```
****** HSPICE -- B-2008.09-SP1 32-BIT (Nov 24 2008) linux ******
******
* design problem, ee114/214a- 2012

 ******  operating point information tnom=  25.000 temp=  25.000 *****
***** operating point status is all       simulation time is     0.
   node    =voltage      node    =voltage      node    =voltage

+0:ibias2  =-345.1616m 0:iina    =  -1.1166  0:iinb    =  -1.1166
+0:nbias   =-977.6485m 0:node_1a =   1.0540  0:node_1b =   1.0540
+0:node_2a =   1.1064  0:node_2b =   1.1064  0:vdd     =   2.5000
+0:vouta   =-171.4282m 0:voutb   =-171.4282m 0:vss     =  -2.5000
+0:vx      =  -2.2270


****  voltage sources

subckt
element  0:vdd      0:vss
 volts      2.5000    -2.5000
 current -313.3478u  313.3478u
 power    783.3695u  783.3695u

    total voltage source power dissipation=    1.5667m       watts



***** current sources

subckt
element  0:iina     0:iinb
 volts     -3.6166     3.6166
 current    0.          0.
 power      0.          0.


    total current source power dissipation=   0.            watts

**** resistors

subckt
element  0:rl       0:r
 r value   10.0000k  140.0000k
 v drop   832.6673a    3.4776
 current  8.327e-20   24.8403u
 power      0.        86.3860u



**** mosfets


subckt
element  0:m1a      0:m1b      0:m2a      0:m2b      0:m3a      0:m3b
model    0:nmos114. 0:nmos114. 0:nmos114. 0:nmos114. 0:nmos114. 0:nmos114.
region     Saturati   Saturati   Saturati   Saturati   Saturati   Saturati
 id        30.7312u   30.7312u   31.8399u   31.8399u   81.6826u   81.6826u
 ibs      -13.8338f  -13.8338f  -21.5484f  -21.5484f  -23.2857f  -23.2857f
 ibd      -35.5398f  -35.5398f  -36.0644f  -36.0644f  -50.0000f  -50.0000f
 vgs        1.1166     1.1166     1.3991     1.3991     1.2779     1.2779
 vds        2.1706     2.1706     1.4516     1.4516     2.6714     2.6714
 vbs       -1.3834    -1.3834    -2.1548    -2.1548    -2.3286    -2.3286
 vth      849.9200m  849.9200m  994.7223m  994.7223m    1.0246     1.0246
 vdsat    266.6980m  266.6980m  404.4160m  404.4160m  253.2614m  253.2614m
 vod      266.6980m  266.6980m  404.4160m  404.4160m  253.2614m  253.2614m
 beta     864.1122u  864.1122u  389.3546u  389.3546u    2.5470m    2.5470m
 gam eff  600.0000m  600.0000m  600.0000m  600.0000m  600.0000m  600.0000m
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```
 gm       230.4570u  230.4570u  157.4612u  157.4612u  645.0458u  645.0458u
 gds        2.5250u    2.5250u    2.7804u    2.7804u    6.4462u    6.4462u
 gmb       46.7893u   46.7893u   27.4807u   27.4807u  109.4054u  109.4054u
 cdtot     15.1944f   15.1944f    8.1767f    8.1767f   37.8570f   37.8570f
 cgtot     36.4525f   36.4525f   17.3665f   17.3665f  103.1510f  103.1510f
 cstot     39.0998f   39.0998f   19.2848f   19.2848f  103.5813f  103.5813f
 cbtot     18.6108f   18.6108f   10.3140f   10.3140f   40.2499f   40.2499f
 cgs       28.8734f   28.8734f   13.8267f   13.8267f   81.7403f   81.7403f
 cgd        7.1945f    7.1945f    3.4303f    3.4303f   20.4293f   20.4293f


subckt
element  0:ml1a     0:ml1b     0:ml2a     0:ml2b     0:mbias1a  0:mbias1b
model    0:pmos114. 0:pmos114. 0:pmos114. 0:pmos114. 0:nmos114. 0:nmos114.
region     Saturati   Saturati   Saturati   Saturati   Saturati   Saturati
 id       -30.7312u  -30.7312u  -31.8399u  -31.8399u   30.7312u   30.7312u
 ibs        0.         0.         0.         0.         0.         0.
 ibd       14.4602f   14.4602f   13.9356f   13.9356f  -13.8338f  -13.8338f
 vgs       -1.4460    -1.4460    -1.3936    -1.3936     1.5224     1.5224
 vds       -1.4460    -1.4460    -1.3936    -1.3936     1.3834     1.3834
 vbs        0.         0.         0.         0.         0.         0.
 vth     -500.0000m -500.0000m -500.0000m -500.0000m  500.0000m  500.0000m
 vdsat   -946.0234m -946.0234m -893.5570m -893.5570m    1.0224     1.0224
 vod     -946.0234m -946.0234m -893.5570m -893.5570m    1.0224     1.0224
 beta      68.6761u   68.6761u   79.7549u   79.7549u   58.8043u   58.8043u
 gam eff  600.0000m  600.0000m  600.0000m  600.0000m  600.0000m  600.0000m
 gm        64.9692u   64.9692u   71.2655u   71.2655u   60.1187u   60.1187u
 gds        2.6849u    2.6849u    2.7946u    2.7946u    1.4372u    1.4372u
 gmb       21.7913u   21.7913u   23.9032u   23.9032u   20.1644u   20.1644u
 cdtot      4.7373f    4.7373f    5.3027f    5.3027f    4.5877f    4.5877f
 cgtot      6.1194f    6.1194f    7.1407f    7.1407f    9.0141f    9.0141f
 cstot      9.9800f    9.9800f   11.2934f   11.2934f   12.6067f   12.6067f
 cbtot      8.6553f    8.6553f    9.5262f    9.5262f    8.2778f    8.2778f
 cgs        4.8800f    4.8800f    5.6934f    5.6934f    7.8467f    7.8467f
 cgd        1.2106f    1.2106f    1.4120f    1.4120f    1.1187f    1.1187f


subckt
element  0:mbias2a  0:mbias2b  0:mbias3a  0:mbias3b  0:mu       0:ml
model    0:nmos114. 0:nmos114. 0:nmos114. 0:nmos114. 0:nmos114. 0:nmos114.
region     Saturati   Saturati   Saturati   Saturati   Saturati     Linear
 id        31.8399u   31.8399u   81.6826u   81.6826u   24.8403u   24.8403u
 ibs        0.         0.         0.         0.        -2.7295f    0.
 ibd      -21.5484f  -21.5484f  -23.2857f  -23.2857f  -15.2235f   -2.7295f
 vgs        1.5224     1.5224     1.5224     1.5224     1.2494     1.5224
 vds        2.1548     2.1548     2.3286     2.3286     1.2494   272.9544m
 vbs        0.         0.         0.         0.      -272.9544m    0.
 vth      500.0000m  500.0000m  500.0000m  500.0000m  584.8448m  500.0000m
 vdsat      1.0224     1.0224     1.0224     1.0224   664.5523m  272.9544m
 vod        1.0224     1.0224     1.0224     1.0224   664.5523m    1.0224
 beta      60.9258u   60.9258u  156.3000u  156.3000u  112.4940u  102.7295u
 gam eff  600.0000m  600.0000m  600.0000m  600.0000m  600.0000m  600.0000m
 gm        62.2876u   62.2876u  159.7935u  159.7935u   74.7581u   28.0405u
 gds        1.4372u    1.4372u    3.6582u    3.6582u    2.2081u   79.4033u
 gmb       20.8919u   20.8919u   53.5964u   53.5964u   21.6516u    9.4051u
 cdtot      4.2679f    4.2679f    7.6382f    7.6382f    4.2969f    7.2545f
 cgtot      9.0245f    9.0245f   22.9775f   22.9775f    5.1045f    6.5858f
 cstot     12.6067f   12.6067f   27.4534f   27.4534f    8.2756f    8.1180f
 cbtot      7.9476f    7.9476f   12.3624f   12.3624f    7.5284f    8.8311f
 cgs        7.8467f    7.8467f   19.9734f   19.9734f    4.0667f    3.5180f
 cgd        1.1291f    1.1291f    2.8800f    2.8800f    1.0077f    3.0456f


******
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```
* design problem, ee114/214a- 2012

 ******  ac analysis tnom=  25.000 temp=  25.000 *****
  gainmax=  8.0064E+01    at=  1.2882E+04
              from=  1.0000E+02    to=  1.0000E+10
  f3db=  9.0041E+07

         ***** job concluded
****** HSPICE -- B-2008.09-SP1 32-BIT (Nov 24 2008) linux ******
******
* design problem, ee114/214a- 2012

 ******  job statistics summary tnom=  25.000 temp=  25.000 *****

 ******  HSPICE Threads Information  ******
 Command Line Threads Count:                     0
 Available CPU Count:                            8
 Actual Model Evaluation(Load) Threads Count:    1
 Actual Solver Threads Count:                    1


 ******  Circuit Statistics  ******
 # nodes       =      14  # elements   =      27
 # resistors   =       2  # capacitors =       3  # inductors   =       0
 # mutual_inds =       0  # vccs       =       0  # vcvs        =       0
 # cccs        =       0  # ccvs       =       0  # volt_srcs   =       2
 # curr_srcs   =       2  # diodes     =       0  # bjts        =       0
 # jfets       =       0  # mosfets    =      18  # U elements  =       0
 # T elements  =       0  # W elements =       0  # B elements  =       0
 # S elements  =       0  # P elements =       0  # va device   =       0


 ******  Runtime Statistics (seconds)  ******

 analysis           time    # points   tot. iter  conv.iter
 op point           0.00           1           7
 ac analysis        0.02         801         801
 readin             0.00
 errchk             0.00
 setup              0.00
 output             0.00


          total memory used          184  kbytes
          total cpu time            0.02 seconds
          total elapsed time        0.09 seconds
          job started at     01:51:59 11/26/2012
          job ended   at     01:51:59 11/26/2012
```