

Command line:

```
\
/cadappl/ictools/cadence_mmsim/6.0.USR1/tools.lnx86/spectre/bin/32bit
/spectre \
  -env artist5.1.0 +escchars +log ../psf/spectre.out
+inter=mpsc \
  +mpsession=spectre0_10700_2 -format psfbin -raw ../psf \
  +lqtimeout 900 input.scs
spectre pid = 10857
```

Loading

```
/cadappl/ictools/cadence_mmsim/6.0.USR1/tools.lnx86/cmi/lib/4.0/libin
fineon_sh.so ...
```

Loading

```
/cadappl/ictools/cadence_mmsim/6.0.USR1/tools.lnx86/cmi/lib/4.0/libno
rtel_sh.so ...
```

Loading

```
/cadappl/ictools/cadence_mmsim/6.0.USR1/tools.lnx86/cmi/lib/4.0/libph
ilips_sh.so ...
```

Loading

```
/cadappl/ictools/cadence_mmsim/6.0.USR1/tools.lnx86/cmi/lib/4.0/libsp
aram_sh.so ...
```

Loading

```
/cadappl/ictools/cadence_mmsim/6.0.USR1/tools.lnx86/cmi/lib/4.0/libst
models_sh.so ...
```

spectre (ver. 6.0.1.127 -- 24 May 2005).

Includes RSA BSAFE(R) Cryptographic or Security Protocol Software
from RSA Security, Inc.

Simulating 'input.scs' on icetux3 at 9:53:17 PM, Wed Sep 20, 2006.

Using new Spectre Parser.

Auto-loading AHDL component.

Finished loading AHDL component in 0 s (elapsed).

Installed AHDL simulation interface.

Model mos1100e Copyright Philips Electronics N.V. 2001.

Model juncap Copyright Philips Electronics N.V. 1994, 2004.

Notice from spectre in 'mm4ynj': 'I57.MN2', in 'Cmpl': 'I57', during
hierarchy flattening.

I57.MN2.d2: Terminals are connected together (to node `0').

Notice from spectre in 'mm4ynj': 'I57.MN1', in 'Cmpl': 'I57', during
hierarchy flattening.

I57.MN1.d2: Terminals are connected together (to node `0').

Notice from spectre in 'mm4ynj': 'I57.MN0', in 'Cmpl': 'I57', during
hierarchy flattening.

I57.MN0.d2: Terminals are connected together (to node `0').

Notice from spectre in 'mm4ypjsub': 'I57.MP4', in 'Cmpl': 'I57', during
hierarchy flattening.

I57.MP4.d2: Terminals are connected together (to node
'I57.net039').

Notice from spectre in 'mm4ypjsub': 'I57.MP3', in 'Cmpl': 'I57', during
hierarchy flattening.

I57.MP3.d2: Terminals are connected together (to node
'I57.net039').

Further occurrences of this notice will be suppressed.

Notice from spectre during topology check.

Only one connection to node 'Vref_1000mV!'.

Circuit inventory:

nodes 109
equations 134

```
capacitor 4
  juncap 392
  mosl100e 154
  quantity 9
  resistor 7
  vsource 25
```

Entering remote command mode using MPSC service (spectre, ipi, v0.0, spectre0_10700_2,).

```
*****
Periodic Steady-State Analysis `pss': guessed fund = 6.24255 MHz
*****
```

```
=====
`pss': time = (12.0809 us -> 12.5615 us)
=====
```

Notice from spectre during periodic steady state analysis `pss'.
Detected onset of periodicity of `V5' (12.2411 us) is much greater than the estimated period (160.191 ns), which may result in a long initial transient analysis.

Important parameter values in tstab integration:

```
start = 12.0809 us
outputstart = 12.0809 us
stop = 12.5615 us
period = 160.191 ns
step = 320.384 ps
maxstep = 6.40764 ns
ic = all
skipdc = yes
reltol = 10e-06
abstol(I) = 1 pA
abstol(V) = 10 nV
temp = 27 C
tnom = 27 C
tempeffects = all
method = traonly
lteratio = 3.5
relref = sigglobal
cmin = 0 F
gmin = 1 pS
maxrsd = 0 Ohm
mos_method = s
mos_vres = 50 mV
```

pss: time = 12.09 us	(2.52 %)	, step = 221.4 ps	(46.1 m%)
pss: time = 12.12 us	(7.55 %)	, step = 273.8 ps	(57 m%)
pss: time = 12.14 us	(12.5 %)	, step = 117.2 ps	(24.4 m%)
pss: time = 12.17 us	(17.5 %)	, step = 260.1 ps	(54.1 m%)
pss: time = 12.19 us	(22.5 %)	, step = 65.54 ps	(13.6 m%)
pss: time = 12.21 us	(27.5 %)	, step = 147.2 ps	(30.6 m%)
pss: time = 12.24 us	(32.6 %)	, step = 300.7 ps	(62.6 m%)
pss: time = 12.26 us	(37.5 %)	, step = 18.8 ps	(3.91 m%)
pss: time = 12.29 us	(42.5 %)	, step = 73.47 ps	(15.3 m%)
pss: time = 12.31 us	(47.5 %)	, step = 201.9 ps	(42 m%)
pss: time = 12.33 us	(52.5 %)	, step = 140.3 ps	(29.2 m%)
pss: time = 12.36 us	(57.5 %)	, step = 291.8 ps	(60.7 m%)
pss: time = 12.38 us	(62.6 %)	, step = 281.4 ps	(58.6 m%)
pss: time = 12.41 us	(67.5 %)	, step = 296.6 ps	(61.7 m%)
pss: time = 12.43 us	(72.5 %)	, step = 68.82 ps	(14.3 m%)
pss: time = 12.45 us	(77.5 %)	, step = 132 ps	(27.5 m%)
pss: time = 12.48 us	(82.5 %)	, step = 291.7 ps	(60.7 m%)

```
pss: time = 12.5 us      (87.5 %), step = 18.03 ps      (3.75 m%)
pss: time = 12.53 us    (92.5 %), step = 286.6 ps      (59.6 m%)
pss: time = 12.55 us    (97.5 %), step = 227.1 ps      (47.3 m%)
Conv norm = 150, max dI(I54.V8:p) = -1.93618 uA, took 62.48 s.
```

Important parameter values in pss iteration:

```
start = 12.5615 us
outputstart = 12.0809 us
stop = 12.7217 us
period = 160.191 ns
steadyratio = 100e-03
step = 320.384 ps
maxstep = 400.477 ps
ic = all
skipdc = yes
reltol = 10e-06
abstol(I) = 1 pA
abstol(V) = 10 nV
temp = 27 C
tnom = 27 C
tempeffects = all
errpreset = conservative
method = gear2only
lteratio = 3.5
relref = alllocal
cmin = 0 F
gmin = 1 pS
maxrsd = 0 Ohm
mos_method = s
mos_vres = 50 mV
```

```
=====
`pss': time = (12.5615 us -> 12.7217 us)
=====
```

```
pss: time = 12.57 us      (2.74 %), step = 400.5 ps      (250 m%)
pss: time = 12.57 us      (7.73 %), step = 377.5 ps      (236 m%)
pss: time = 12.58 us      (12.1 %), step = 1.017 ps      (635 u%)
pss: time = 12.58 us      (12.5 %), step = 9.253 ps      (5.78 m%)
pss: time = 12.59 us      (17.5 %), step = 43.39 ps      (27.1 m%)
pss: time = 12.6 us       (22.6 %), step = 169.2 ps      (106 m%)
pss: time = 12.61 us      (27.5 %), step = 221.4 ps      (138 m%)
pss: time = 12.61 us      (32.7 %), step = 392.9 ps      (245 m%)
pss: time = 12.62 us      (37.7 %), step = 400.5 ps      (250 m%)
pss: time = 12.63 us      (42.6 %), step = 400.5 ps      (250 m%)
pss: time = 12.64 us      (47.5 %), step = 189.9 ps      (119 m%)
pss: time = 12.65 us      (52.7 %), step = 400.5 ps      (250 m%)
pss: time = 12.65 us      (57.7 %), step = 380.1 ps      (237 m%)
pss: time = 12.66 us      (62.2 %), step = 1.243 ps      (776 u%)
pss: time = 12.66 us      (62.5 %), step = 12.18 ps      (7.6 m%)
pss: time = 12.67 us      (67.5 %), step = 37.09 ps      (23.2 m%)
pss: time = 12.68 us      (72.6 %), step = 169.2 ps      (106 m%)
pss: time = 12.69 us      (77.5 %), step = 221.3 ps      (138 m%)
pss: time = 12.69 us      (82.7 %), step = 392.4 ps      (245 m%)
pss: time = 12.7 us       (87.7 %), step = 400.5 ps      (250 m%)
pss: time = 12.71 us      (92.6 %), step = 400.5 ps      (250 m%)
pss: time = 12.72 us      (97.5 %), step = 190.3 ps      (119 m%)
Conv norm = 150, max dI(I54.V8:p) = 1.93618 uA, took 43.85 s.
```

```
=====
`pss': time = (12.5615 us -> 12.7217 us)
=====
```

```
pss: time = 12.57 us      (2.74 %), step = 400.5 ps      (250 m%)
```

```
pss: time = 12.57 us (7.73 %), step = 377.5 ps (236 m%)
pss: time = 12.58 us (12.2 %), step = 1.553 ps (970 u%)
pss: time = 12.58 us (12.5 %), step = 9.184 ps (5.73 m%)
pss: time = 12.59 us (17.5 %), step = 44.08 ps (27.5 m%)
pss: time = 12.6 us (22.6 %), step = 169.4 ps (106 m%)
pss: time = 12.61 us (27.5 %), step = 219.5 ps (137 m%)
pss: time = 12.61 us (32.7 %), step = 392.3 ps (245 m%)
pss: time = 12.62 us (37.7 %), step = 400.5 ps (250 m%)
pss: time = 12.63 us (42.5 %), step = 400.5 ps (250 m%)
pss: time = 12.64 us (47.5 %), step = 189.2 ps (118 m%)
pss: time = 12.65 us (52.7 %), step = 400.5 ps (250 m%)
pss: time = 12.65 us (57.7 %), step = 380.6 ps (238 m%)
pss: time = 12.66 us (62.1 %), step = 1.096 ps (684 u%)
pss: time = 12.66 us (62.5 %), step = 11.47 ps (7.16 m%)
pss: time = 12.67 us (67.5 %), step = 52.52 ps (32.8 m%)
pss: time = 12.68 us (72.6 %), step = 169.4 ps (106 m%)
pss: time = 12.69 us (77.5 %), step = 219.5 ps (137 m%)
pss: time = 12.69 us (82.7 %), step = 391.9 ps (245 m%)
pss: time = 12.7 us (87.7 %), step = 400.5 ps (250 m%)
pss: time = 12.71 us (92.6 %), step = 400.5 ps (250 m%)
pss: time = 12.72 us (97.5 %), step = 189.6 ps (118 m%)
Conv norm = 241e-03, max dV(out) = -3.16548 uV, took 43.75 s.
```

Fundamental frequency is 6.24254 MHz.

pss: The steady-state solution was achieved in 3 iterations.

Number of accepted pss steps = 5130.

Total time required for pss analysis `pss' was 152.07 s (2m 32.1s).

modelParameter: writing model parameter values to rawfile.

element: writing instance parameter values to rawfile.

outputParameter: writing output parameter values to rawfile.

designParamVals: writing netlist parameters to rawfile.

primitives: writing primitives to rawfile.

subckts: writing subcircuits to rawfile.