

# DISCLAIMER

TEXAS INSTRUMENTS INCORPORATED.  
Standard Linear and Logic Group.

PROPERTY OF TEXAS INSTRUMENTS INCORPORATED. UNAUTHORIZED REPRODUCTION AND/OR DISTRIBUTION IS STRICTLY PROHIBITED. THIS PRODUCT IS PROTECTED UNDER COPYRIGHT LAW. CREATED 2008, (C) COPYRIGHT 2008, TEXAS INSTRUMENTS INCORPORATED, ALL RIGHTS RESERVED. UNLESS THERE IS A SIGNED, WRITTEN AGREEMENT TO THE CONTRARY, TEXAS INSTRUMENTS (TI) IS PROVIDING THE HSPICE MODELS AND WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED. TI ASSUMES NO LIABILITY FOR:

- 1) THE ACCURACY OF THE HSPICE MODELS PROVIDED TO YOUR COMPANY;
- 2) THE PROPER FUNCTIONING OF THESE HSPICE MODELS IN YOUR DESIGN OR FOR ANY RESULTING APPLICATIONS; OR
- 3) INFRINGEMENT OF PATENTS, COPYRIGHTS OR INTELLECTUAL PROPERTY RIGHTS RESULTING FROM YOUR USE OF THESE HSPICE MODELS.

TI PROVIDES HSPICE MODELS AS A SERVICE TO OUR CUSTOMERS. YOU AND YOUR COMPANY SHALL NOT DISTRIBUTE, SELL OR GIVE THESE MODELS TO ANYONE ELSE WITHOUT PRIOR WRITTEN PERMISSION FROM TI.

TI RESERVES THE RIGHT TO MAKE CHANGES TO OUR PRODUCTS OR TO DISCONTINUE ANY SEMICONDUCTOR PRODUCT OR SERVICE WITHOUT NOTICE, AND ADVISES OUR CUSTOMERS TO OBTAIN THE LATEST VERSION OF RELEVANT INFORMATION TO VERIFY, BEFORE PLACING ORDERS, THAT THE INFORMATION BEING RELIED ON IS CURRENT.

PLEASE BE AWARE THAT YOUR RECEIPT AND USE OF THE HSPICE INFORMATION PROVIDED SHALL SERVE AS ACCEPTANCE OF THESE TERMS AND CONDITIONS. IF YOU DO NOT ACCEPT THESE TERMS, YOU SHOULD RETURN OR DESTROY THE HSPICE MODELS AND ANY OTHER ACCOMPANYING INFORMATION IMMEDIATELY.

# File Description

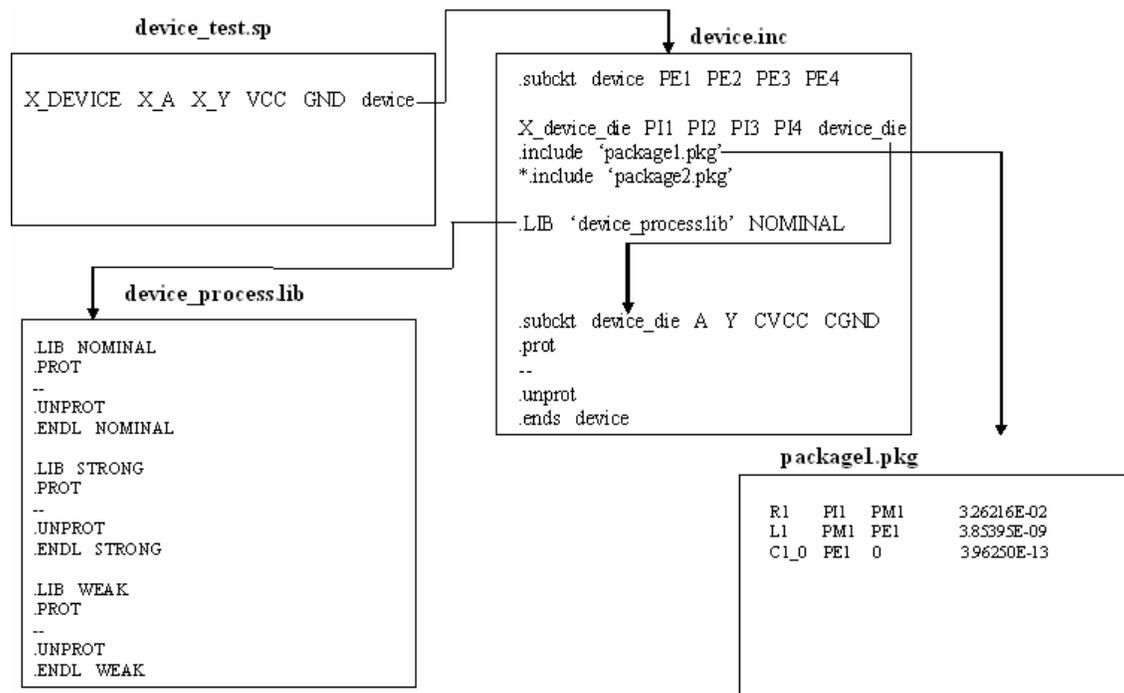
The zip files 'device'\_encrypted.zip or 'device'\_unencrypted.zip contains the following files.

'device'_test.sp	Example SPICE Deck
'device'.inc	Device Netlist
'package'.pkg	Package R, L and C data
'device'_process.lib	Process Models (Nominal, Strong and Weak)

Refer to the datasheet for node descriptions. The file hierarchy and example of package connections with the device die are shown in following figures.

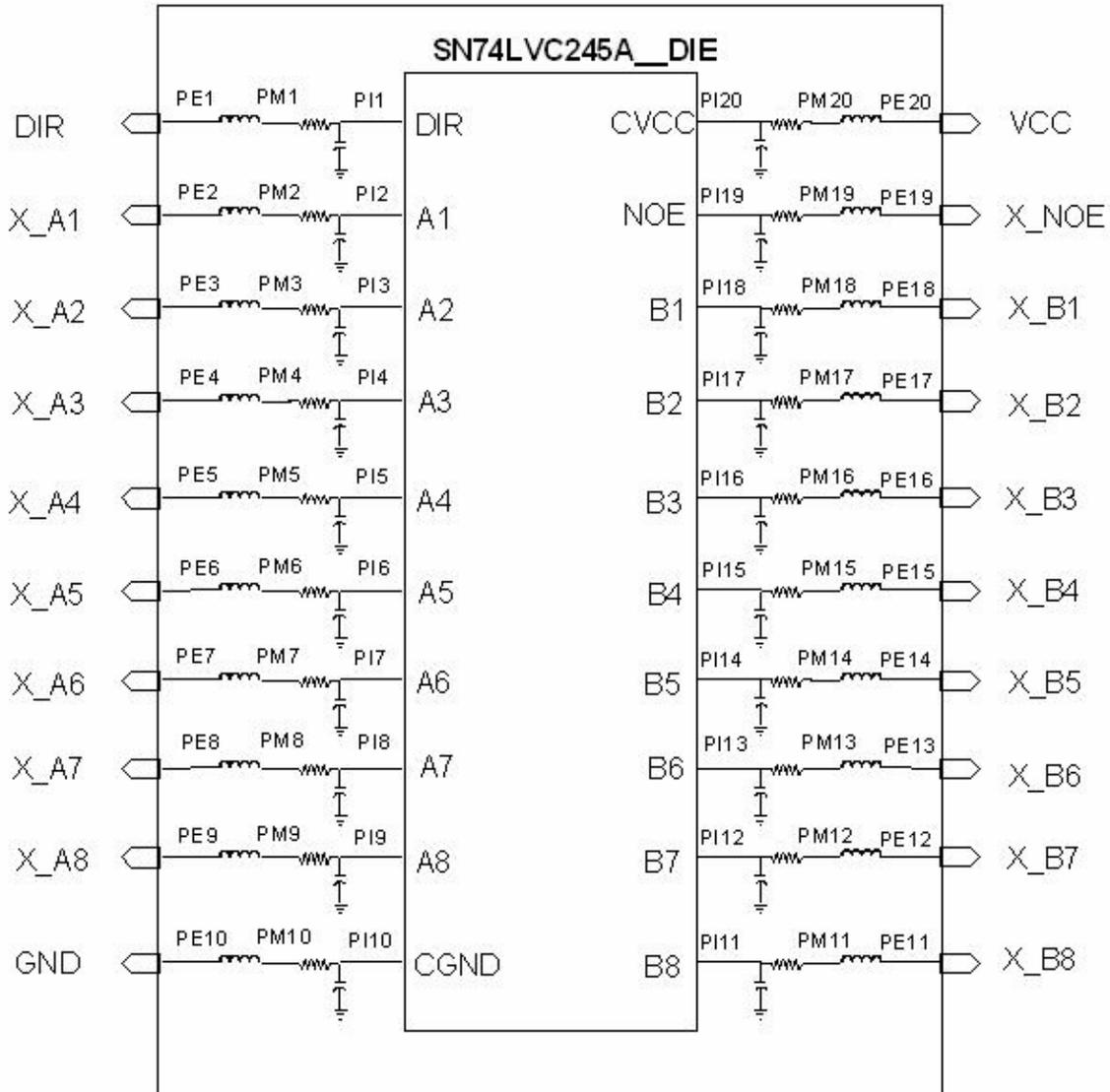
'device'\_test.sp is an example spice deck file for the transient simulation. This file calls the 'device' sub-circuit (i.e. .subckt 'device') which is defined in the 'device'.inc file. The parsing nodes in the call for 'device' subckt are named according to the pin names in the datasheet. The device subckt includes the definition of the netlist for the die, package (example soic16.pkg, tssop16.pkg etc) and process model calls (i.e. NOMINAL, STRONG or WEAK). In the 'device' subckt, PE refers to the external node, PI and PM refer to the internal nodes of the device. PI is the node name of the internal die. The netlist for the die of the device is defined under the subckt 'device'\_die. The 'device'\_die subckt is called by the X\_'device'\_die statement with PI as the node name. The package lumped resistance (R), inductance (L) and capacitance (C) are connected to the PE, PM and PI nodes as shown in the figure.

## File Hierarchy



# Example of Pin Mapping

SN74LVC245A



## Instructions

- 1) To use a specific package remove the comment character (\*) from the package call in .inc file.

### EXAMPLE:

To Use SOIC package remove comment character (\*) from soic16.pkg and include comment character to the remaining packages.

```
.include 'soic16.pkg'  
*.include 'tssop16.pkg'  
*.include 'sssop16.pkg'
```

- 2) To use a specific process model change the library model call in .inc file

### EXAMPLE:

To Use the Strong Process Model change the library call to STRONG

```
.lib 'sn74cb3q3257_process.lib' NOMINAL
```

change to

```
.lib 'sn74cb3q3257_process.lib' STRONG
```

### NOTE:

If the process models are level 37 you will need a license patch from your simulation vendor. Check the 'device'\_process.lib for the level information. Please provide the following information to the model provider. TI will request the vendor to send you a license file.

- Company name
- Company address
- Contact name
- Contact e-mail
- Host id of licenses server

The contact name and e-mail of the person in your company responsible for vendor licenses.

The host id is the identification of the server which will contain the license file. It is obtained on Sun machine by command "*host id*" and on an HP machine by command "*uname -i*".