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Installing 700 Series Support in SIMetrix

ISO9001:2000 Certified

This application note assumes that you have already installed the SIMetrix tool. You can check this when you first open SIMetrix, it should say “Welcome to SIMetrix Micron A-D”. If it says something else, please contact Device Engineering to make sure that you have your license installed properly. Once you have verified that you have a proper installation, this document tells you how to install the 700 Series libraries. The libraries are placed so that they appear on the Place menu in a SIMetrix schematic window. The file “705Sim.txt” accomplishes this task.

1. Download the SIMetrix Library information from the Device Engineering website at http://www.deiaz.com/700_series.htm under Tools/Downloads. This should be a file named SIM700.zip (mirrored from the Array Design Incorporated website).
2. Unzip the SIM700.ZIP file to an empty directory. The files indicated below all come from this zip file.
3. Move the 705Sim.txt file to the <path>\SIMetrix45\script directory (704Sim.txt is also available for schematics that use RBC and RBMC – with capacitance). The new library includes the capacitance in the RBV and RBMV models, so the RBC and RBMC were removed.
4. Add a line in the <path>\SIMetrix42\script\startup.sxsch file to run this file on opening SIMetrix.
 - * *SIMetrix startup file.*
 - 705sim.txt*
 - a. This file describes the symbol and modeling information for SIMetrix. This will not work in the demo version of SIMetrix.
 - b. What’s in the file?
 - i. Symbol Information (how to draw the symbol on the schematic, properties, and pins):
 - * *Schottky Diode*
 - createsym SD "700 Series SD" analog*
 - addseg 0 0 0 70*
 - ...
 - addprop ref SD? 26*
 - ...
 - addpin N 2 0 200*
 - endsym*
 - ii. Menu Definitions (4.1 or earlier, this should read &Parts instead of &Place):
 - DefMenu "SchemMain|&Place|-"*
 - DefMenu "SchemMain|&Place|700 Series|CU.....(Cross Under)" "inst /ne CU" !Livemode"*
5. Install the library for the 700 Series tools by copying the file 70025.lb to the <path>\SIMetrix45\models directory. All of these libraries in the models directory are loaded upon entry.
6. Install the example schematics under the <path>\SIMetrix42\Work directory. Copy the *.sxsch files (there are quite a few of them) to this directory.
 - a. You may want to create a subdirectory to segregate these from other working files (such as a 700_Series directory under Work).
 - b. If you want a description of the files, there is a good one in the Design Manual for the 700 Series.
 - c. A spreadsheet with the cell sizes can be requested via email from DEI.
 - d. An HTML file with cell sizes is on the www.deiaz.com website. Please note that you can often combine functions such as using one bias circuit for multiple comparators, so this may show a larger array than could be achieved.
 - e. Most of these circuits have an associated simulation which can be run by pressing F9 in SIMetrix. In general, “F” circuits are functions, and “E” circuits are examples. There are notable exceptions such as “E1” which is a buffer function.

SIMetrix is a product of Catena (www.catena.uk.com) which can be purchased through DEI.
The 700 Series is designed and maintained by Array Designs, Inc.

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