```
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  \
        +mpssession=spectre0_10700_27 -format psfbin -raw ../psf  \
        +lqtimeout 900 input.scs
spectre pid = 30195

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 10:59:53 AM, Fri Sep 22, 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 `Cmp1':`I57', during
hierarchy flattening.
    I57.MN2.d2: Terminals are connected together (to node `0').
Notice from spectre in `mm4ynj':`I57.MN1', in `Cmp1':`I57', during
hierarchy flattening.
    I57.MN1.d2: Terminals are connected together (to node `0').
Notice from spectre in `mm4ynj':`I57.MN0', in `Cmp1':`I57', during
hierarchy flattening.
    I57.MN0.d2: Terminals are connected together (to node `0').
Notice from spectre in `mm4ypjsub':`I57.MP4', in `Cmp1':`I57', during
hierarchy flattening.
    I57.MP4.d2: Terminals are connected together (to node
`I57.net039').
Notice from spectre in `mm4ypjsub':`I57.MP3', in `Cmp1':`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
           mos1100e 154
           quantity 9
           resistor 7
            vsource 25

Entering remote command mode using MPSC service (spectre, ipi, v0.0,
spectre0_10700_27, ).

************************************************************
Periodic Steady-State Analysis `pss': guessed fund = 6.25 MHz
************************************************************

Notice from spectre during IC analysis, during periodic steady state
analysis `pss'.
    Gmin = 1 pS is large enough to noticeably affect the DC solution.
        dV(I37.net094) = 7.92236 mV
        Use `gmin_check' option to eliminate or expand this report.
    I40.I98.C0: Initial condition computed for node I40.net053 is in
error by 11.9017 uV.
        To reduce error in computed initial conditions, decrease
`rforce'.  However, setting rforce too small may result in
convergence difficulties or in the matrix becoming singular.


==============================
`pss': time = (0 s -> 11.28 us)
==============================
Important parameter values in tstab integration:
    start = 0 s
    outputstart = 0 s
    stop = 11.28 us
    period = 160 ns
    step = 10.64 ns
    maxstep = 6.4 ns
    ic = all
    skipdc = no
    reltol = 1e-03
    abstol(I) = 1 pA
    abstol(V) = 1 uV
    temp = 27 C
    tnom = 27 C
    tempeffects = all
    method = traponly
    lteratio = 3.5
    relref = sigglobal
    cmin = 0 F
    gmin = 1 pS
    maxrsd = 0 Ohm
    mos_method = s
    mos_vres = 50 mV

    pss: time = 283.8 ns    (2.52 %), step = 6.4 ns      (56.7 m%)
    pss: time = 576.5 ns    (5.11 %), step = 20.69 ps     (183 u%)
    pss: time = 850.9 ns    (7.54 %), step = 6.07 ns     (53.8 m%)
    pss: time = 1.138 us    (10.1 %), step = 14.43 ps     (128 u%)
    pss: time = 1.412 us    (12.5 %), step = 6.045 ns    (53.6 m%)
    pss: time = 1.698 us    (15.1 %), step = 34.59 ps     (307 u%)
    pss: time = 1.976 us    (17.5 %), step = 5.836 ns    (51.7 m%)
    pss: time = 2.259 us      (20 %), step = 5.084 ps    (45.1 u%)
    pss: time = 2.54 us     (22.5 %), step = 3.638 ns    (32.3 m%)
    pss: time = 2.82 us       (25 %), step = 35.62 ps     (316 u%)
    pss: time = 3.105 us    (27.5 %), step = 3.592 ns    (31.8 m%)
```

```
    pss: time = 3.381 us      (30 %), step = 7.587 ps    (67.3 u%)
    pss: time = 3.667 us    (32.5 %), step = 1.012 ns    (8.97 m%)
    pss: time = 3.943 us      (35 %), step = 172.1 ps    (1.53 m%)
    pss: time = 4.231 us    (37.5 %), step = 2.11 ns     (18.7 m%)
    pss: time = 4.505 us    (39.9 %), step = 284.4 ps    (2.52 m%)
    pss: time = 4.794 us    (42.5 %), step = 254.7 ps    (2.26 m%)
    pss: time = 5.073 us      (45 %), step = 131.6 ps    (1.17 m%)
    pss: time = 5.359 us    (47.5 %), step = 1.97 ns     (17.5 m%)
    pss: time = 5.633 us    (49.9 %), step = 61.55 ps     (546 u%)
    pss: time = 5.925 us    (52.5 %), step = 4.279 ns    (37.9 m%)
    pss: time = 6.195 us    (54.9 %), step = 149.9 ps    (1.33 m%)
    pss: time = 6.486 us    (57.5 %), step = 1.237 ns      (11 m%)
    pss: time = 6.755 us    (59.9 %), step = 104.5 ps     (926 u%)
    pss: time = 7.05 us     (62.5 %), step = 628.4 ps    (5.57 m%)
    pss: time = 7.316 us    (64.9 %), step = 190.1 ps    (1.68 m%)
    pss: time = 7.614 us    (67.5 %), step = 12.69 ps     (112 u%)
    pss: time = 7.917 us    (70.2 %), step = 172.8 ps    (1.53 m%)
    pss: time = 8.178 us    (72.5 %), step = 325.6 ps    (2.89 m%)
    pss: time = 8.496 us    (75.3 %), step = 5.316 ps    (47.1 u%)
    pss: time = 8.743 us    (77.5 %), step = 1.408 ns    (12.5 m%)
    pss: time = 9.056 us    (80.3 %), step = 4.621 ps      (41 u%)
    pss: time = 9.306 us    (82.5 %), step = 324 ps      (2.87 m%)
    pss: time = 9.618 us    (85.3 %), step = 4.714 ps    (41.8 u%)
    pss: time = 9.87 us     (87.5 %), step = 169.5 ps     (1.5 m%)
    pss: time = 10.19 us    (90.3 %), step = 311.8 ps    (2.76 m%)
    pss: time = 10.43 us    (92.5 %), step = 1.05 ns      (9.3 m%)
    pss: time = 10.74 us    (95.2 %), step = 11.75 ps     (104 u%)
    pss: time = 11 us       (97.5 %), step = 320 ps      (2.84 m%)
The Estimated Oscillating Frequency from Tstab Tran is = 6.242957e+06
(Hz).
Conv norm = 132, max dV(I40._init) = 1.19999 V, took 363.03 s.

Important parameter values in pss iteration:
    start = 11.28 us
    outputstart = 0 s
    stop = 11.4402 us
    period = 160.181 ns
    steadyratio = 1
    step = 10.64 ns
    maxstep = 3.20361 ns
    ic = all
    skipdc = no
    reltol = 1e-03
    abstol(I) = 1 pA
    abstol(V) = 1 uV
    temp = 27 C
    tnom = 27 C
    tempeffects = all
    errpreset = liberal
    method = traponly
    lteratio = 3.5
    relref = sigglobal
    cmin = 0 F
    gmin = 1 pS
    maxrsd = 0 Ohm
    mos_method = s
    mos_vres = 50 mV


====================================
`pss': time = (11.28 us -> 11.4402 us)
====================================
    pss: time = 11.28 us    (2.99 %), step = 800.9 ps     (500 m%)
    pss: time = 11.29 us    (7.99 %), step = 800.9 ps     (500 m%)
```

```
    pss: time = 11.3 us     (12.5 %), step = 50.08 ps    (31.3 m%)
    pss: time = 11.31 us    (17.6 %), step = 227.1 ps     (142 m%)
    pss: time = 11.32 us    (22.7 %), step = 800.9 ps     (500 m%)
    pss: time = 11.32 us    (27.6 %), step = 663.5 ps     (414 m%)
    pss: time = 11.33 us    (32.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.34 us    (37.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.35 us    (42.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.36 us    (47.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.36 us    (52.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.37 us    (57.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.38 us    (62.5 %), step = 44.43 ps    (27.7 m%)
    pss: time = 11.39 us    (67.6 %), step = 228.8 ps     (143 m%)
    pss: time = 11.4 us     (72.8 %), step = 800.9 ps     (500 m%)
    pss: time = 11.4 us     (77.7 %), step = 660.7 ps     (412 m%)
    pss: time = 11.41 us    (82.7 %), step = 800.9 ps     (500 m%)
    pss: time = 11.42 us    (87.7 %), step = 800.9 ps     (500 m%)
    pss: time = 11.43 us    (92.7 %), step = 800.9 ps     (500 m%)
    pss: time = 11.44 us    (97.7 %), step = 800.9 ps     (500 m%)
Conv norm = 2.23, max dI(I28.V0:p) = 83.5659 uA, took 9.33 s.


====================================
`pss': time = (11.28 us -> 11.4402 us)
====================================
    pss: time = 11.28 us    (2.99 %), step = 800.9 ps     (500 m%)
    pss: time = 11.29 us    (7.99 %), step = 800.9 ps     (500 m%)
    pss: time = 11.3 us     (12.5 %), step = 50.08 ps    (31.3 m%)
    pss: time = 11.31 us    (17.6 %), step = 227.1 ps     (142 m%)
    pss: time = 11.32 us    (22.7 %), step = 800.9 ps     (500 m%)
    pss: time = 11.32 us    (27.6 %), step = 663.5 ps     (414 m%)
    pss: time = 11.33 us    (32.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.34 us    (37.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.35 us    (42.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.36 us    (47.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.36 us    (52.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.37 us    (57.6 %), step = 800.9 ps     (500 m%)
    pss: time = 11.38 us    (62.5 %), step = 44.55 ps    (27.8 m%)
    pss: time = 11.39 us    (67.6 %), step = 228.5 ps     (143 m%)
    pss: time = 11.4 us     (72.8 %), step = 800.9 ps     (500 m%)
    pss: time = 11.4 us       (78 %), step = 800.9 ps     (500 m%)
    pss: time = 11.41 us      (83 %), step = 800.9 ps     (500 m%)
    pss: time = 11.42 us      (88 %), step = 800.9 ps     (500 m%)
    pss: time = 11.43 us      (93 %), step = 800.9 ps     (500 m%)
    pss: time = 11.44 us      (98 %), step = 800.9 ps     (500 m%)
Conv norm = 146e-03, max dI(I54.V27:p) = 5.44923 uA, took 8.54 s.

Fundamental frequency is 6.24267 MHz.
pss: The steady-state solution was achieved in 3 iterations.
Number of accepted pss steps = 965.
Total time required for pss analysis `pss' was 381.21 s (6m  21.2s).

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.
```