

# Brief Description of the RHFL4913 Analog Macro-model for Pspice (OrCad 15.7 release)

## Abstract

**A macro-model for RHFL4913 Rad-Hard Adjustable positive voltage regulator simulable on PSpice (OrCad) simulation platform was developed . The macro-model is able to reproduce on Pspice the DC, Transient and AC behavior of the Eldo STMicroelectronics circuit.**

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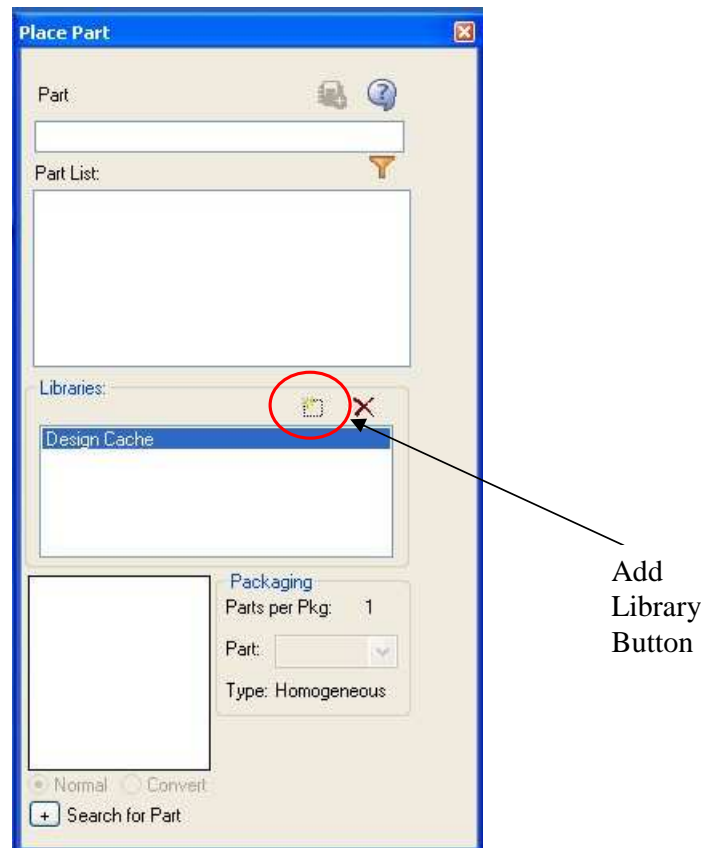
# 1. How to link the RHFL4913\_Library in OrCad environment

The RHFL4913\_Library contains the following files:

- rhfl4913models.lib
- rhfl4913.lib
- rhfl4913.err
- RHFL4913.OBK
- RHFL4913.OLB
- rhfl4913.opj

The rhfl4913models.lib and rhfl4913.lib files were encrypted using the Pspice Model Editor encryption engine.

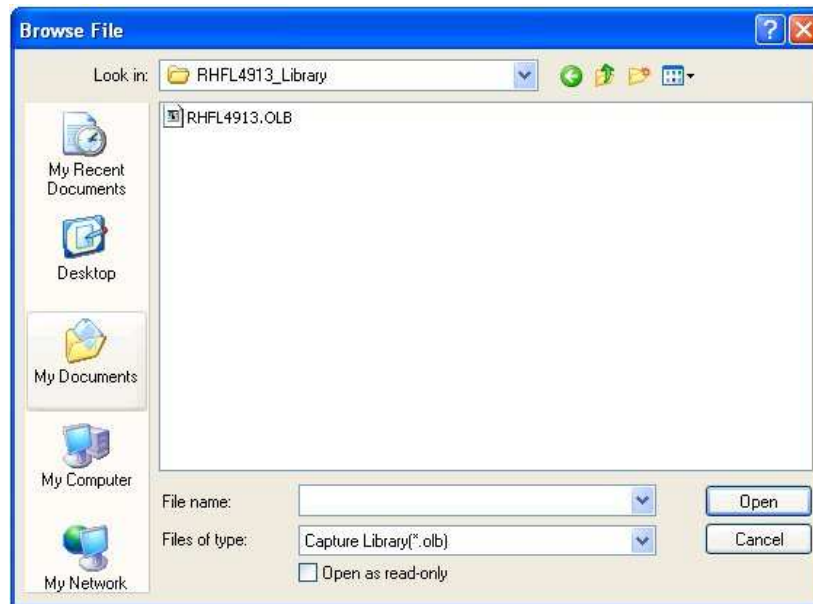
In order to be able to simulate this library you have to follow these steps. Take in mind that the figure shows only the steps, I mean that you have to link the right files.



**Figure 1** Place Part Form

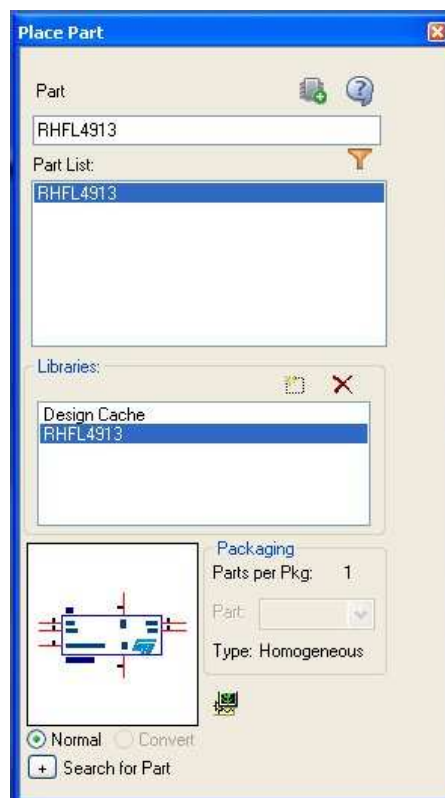
- 1) Unzip the RHFL4913\_Library.zip file
- 2) Link the library using the OrCad Place Part menu
- 3) Push on Add Library... Button

Browser Form opens



**Figure 2** Browser File Form

- 3) Link the RHFL4913\_Library, and select the RHFL4913.OLB file
- 4) The Place Part menu will be now open



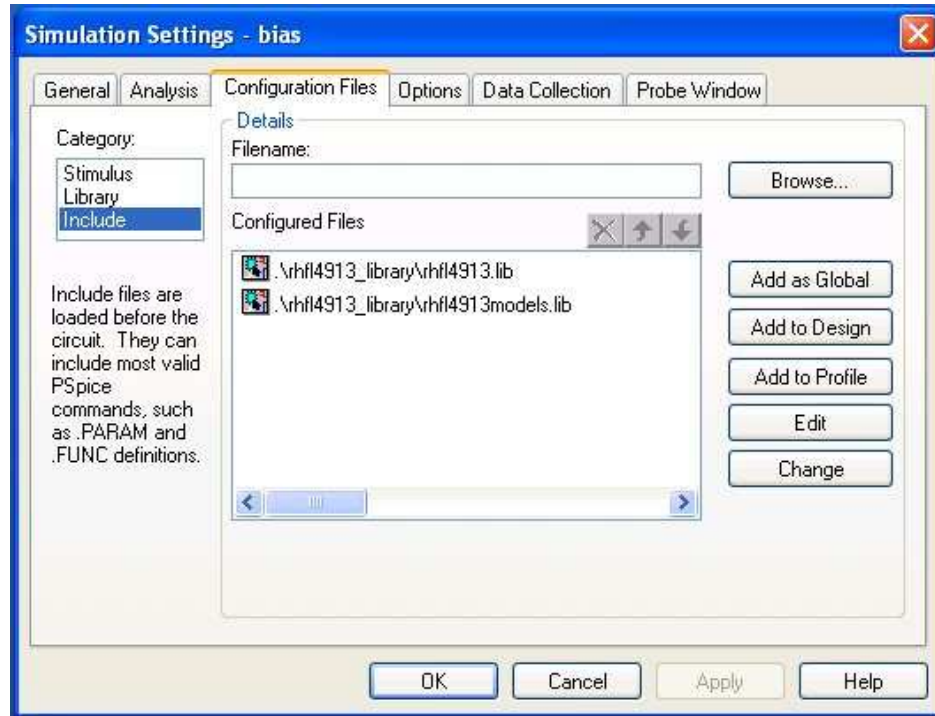
**Figure 3** Place Part Form

Now you could insert the Component RHFL4913 on your schematics

You have to link the Netlist and the models,

Using the:

Pspice-> Edit simulation Profiles -> Configuration Files Tab



**Figure 4** Configuration Files Tab

Include the rhfl4913.lib and the rhfl4913models.lib files located in RHFL4913\_Library folder.

**PLEASE USE THE INCLUDE STATEMENT IN ORDER TO LINK CORRECTLY THE MODEL FILES.**

Now you could perform the simulation you need.

**WARNING** : please consider following remarks before usage

- 1) All models are a tradeoff between accuracy and complexity (ie. simulation time).
- 2) Macro-models are not a substitute to breadboarding, they rather confirm the validity of a design approach and help to select surrounding component values.
- 3) A macro-model emulates the NOMINAL performance of a TYPICAL device within SPECIFIED OPERATING CONDITIONS (ie. temperature, supply voltage, etc.). Thus the macro-model is often not as exhaustive as the datasheet, its goal is to illustrate the main parameters of the product.
- 4) Data issued from macro-models used outside of its specified conditions ( $V_{cc}$ , Temperature, etc) or even worse: outside of the device operating conditions ( $V_{cc}$ ,  $V_{icm}$ , etc) are not reliable in any way.