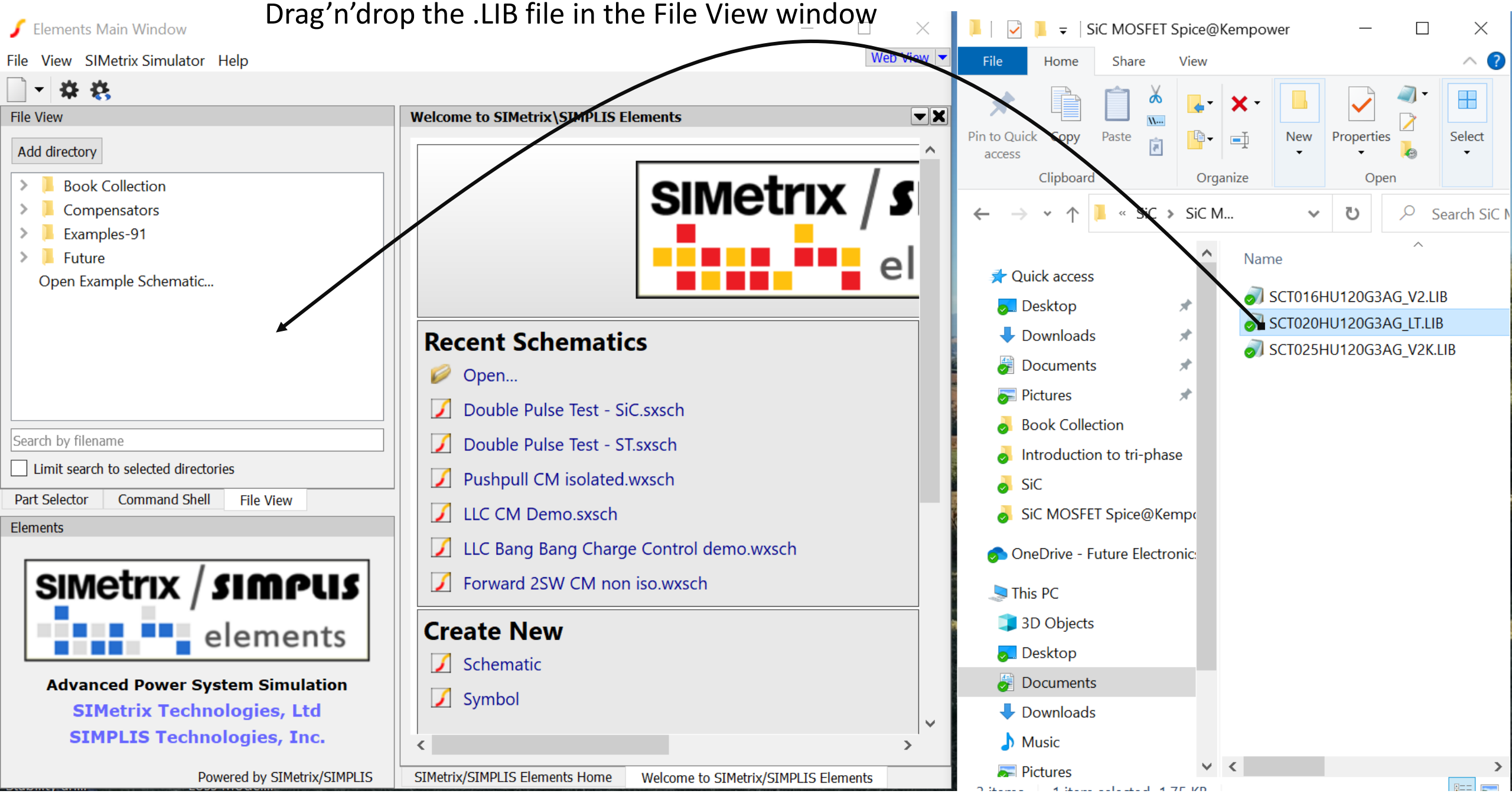
```
*****************************************************************
******STMicroelectronics MOSFET, IGBT and Bipolar Library ****
*****************************************************************
*
* Models provided by STMicroelectronics are not guaranteed to
* fully represent all the specifications and operating
* characteristics of the product behavior that they reproduce.
* The model describes the characteristics of a typical device.
* In all cases, the current product data sheet contains all
* information to be used like final design guidelines and the
* only actual performance specification.
* Altough models can be a useful tool in evaluating device
* performance, they cannot model exact device performance unde
* all conditions.
* STMicroelectronics therefore does not assume any
* responsibility arising from their use.
* STMicroelectronics reserves the right to change models
* without prior notice.
*
*****************************************************************

.SUBCKT SCT020HU120G3AG_LT drain gate source

VLd drain 1x 0
VLg gate 2x 0
VLs source 3x 0

MOS1  1x 2x 3x 3x MOS
*MOS2  1x 2x 3x 3x MOS
*MOS3  1x 2x 3x 3x MOS
*MOS4  1x 2x 3x 3x MOS
```

You received a SPICE model in the form of a .LIB file and you would like to import the model in SIMetrix and associate it with a symbol. The process is fairly easy: start SIMetrix (full version or Elements):

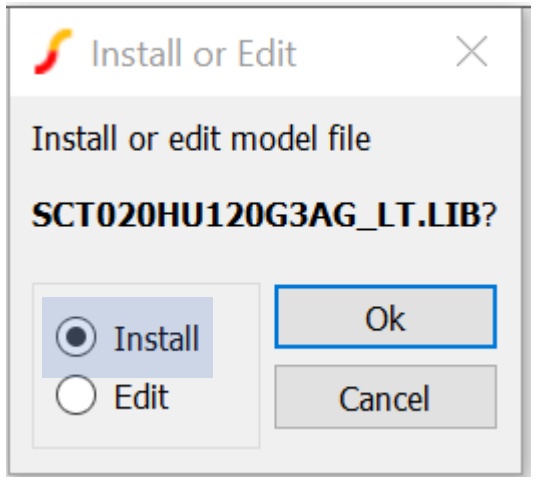


Christophe Basso – January 2024

Drag'n'drop the .LIB file in the File View window



This screen pops up:

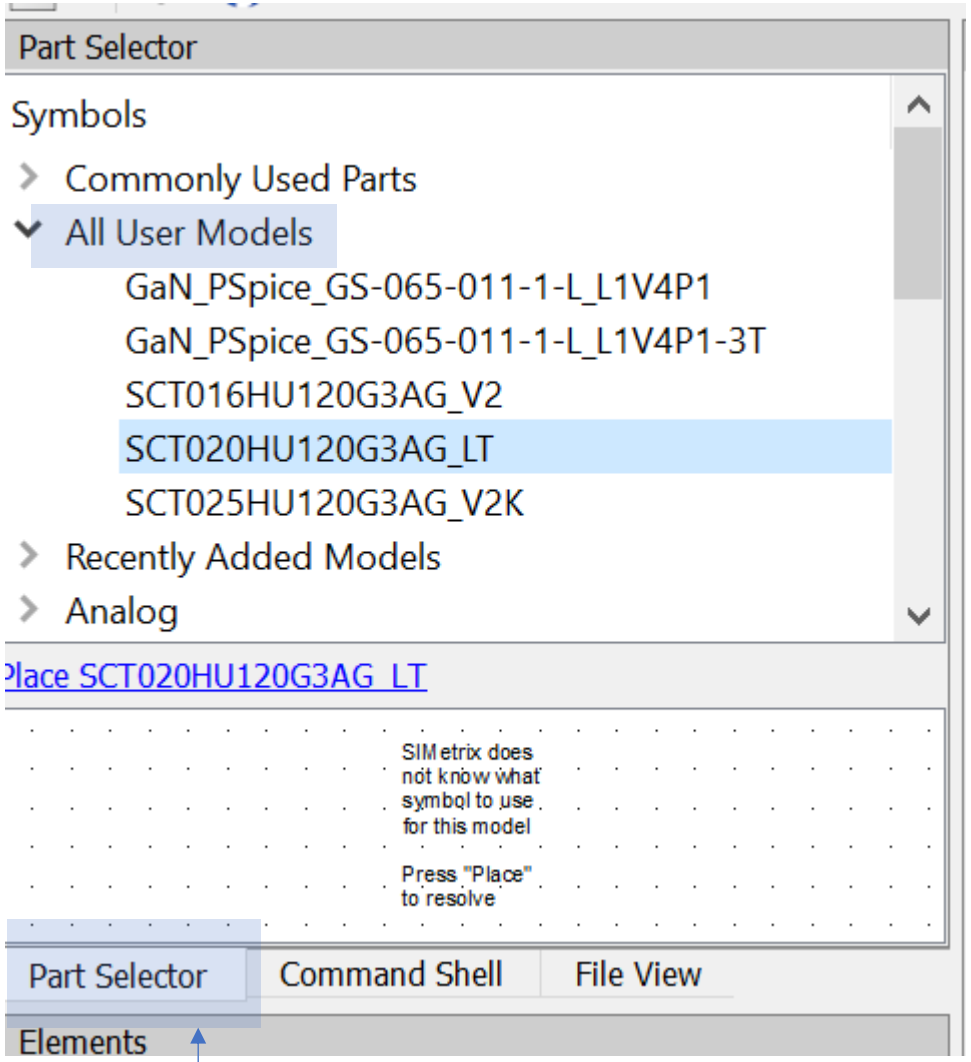


Press install

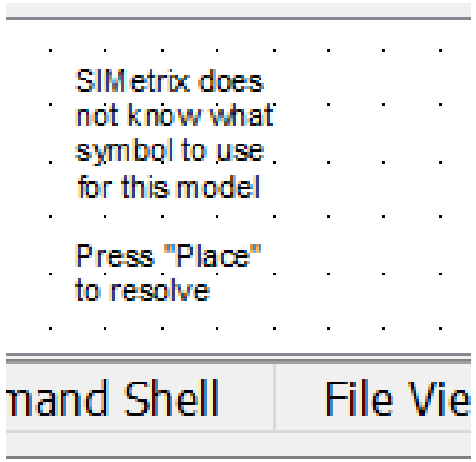
If everything goes well…

```
Welcome to SIMetrix/SIMPLIS Elements. For
help using this application, please use the
help menu located above.

Model library changed. Rebuilding catalogs,
please wait...

Completed
```

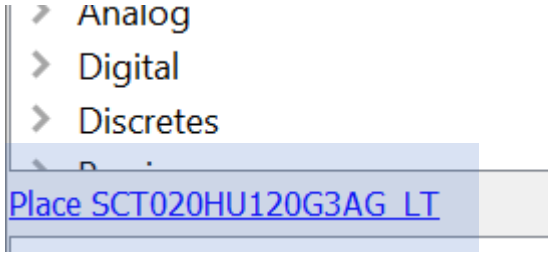
The added part shows up in the All User Models:



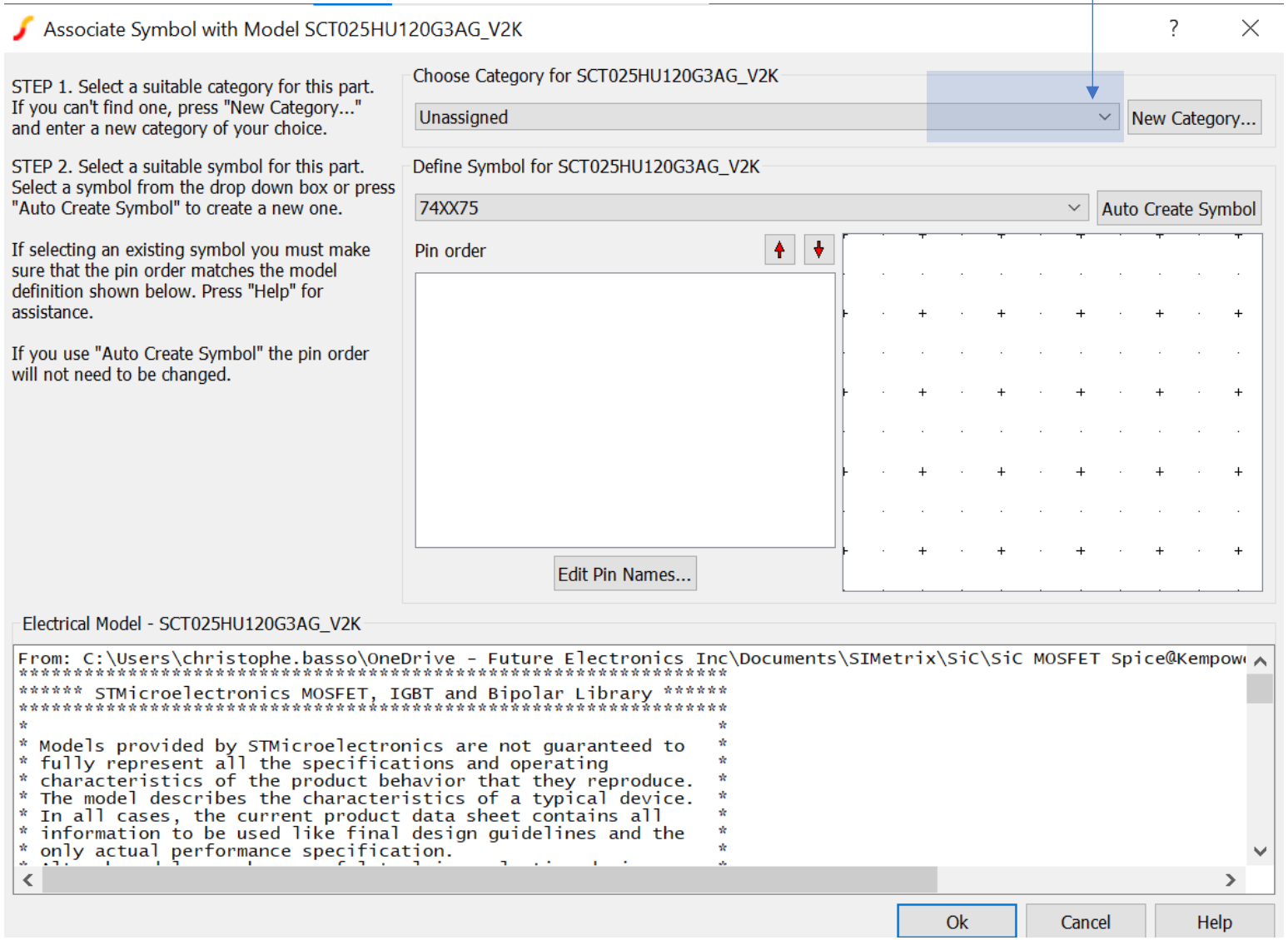
You have to link the .LIB model to a symbol:



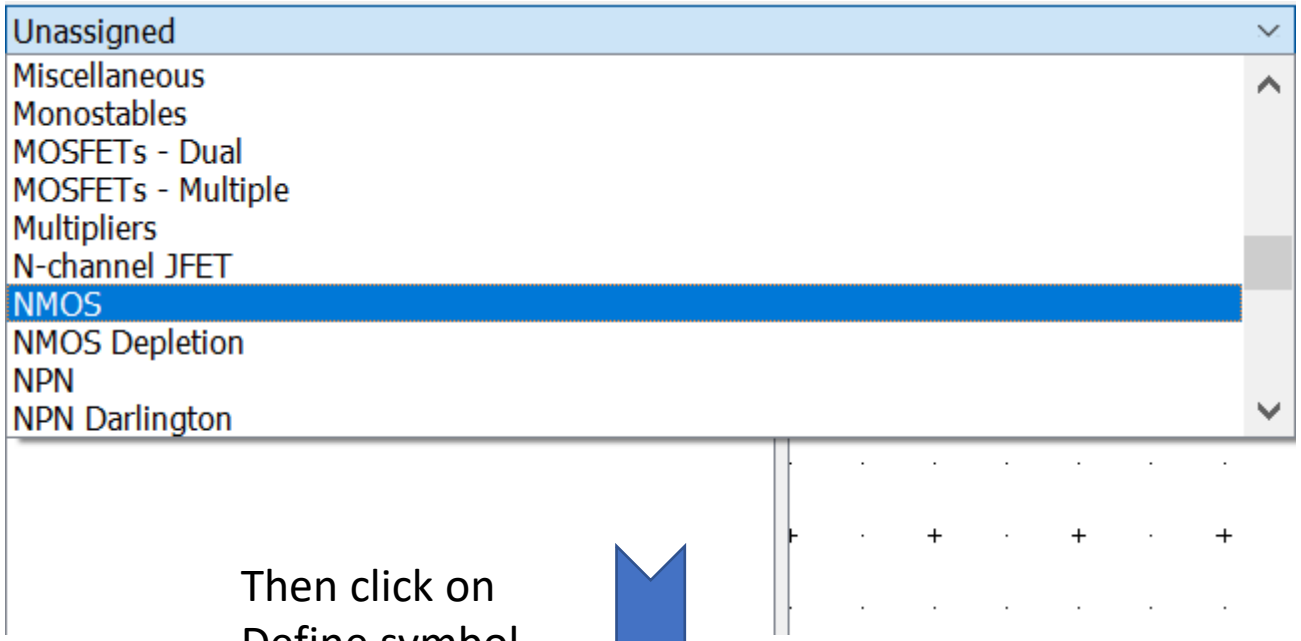
Press place or double-click on the part:



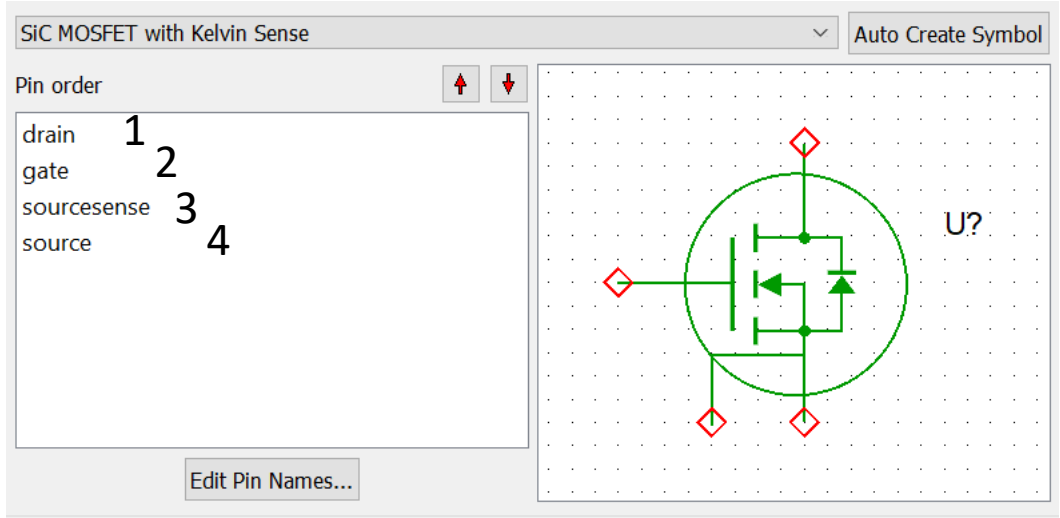
Press this one



For a MOSFET, I select a NMOS category



Then click on
Define symbol

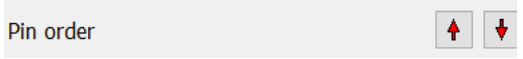


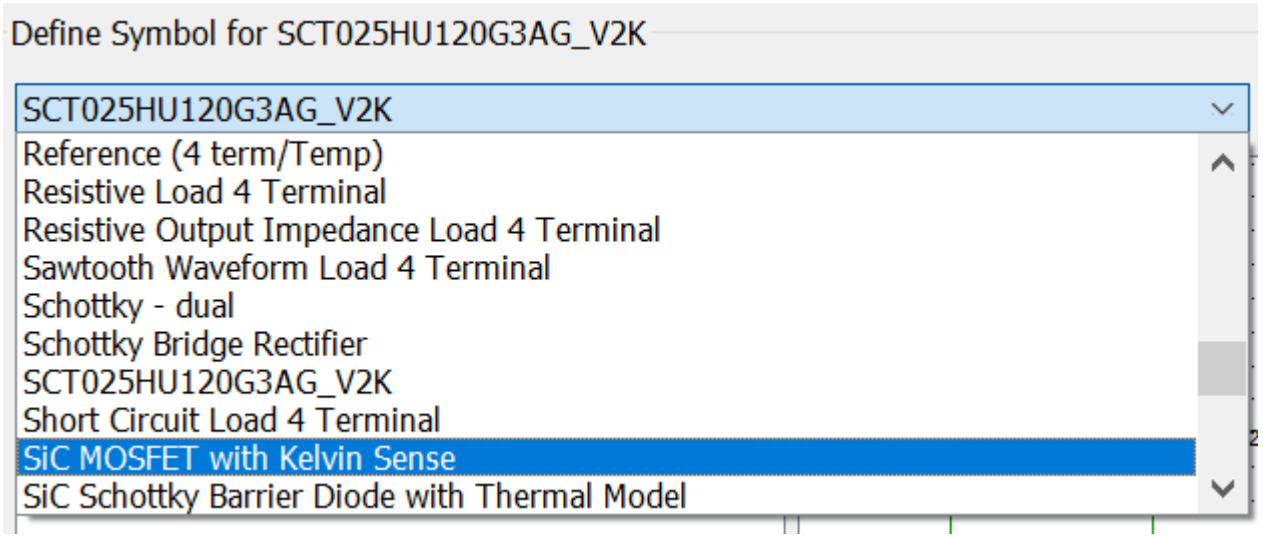
Check the pin order matches the subcircuit in the .LIB file

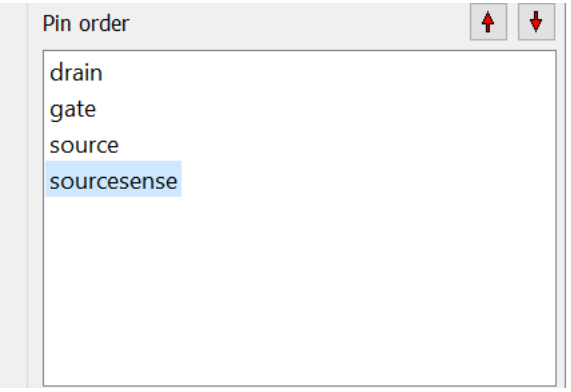
1 2 4 3

```
.subckt SCT025HU120G3AG_V2K drain gate source kelvin PARAMS

Rkelvin kelvin s2 5m
Ckelvin kelvin s2 1p
```

Here, it does not match so simply press the arrows to rectify the pin sort:



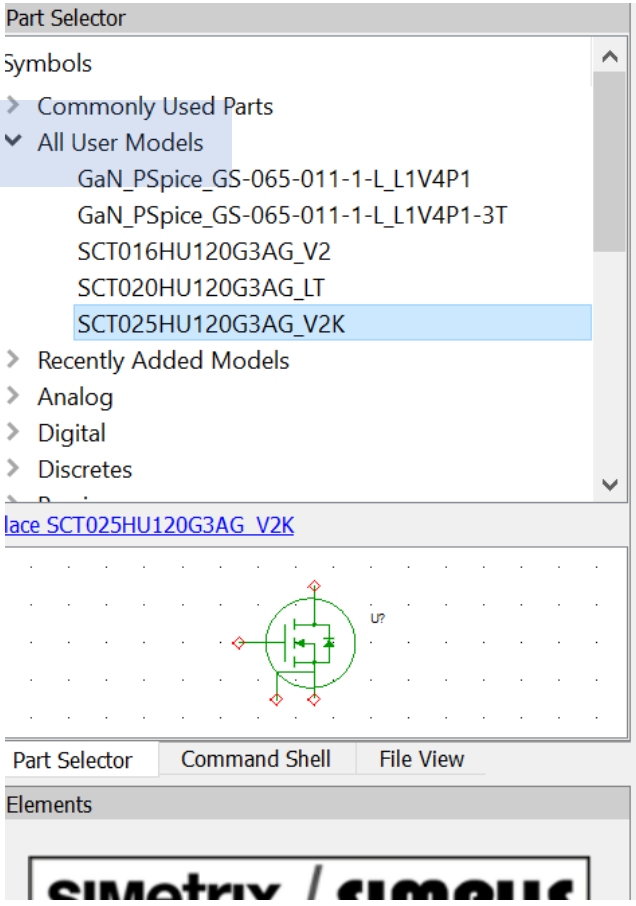


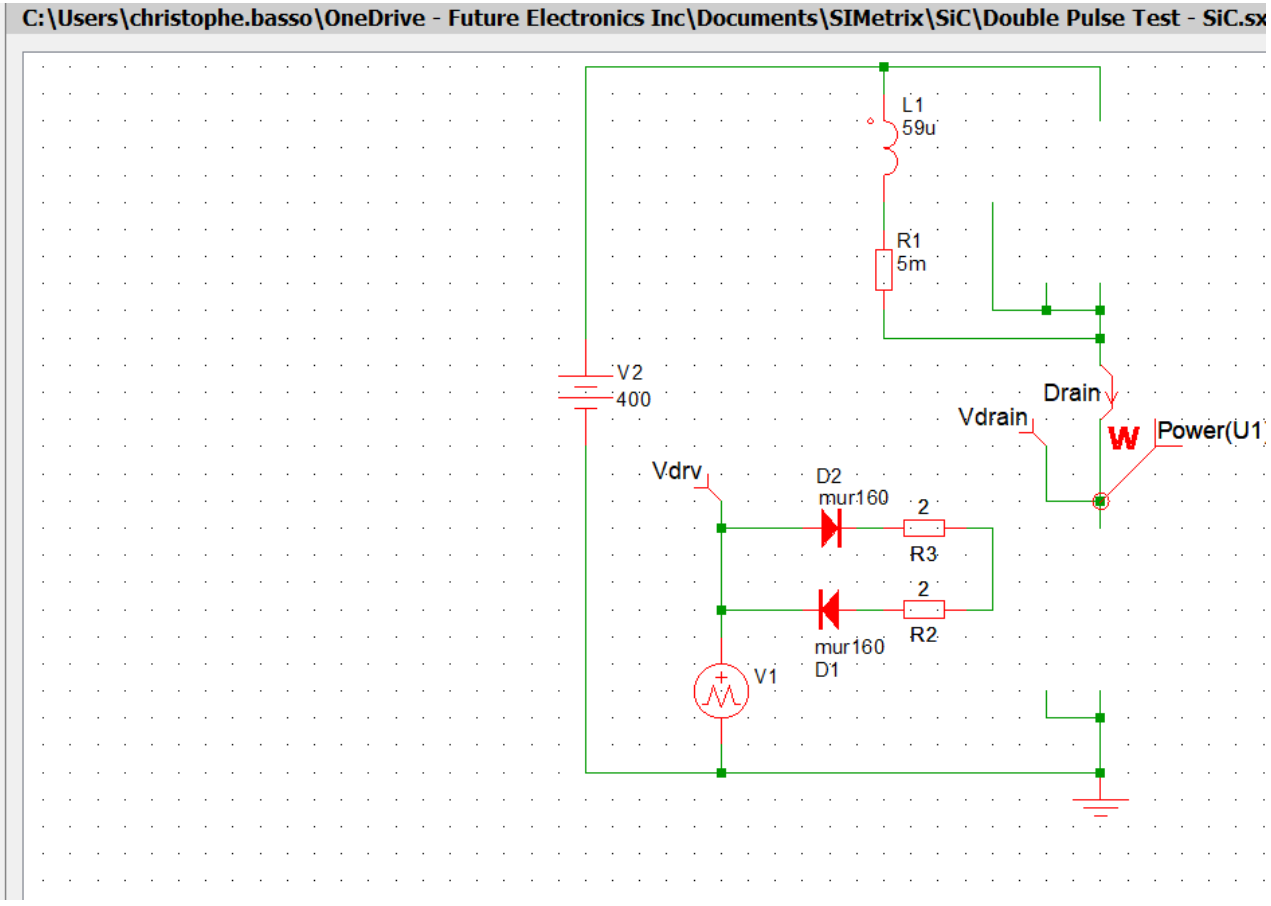


It is ok now

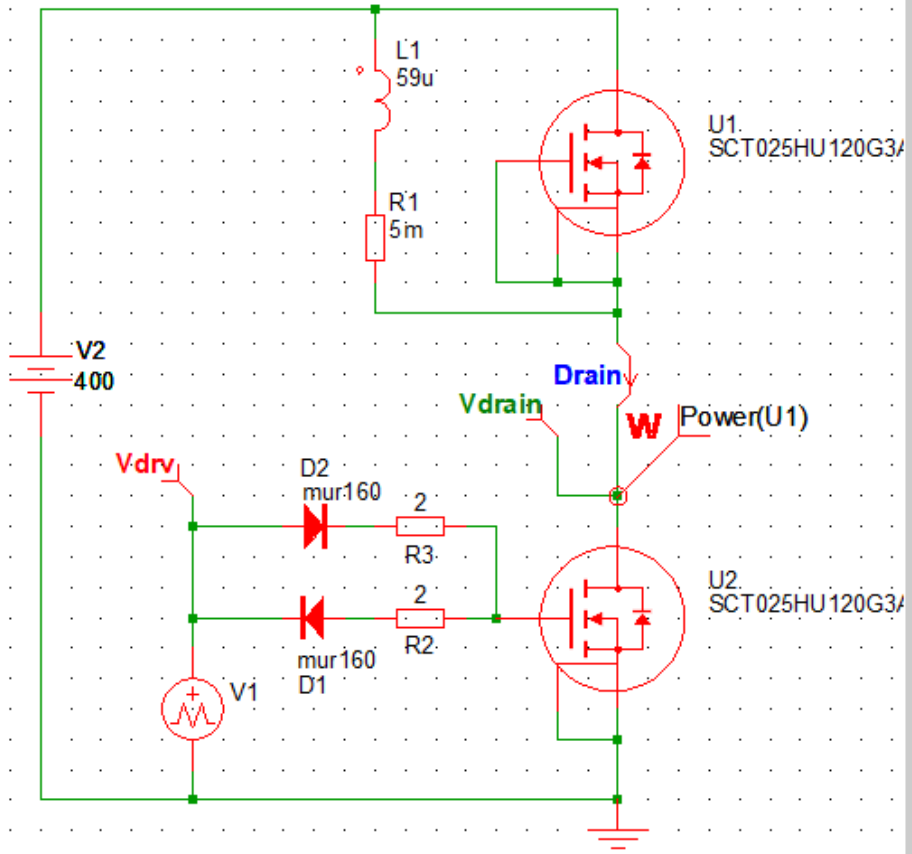
```
**** ok percorso di gate ****
**********************************************************************
.subckt SCT025HU120G3AG_V2K drain gate source kelvin PARAMS:  dR=0 dVth=0 dVsd=0 dCi=0 dCr=0 dCo=0
Rkelvin kelvin s2 5m
```

Now capture your test setup and pick your part in All User Models

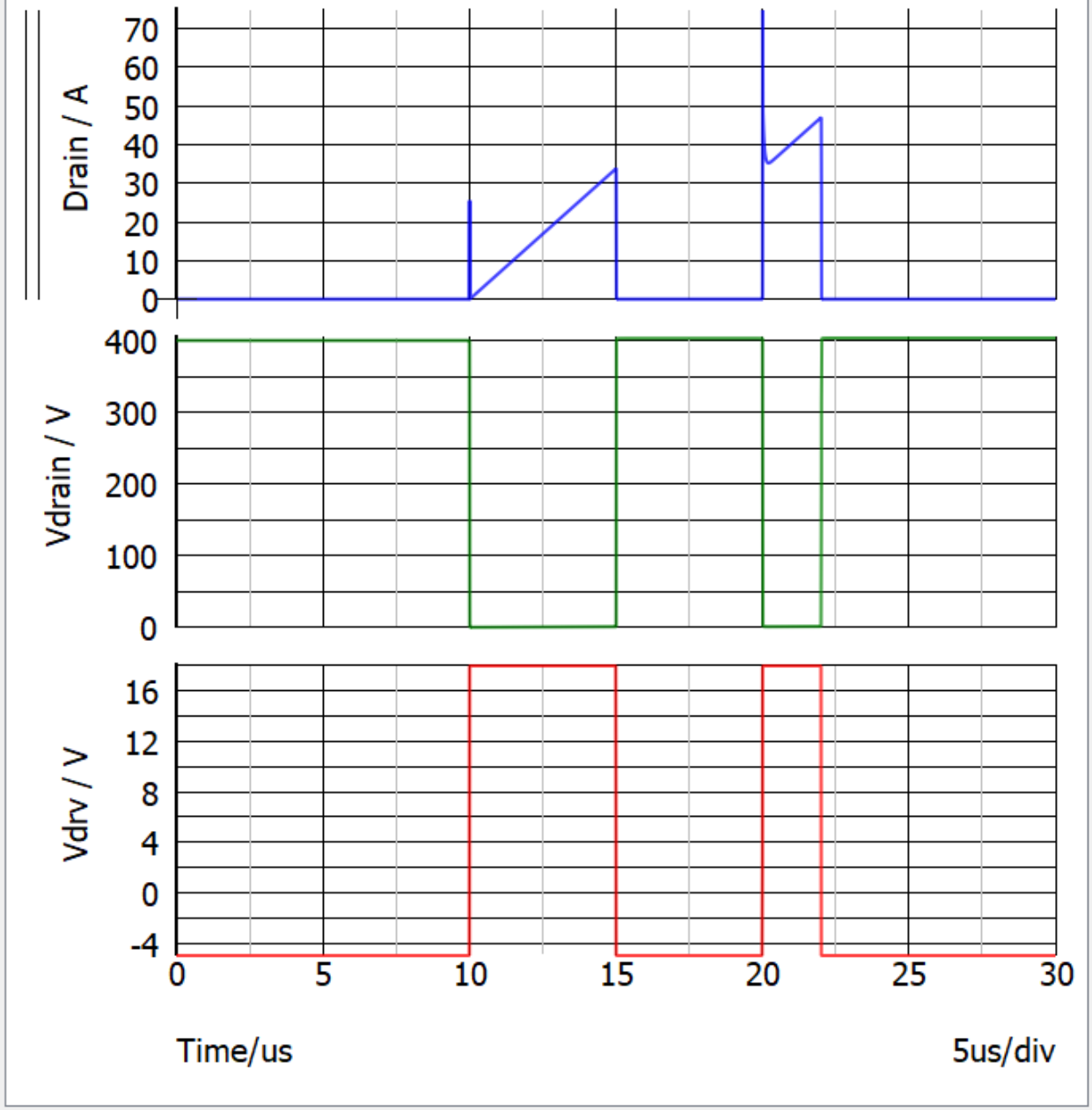




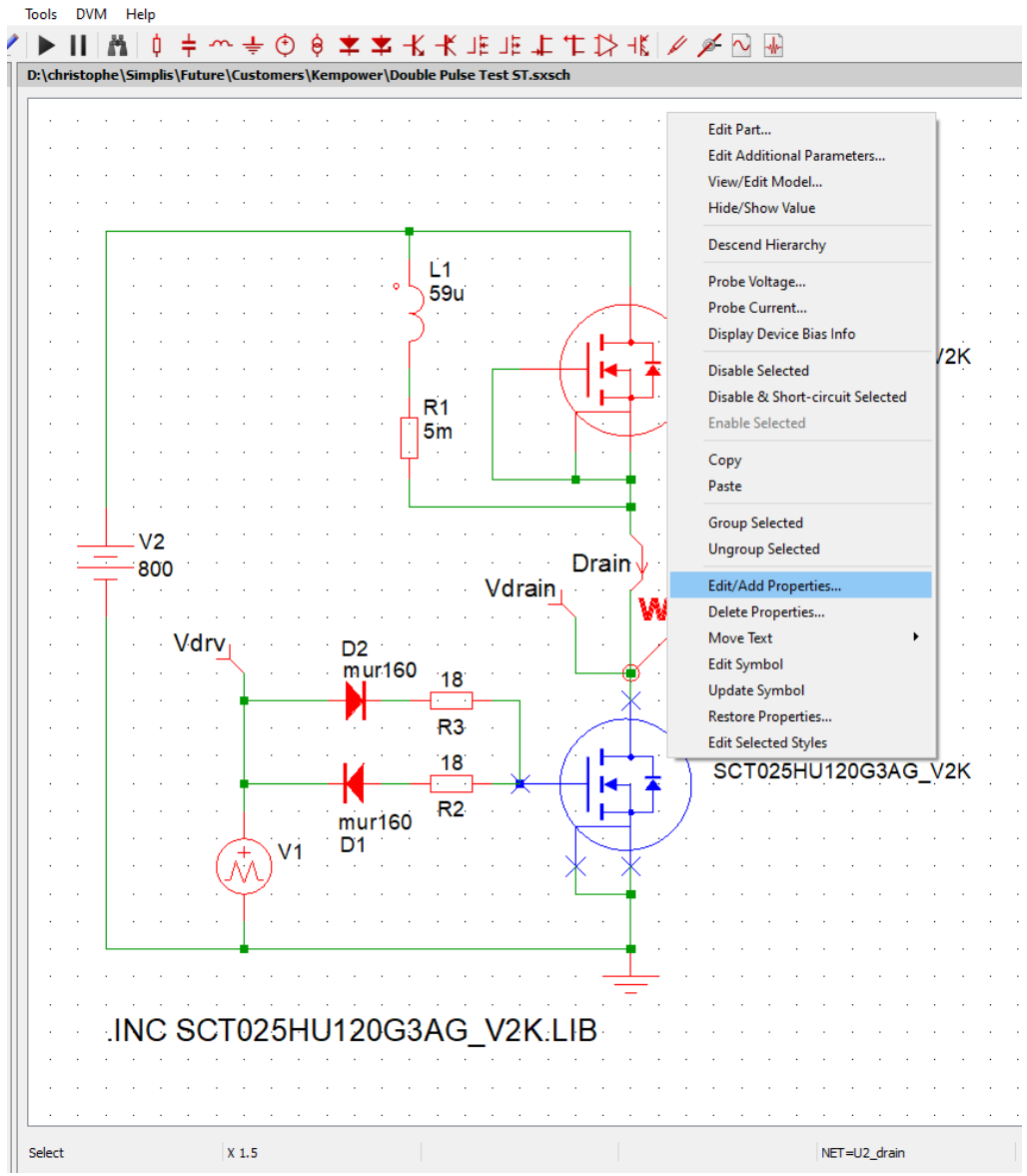
C:\Users\christophe.basso\OneDrive - F...rix\SiC\Double Pulse Test - SiC.sxsch*



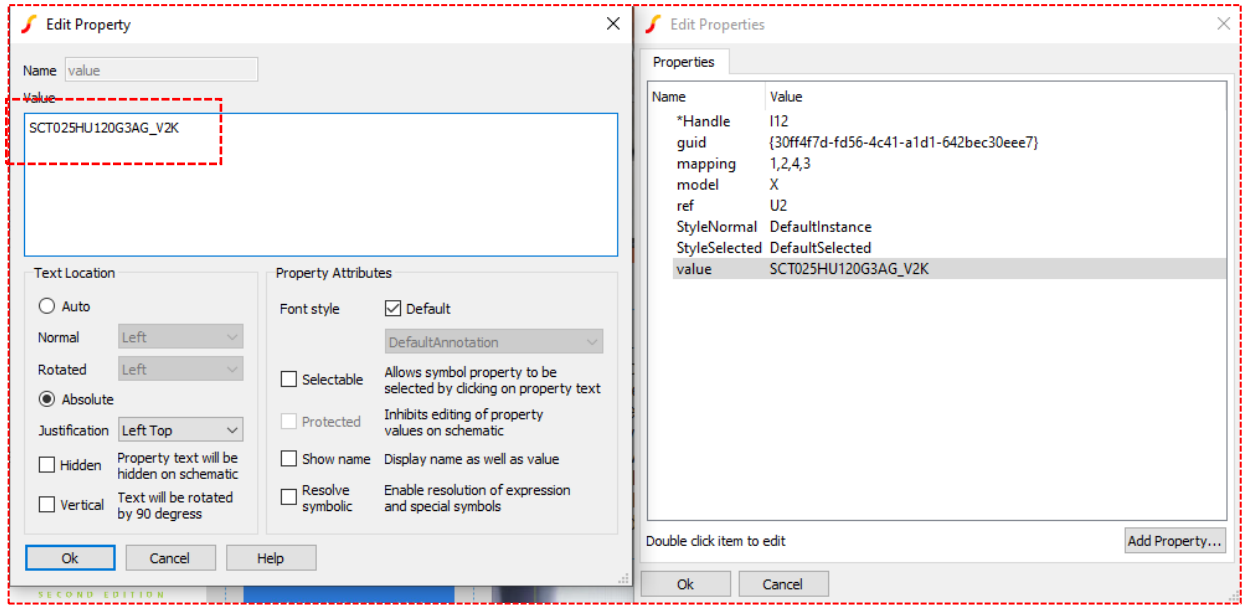
tran1 (C:\Users\christophe.basso\OneDrive -...SIMetrix\SiC\Double Pulse Test - SiC.sxsch)



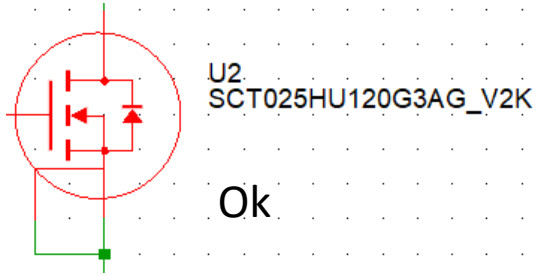
If you would like to change the SiC model, simply change the property tab:



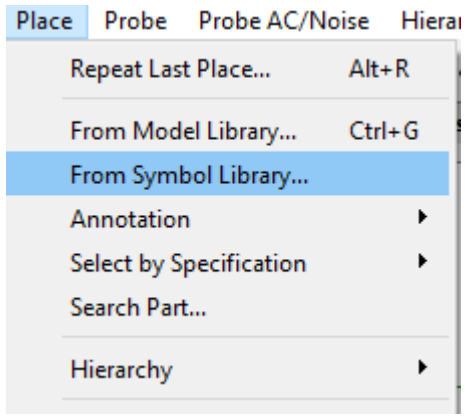
Enter the name of the select transistor .subckt (in the .lib file):

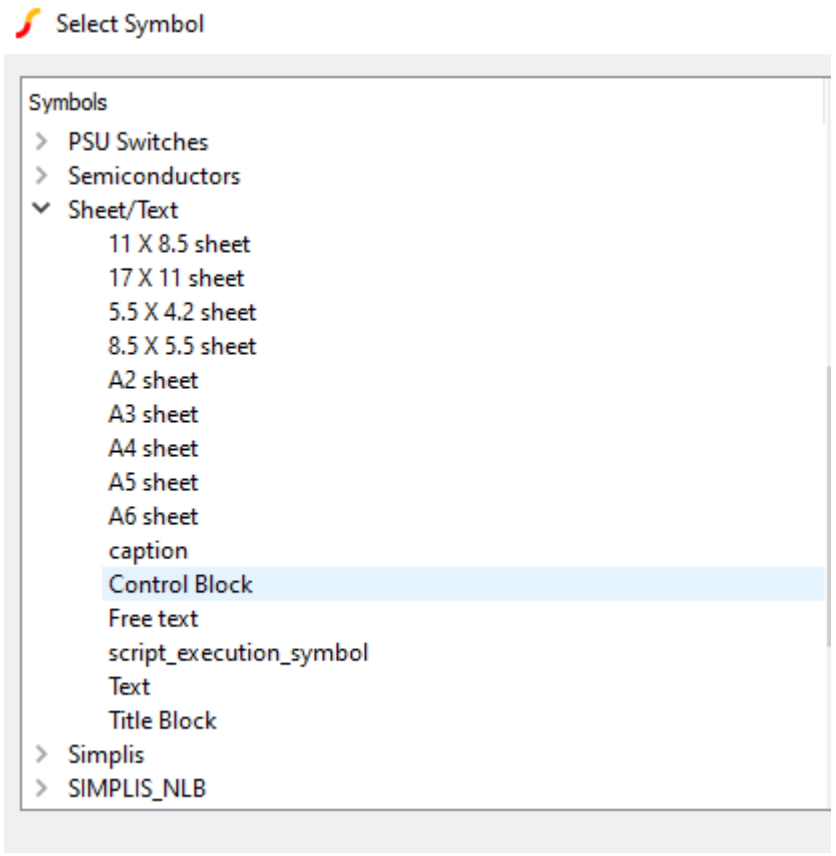



```
**********************************************************************
.subckt SCT025HU120G3AG_V2K drain gate source kelvin PARAMS:  dR=0 dVth=0 dVsd=0 dCi=0 dCr=0 dCo=0

Rkelvin kelvin s2 5m
Ckelvin kelvin s2 1p

E1    Tj     val_T      VALUE={TEMP}
R1    val_T  0      1m
```



Now, place a directive on the schematic:





Include the file

.INC SCT025HU120G3AG_V2K.LIB

Note that you could also insert the .INC directive in the control window by pressing F11.