



User Guide for MAX4952 HSPICE Model

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The directory “max4952_sp” is provided for the MAXIM customers to run their system simulations including a single channel of MAX4952 for signal integrity.

All the library files including the model libraries and MAX4952 HSPICE model is included in the subdirectory “lib”. An example to level HSPICE file “test_max4952.sp” is located at the top directory “max4952_sp”. The resulting files of an example run are also located in the same directory.

The example run is executed by the following command.

```
$> hspice -i test_max4952.sp -o test_max4952
```

Calling MAX4952 subcircuit.

The subcircuit name of MAX4952 is “max4952_single_ch”. The syntax is

```
xyyyy inp inn outp outn en mode eq pe pwr gnd max4952_single_ch
```

where the pins are

inp, positive data input

inn, negative data input

outp, positive data output

outn, negative data output

en, Enable Logic input



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mode, Mode Logic input
eq, Input Equalization Logic Input
pe, Output Pre-emphasis Logic Input
pwr: Positive supply
gnd: Ground.

The files included in the package are

test_max4952.sp: Example simulation file using max4952 HSPICE Model.

“lib/” directory contains

max4952 HSPICE model : max4952.sp

package model: max4952_package.sp

Device model files:

- all_but_fets.sp
- global_set.sp
- nrand_set.sp
- fets.sp
- inductors_nom.sp
- skew_set.sp
- func_set.sp
- match_set.sp
- mc_set.sp



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Example file

The nodes of interest in the example circuit that is provided by “test_max4952.sp” are

max_txp, max_txn: output of MAX4952

max_rxp, max_rxn: input of MAX4952

The input stimulus is a K28.5 pattern at 6Gbps.

Input voltage source is a differential source with 50Ohms input resistance, and coupled to MAX4952 via 10-nF capacitors.

Outputs of MAX4952 are terminated by 50 Ohms each to ground via 10nF capacitors.

Additional Notes

This HSPICE model of MAX4952 is compatible with HSPICE 2007 and higher.

The directory is provided in the zipped TAR file “max4952_sp.tar.gz”