DISCLAIMER

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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
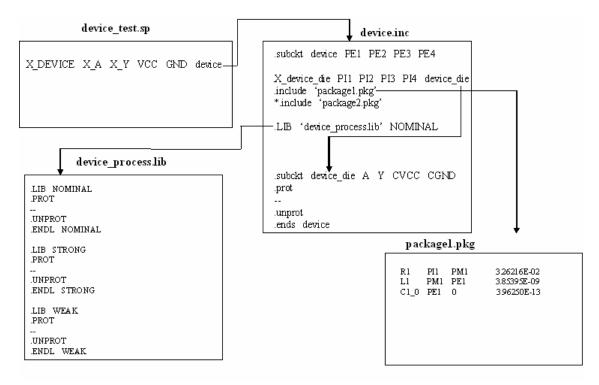'package'.pkg   Package R, L and C data
'device'_process.lib   Process Models (Nominal, Strong and Weak)

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 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

SN74LVC245A__DIE

Left side			Die		Right side		
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`".