 ****   CIRCUIT DESCRIPTION

****

** Creating circuit file "CAD_4-SCHEMATIC3-Min and max output voltage.sim.cir"
** WARNING: THIS AUTOMATICALLY GENERATED FILE MAY BE OVERWRITTEN BY SUBSEQUENT SIMULATIONS

*Libraries:
* Local Libraries :
* From [PSPICE NETLIST] section of C:\Program Files\OrcadLite\PSpice\PSpice.ini file:
.lib "nom.lib"

*Analysis directives:
.TRAN/OP 0 1e-3 500e-6 1e-6
.FOUR 1e4 10 V([N00346])
.PROBE V(*) I(*) W(*) D(*) NOISE(*)
.INC ".\CAD_4-SCHEMATIC3.net"

**** INCLUDING CAD_4-SCHEMATIC3.net ****
* source CAD_4
C_C11   N05022 N00405 1uf
Q_Q11   N00346 N00405 N00483 Q2N3904
R_RC1   N00346 N00512 2k
R_RE1   0 N00483 1.5k
R_R11   N00405 N00512 30k
C_CE1   0 N00483 50uF
V_V1   N03656 0
+SIN 0 30e-3 1e4 0 0 0
R_R21   0 N00405 15k
R_RL1   0 N00315 2k
V_VCC1   N00512 0 12Vdc
R_Rsig1   N03656 N05022 1k
C_C21   N00346 N00315 1uf

**** RESUMING "CAD_4-SCHEMATIC3-Min and max output voltage.sim.cir" ****
.END
**** 11/18/07 18:49:35 ************** PSpice Lite (Mar 2000) *****************

 ** Profile: "SCHEMATIC3-Min and max output voltage" [C:\Documents and Settings\usf\courses\EEL 3302\EEL 3302 FILES\cad_04\CAD_4-SC

 ****   BJT MODEL PARAMETERS

****

```
              Q2N3904
              NPN
          IS    6.734000E-15
          BF  416.4
          NF    1
         VAF   74.03
         IKF     .06678
         ISE    6.734000E-15
          NE    1.259
          BR     .7371
          NR    1
          RB   10
          RC    1
         CJE    4.493000E-12
         MJE     .2593
         CJC    3.638000E-12
         MJC     .3085
          TF  301.200000E-12
         XTF    2
         VTF    4
         ITF     .4
          TR  239.500000E-09
         XTB    1.5
          CN    2.42
           D     .87
```

□

**** INITIAL TRANSIENT SOLUTION TEMPERATURE = 27.000 DEG C

****

NODE	VOLTAGE	NODE	VOLTAGE	NODE	VOLTAGE	NODE	VOLTAGE
(N00315)	0.0000	(N00346)	7.7915	(N00405)	3.8613	(N00483)	3.1772
(N00512)	12.0000	(N03656)	0.0000	(N05022)	0.0000		

VOLTAGE SOURCE CURRENTS

NAME	CURRENT
V_V1	0.000E+00
V_VCC1	-2.376E-03

TOTAL POWER DISSIPATION 2.85E-02 WATTS

□

**** 11/18/07 18:49:35 ********** PSpice Lite (Mar 2000) *****************

** Profile: "SCHEMATIC3-Min and max output voltage" [C:\Documents and Settings\usf\courses\EEL 3302\EEL 3302 FILES\cad_04\CAD_4-SC

 ****   OPERATING POINT INFORMATION   TEMPERATURE =   27.000 DEG C

****

**** BIPOLAR JUNCTION TRANSISTORS

NAME	Q_Q11
MODEL	Q2N3904
IB	1.39E-05
IC	2.10E-03
VBE	6.84E-01
VBC	-3.93E+00
VCE	4.61E+00
BETADC	1.52E+02
GM	7.90E-02
RPI	2.15E+03
RX	1.00E+01
RO	3.70E+04
CBE	3.03E-11
CBC	2.07E-12
CJS	0.00E+00
BETAAC	1.70E+02
CBX/CBX2	0.00E+00
FT/FT2	3.88E+08

□

 ****   FOURIER ANALYSIS   TEMPERATURE =   27.000 DEG C

****

FOURIER COMPONENTS OF TRANSIENT RESPONSE V(N00346)

 DC COMPONENT =   7.730754E+00

HARMONIC NO	FREQUENCY (HZ)	FOURIER COMPONENT	NORMALIZED COMPONENT	PHASE (DEG)	NORMALIZED PHASE (DEG)
1	1.000E+04	1.410E+00	1.000E+00	-1.794E+02	0.000E+00
2	2.000E+04	1.651E-01	1.171E-01	9.142E+01	4.502E+02
3	3.000E+04	5.349E-04	3.793E-04	-1.330E+02	4.052E+02
4	4.000E+04	1.544E-03	1.094E-03	1.081E+02	8.257E+02
5	5.000E+04	2.820E-04	2.000E-04	1.800E+02	1.077E+03
6	6.000E+04	2.130E-04	1.510E-04	1.744E+02	1.251E+03
7	7.000E+04	1.965E-04	1.394E-04	-1.700E+02	1.086E+03

8	8.000E+04	1.740E-04	1.234E-04	-1.711E+02	1.264E+03
9	9.000E+04	1.594E-04	1.130E-04	-1.732E+02	1.441E+03
10	1.000E+05	1.251E-04	8.872E-05	-1.641E+02	1.630E+03

TOTAL HARMONIC DISTORTION = 1.170749E+01 PERCENT

JOB CONCLUDED

TOTAL JOB TIME .06