DISCLAIMER

TEXAS INSTRUMENTS INCORPORATED.
Standard Linear and Logic Group.

File Description

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

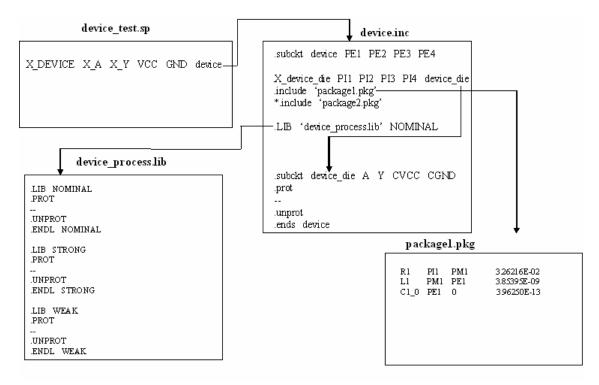'device'_test.sp Example SPICE Deck
'device'.inc Device Netlist
'package'.pkg Package R, L and C data
'device'_process.lib Process Models (Nominal, Strong and Weak)

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 net-list 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

SN74LVC245A__DIE

Left (outer)				Left (inner pin)	Right (inner pin)				Right (outer)
DIR	PE1	PM1	PI1	DIR	CVCC	PI20	PM20	PE20	VCC
X_A1	PE2	PM2	PI2	A1	NOE	PI19	PM19	PE19	X_NOE
X_A2	PE3	PM3	PI3	A2	B1	PI18	PM18	PE18	X_B1
X_A3	PE4	PM4	PI4	A3	B2	PI17	PM17	PE17	X_B2
X_A4	PE5	PM5	PI5	A4	B3	PI16	PM16	PE16	X_B3
X_A5	PE6	PM6	PI6	A5	B4	PI15	PM15	PE15	X_B4
X_A6	PE7	PM7	PI7	A6	B5	PI14	PM14	PE14	X_B5
X_A7	PE8	PM8	PI8	A7	B6	PI13	PM13	PE13	X_B6
X_A8	PE9	PM9	PI9	A8	B7	PI12	PM12	PE12	X_B7
GND	PE10	PM10	PI10	CGND	B8	PI11	PM11	PE11	X_B8

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`".