LVPE502A
HSPICE model

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HSPICE_LVPE502A.zip
hspice model set

- **Testbench**

sim_lvpe502a.hsp

- **Encrypted netlist encrypted netlist**

lvpe502a.hsp.en

- **Process corners models Encrypted netlist**
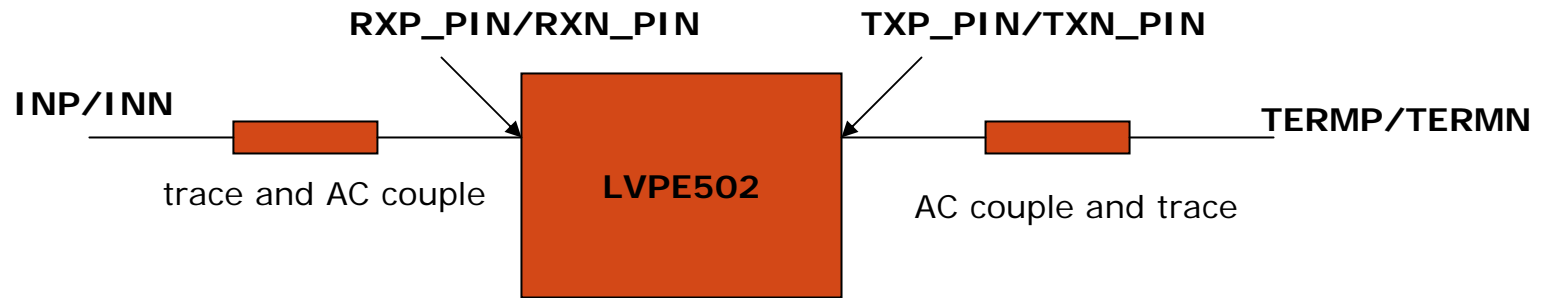
model_slow.encrypted

model_nominal.encrypted

model_fast.encrypted

- **FR4 Trace model**

FR4_1c_4mil.rlgc

HSPICE TESTBENCH

Measure Vod, rise/fall time, De-Emphasis level at outn1/outp1, outn2/outp2

RXP_PIN/RXN_PIN   **TXP_PIN/TXN_PIN**

INP/INN   **TERMP/TERMN**

LVPE502

trace and AC couple   AC couple and trace

HSPICE testbench

HSPICE Readme 2

ti template

```
*** power suppy
*** nom=3.3
.param pvcc=3.3
*.param pvcc=2.7
*.param pvcc=3.6

*** temperature
.temp 25
*.temp 125
*.temp -40

*** process
.inc model_nominal.encrypted
*.inc model_slow.encrypted
*.inc model_fast.encrypted
.param sh_bjt=1

*** de-emphasis setting
*** 0.5/0/1
*** DE=0/-3.5/-6dB (OS=0.5)
.param pde0=0.5
*.param pde0=1
*.param pde0=0

*** equalizer setting
*** 0.5/0/1
*** EQ=0/7/15dB
.param peq0=0.5
*.param peq0=0
*.param peq0=1

*** swing setting
*** 0.5/0/1
*** 1042/908/1127
.param pos0=0.5
*.param poe0=0
*.param poe0=1
```

> DE/EQ for 0.5/0.5 setting

example

```
*** power suppy
*** nom=3.3
*.param pvcc=3.3
*.param pvcc=2.7
.param pvcc=3.6

*** temperature
.temp 25
*.temp 125
*.temp -40

*** process
*.inc model_nominal.encrypted
*.inc model_slow.encrypted
.inc model_fast.encrypted
.param sh_bjt=1

*** de-emphasis setting
*** 0.5/0/1
*** DE=0/-3.5/-6dB (OS=0.5)
*.param pde0=0.5
*.param pde0=1
.param pde0=0

*** equalizer setting
*** 0.5/0/1
*** EQ=0/7/15dB
*.param peq0=0.5
*.param peq0=0
.param peq0=1

*** swing setting
*** 0.5/0/1
*** 1042/908/1127
.param pos0=0.5
*.param poe0=0
*.param poe0=1
```
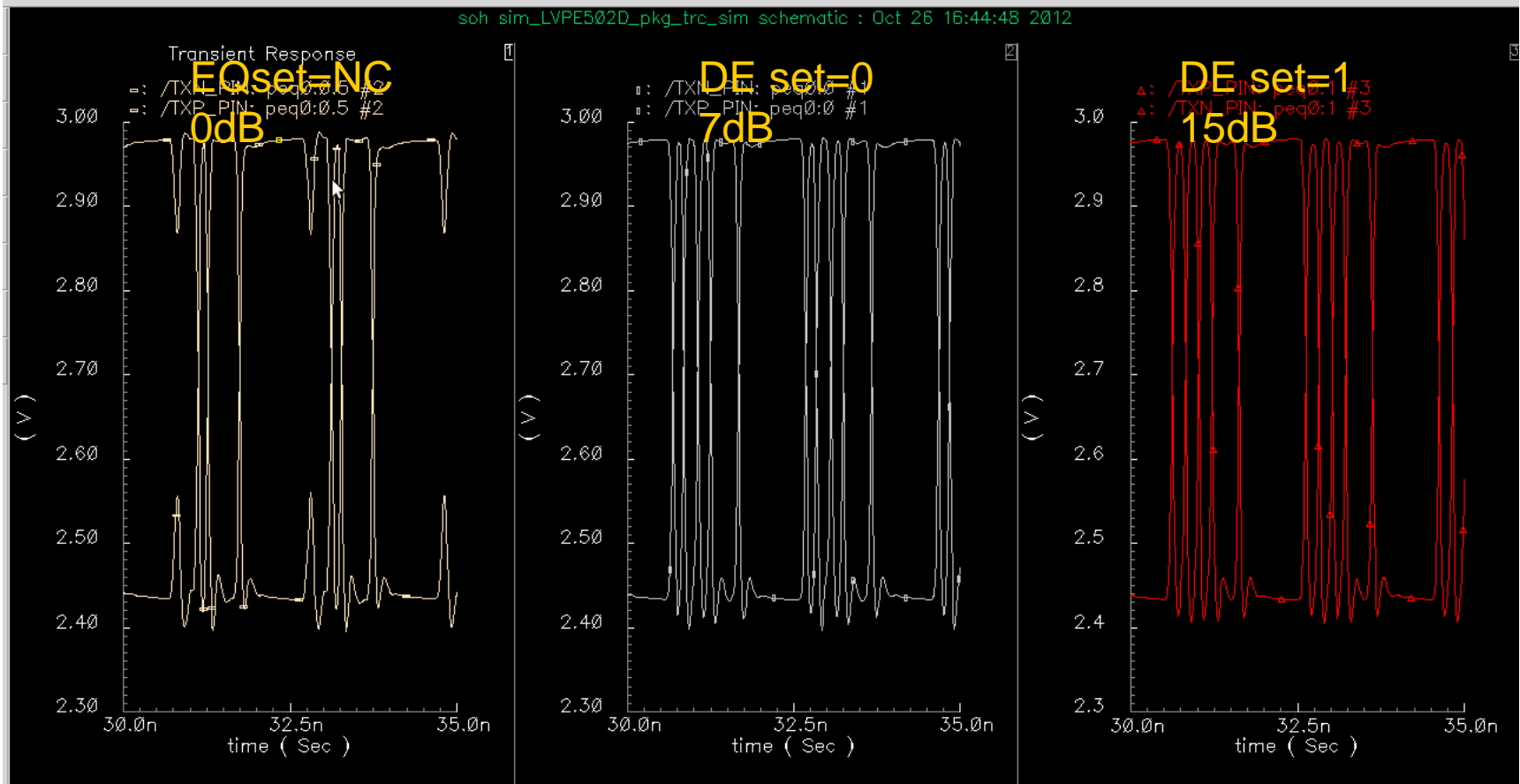
> Power set to 3.6v

> Process set to fast

> DE/EQ for 0/1 setting

Set to value	0	1	0.5 (for NC)
EQ	7dB	15dB	0
DE	-3.5dB	--6dB	0

EQ simulation result
vcc=3.3V, temp=27C, process=nom
with 40" FR4 trace

DE simulation result
vcc=3.3V, temp=27C, process=nom , OS=NC