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\*\*\*\* 10/27/07 17:06:44 \*\*\*\*\* PSpice Lite (Mar 2000) \*\*\*\*\*

\*\* Profile: "SCHEMATIC3-maximum\_signal" [ C:\Documents and Settings\usf\courses\EEL 3302\EEL 3302 FILES\cad\_03\design3-SCHEMATIC3-m

\*\*\*\* CIRCUIT DESCRIPTION

\*\*\*\*\*

\*\* Creating circuit file "design3-SCHEMATIC3-maximum\_signal.sim.cir"  
\*\* WARNING: THIS AUTOMATICALLY GENERATED FILE MAY BE OVERWRITTEN BY SUBSEQUENT SIMULATIONS

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

\*Analysis directives:  
.TRAN/OP 0 5e-6 0 5e-9  
.FOUR 1e6 10 v([N00346])  
.PROBE V(\*) I(\*) W(\*) D(\*) NOISE(\*)  
.INC ".\design3-SCHEMATIC3.net"

\*\*\*\* INCLUDING design3-SCHEMATIC3.net \*\*\*\*

\* source DESIGN3  
C\_CC01 N00346 N00315 1n  
R\_RG21 0 N00434 1E6  
C\_CCI1 N05022 N00434 1n  
R\_RD1 N00346 N00512 2k  
R\_RL1 0 N00315 5k  
R\_RG11 N00434 N00512 4E6  
V\_VCC1 N00512 0 10Vdc  
R\_Rsig1 N03656 N05022 75  
V\_V1 N03656 0  
+SIN 0 650e-3 1e6 0 0 0  
M\_Q1 N00346 N00434 0 0 CAD3MOSFET

\*\*\*\* RESUMING design3-SCHEMATIC3-maximum\_signal.sim.cir \*\*\*\*

.END

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\*\*\*\* MOSFET MODEL PARAMETERS

\*\*\*\*\*

```

CAD3MOSFET
NMOS
LEVEL 1
L 200.000000E-09
W 1.000000E-06
VTO 1
KP 1.000000E-03
GAMMA 0
PHI .6
LAMBDA .02
IS 10.000000E-15
JS 0
PB .8
PBSW .8
CJ 0
CJSW 0
CGSO 5.000000E-06
CGDO 2.000000E-06
CGBO 0
TOX 0
XJ 0
UCRIT 10.000000E+03
DIOMOD 1
VFB 0
LETA 0
WETA 0
U0 0
TEMP 0
VDD 0
XPART 0
    
```

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

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NODE	VOLTAGE	NODE	VOLTAGE	NODE	VOLTAGE	NODE	VOLTAGE
(N00315)	0.0000	(N00346)	4.5455	(N00434)	2.0000	(N00512)	10.0000
(N03656)	0.0000	(N05022)	0.0000				

```

VOLTAGE SOURCE CURRENTS
NAME          CURRENT
V_VCC1       -2.729E-03
V_V1         0.000E+00
    
```

TOTAL POWER DISSIPATION 2.73E-02 WATTS

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

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\*\*\*\* MOSFETS

NAME	M_Q1
MODEL	CAD3MOSFET
ID	2.73E-03
VGS	2.00E+00
VDS	4.55E+00
VBS	0.00E+00
VTH	1.00E+00
VDSAT	1.00E+00
Lin0/Sat1	-1.00E+00
if	-1.00E+00
ir	-1.00E+00
TAU	-1.00E+00
GM	5.45E-03
GDS	5.00E-05
GMB	0.00E+00
CBD	0.00E+00
CBS	0.00E+00
CGSOV	5.00E-12
CGDOV	2.00E-12
CGBOV	0.00E+00
CGS	0.00E+00
CGD	0.00E+00
CGB	0.00E+00 □

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\*\*\*\* FOURIER ANALYSIS TEMPERATURE = 27.000 DEG C

\*\*\*\*\*

FOURIER COMPONENTS OF TRANSIENT RESPONSE V(N00346)

DC COMPONENT = 4.298713E+00

HARMONIC NO	FREQUENCY (HZ)	FOURIER COMPONENT	NORMALIZED COMPONENT	PHASE (DEG)	NORMALIZED PHASE (DEG)
1	1.000E+06	3.845E+00	1.000E+00	1.780E+02	0.000E+00
2	2.000E+06	4.726E-02	1.229E-02	9.790E+01	-2.580E+02
3	3.000E+06	3.610E-01	9.388E-02	1.737E+02	-3.602E+02
4	4.000E+06	1.433E-01	3.726E-02	8.174E+01	-6.301E+02
5	5.000E+06	2.178E-02	5.665E-03	-5.163E+00	-8.950E+02
6	6.000E+06	3.684E-02	9.579E-03	7.457E+01	-9.932E+02
7	7.000E+06	4.349E-02	1.131E-02	-1.561E+01	-1.261E+03
8	8.000E+06	2.141E-02	5.569E-03	-1.051E+02	-1.529E+03
9	9.000E+06	4.050E-03	1.053E-03	-3.688E+01	-1.639E+03
10	1.000E+07	1.639E-02	4.262E-03	-1.139E+02	-1.894E+03

TOTAL HARMONIC DISTORTION = 1.032174E+01 PERCENT

JOB CONCLUDED

TOTAL JOB TIME .09