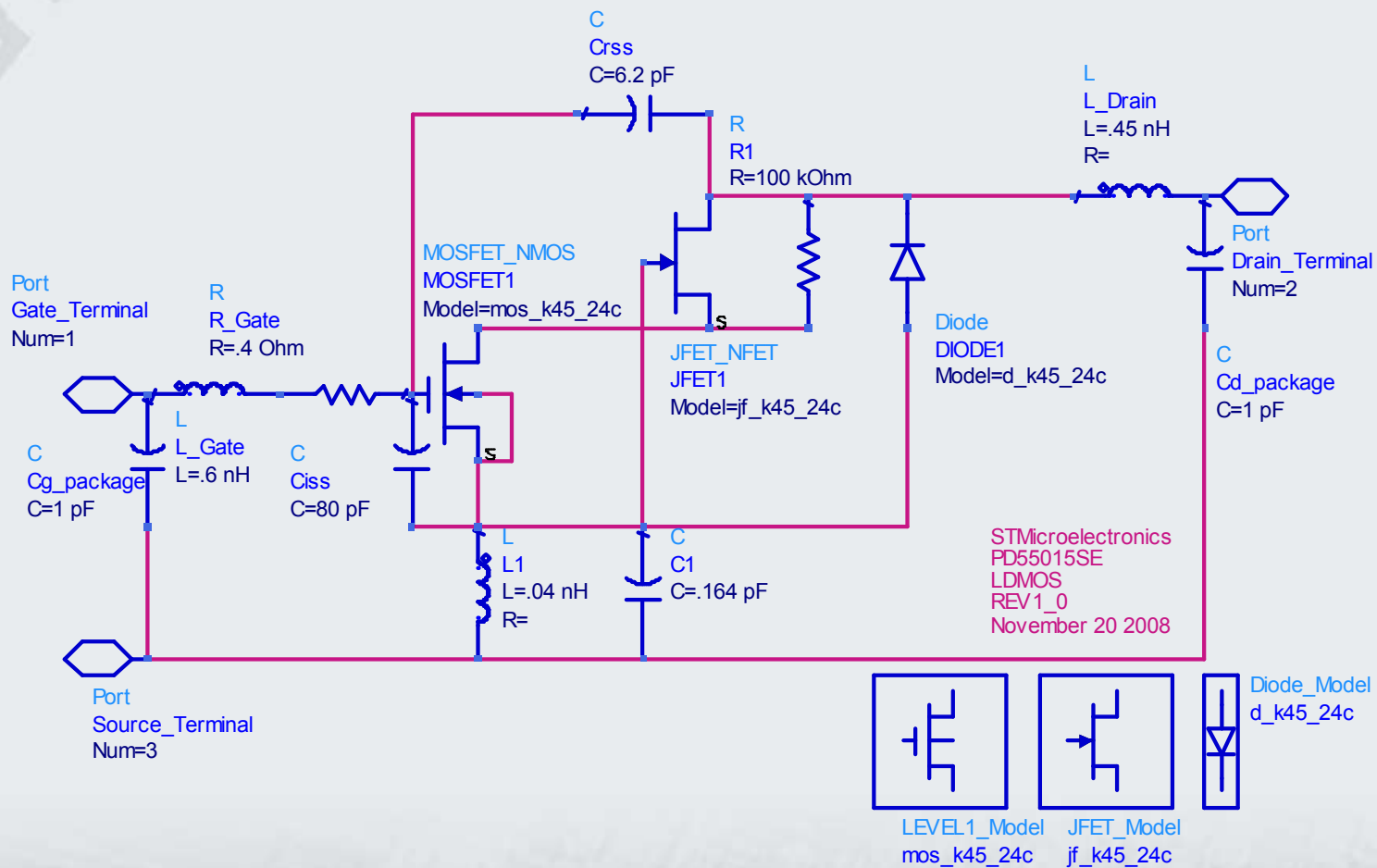


PD55015SE_rev1_0

Model validation



Quakertown , PA
Qtn-jp-214-rev1
November 20 , 2007

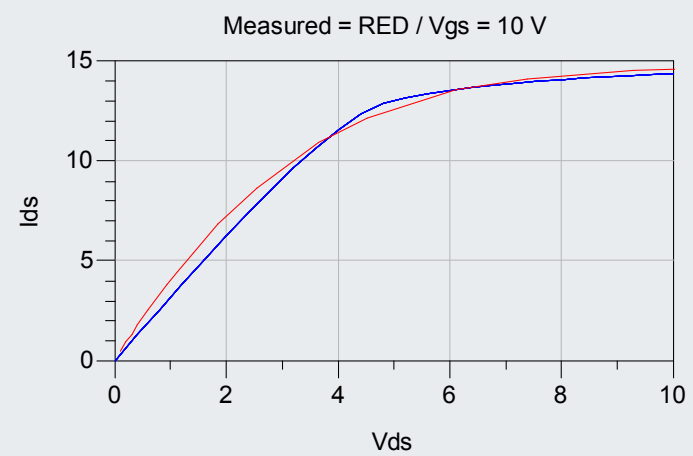
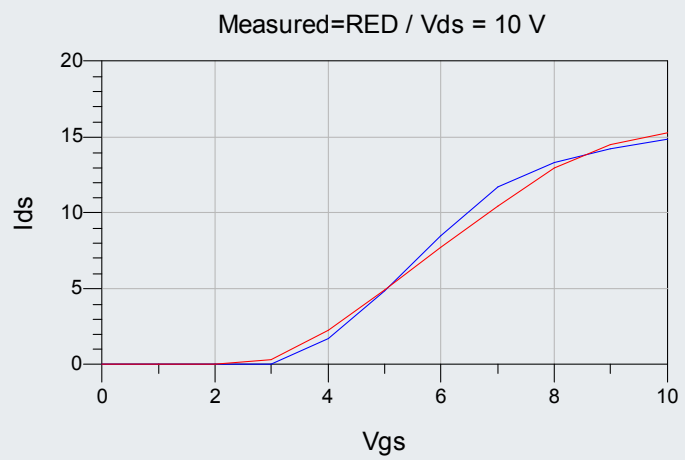


PD55015SE Model



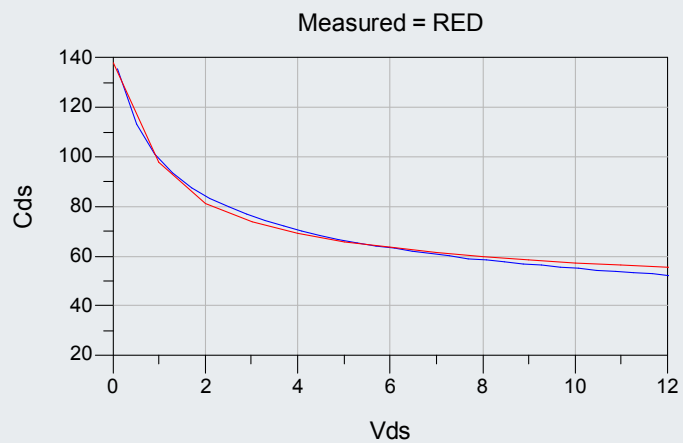
PD55015SE

DC



PD55015SE

C_{ds}



VBias	Coss_pF	
	freq=1.000 MHz	
0.000	145.200	
1.000	99.045	
2.000	84.286	
3.000	76.036	
4.000	70.503	
5.000	66.427	
6.000	63.245	
7.000	60.662	
8.000	58.504	
9.000	56.663	
10.000	55.064	
11.000	53.657	
12.000	52.405	



PD55015SE

S-parameter

measured

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
50.00 MHz	0.783 / -164.000	10.630 / 89.000	0.027 / -2.000	0.762 / -164.000
100.0 MHz	0.831 / -170.000	5.230 / 77.000	0.027 / -12.000	0.775 / -170.000
150.0 MHz	0.857 / -173.000	3.360 / 68.000	0.026 / -18.000	0.784 / -171.000
200.0 MHz	0.873 / -174.000	2.400 / 60.000	0.024 / -24.000	0.810 / -172.000
250.0 MHz	0.886 / -175.000	1.820 / 54.000	0.022 / -30.000	0.827 / -172.000
300.0 MHz	0.899 / -176.000	1.430 / 47.000	0.020 / -34.000	0.852 / -173.000
350.0 MHz	0.909 / -177.000	1.150 / 42.000	0.018 / -37.000	0.870 / -174.000
400.0 MHz	0.921 / -178.000	0.950 / 37.000	0.016 / -41.000	0.882 / -175.000
450.0 MHz	0.928 / -179.000	0.800 / 33.000	0.015 / -44.000	0.896 / -175.000
500.0 MHz	0.937 / -180.000	0.670 / 28.000	0.013 / -45.000	0.911 / -177.000
550.0 MHz	0.943 / -179.000	0.580 / 25.000	0.011 / -45.000	0.920 / -177.000
600.0 MHz	0.947 / -178.000	0.500 / 22.000	0.010 / -48.000	0.929 / -178.000
650.0 MHz	0.954 / -177.000	0.440 / 19.000	0.008 / -45.000	0.935 / -179.000

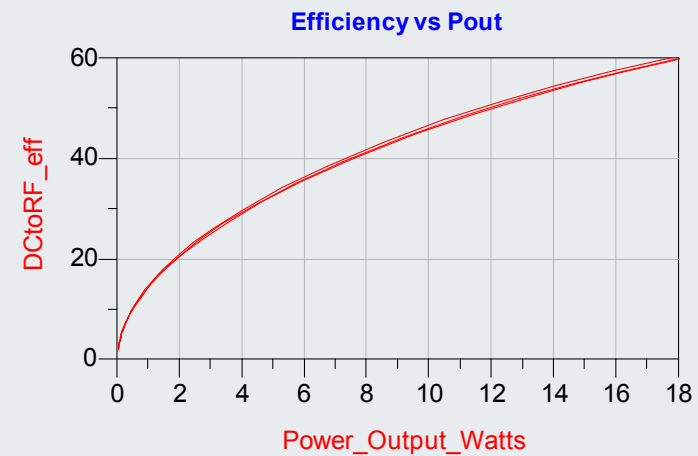
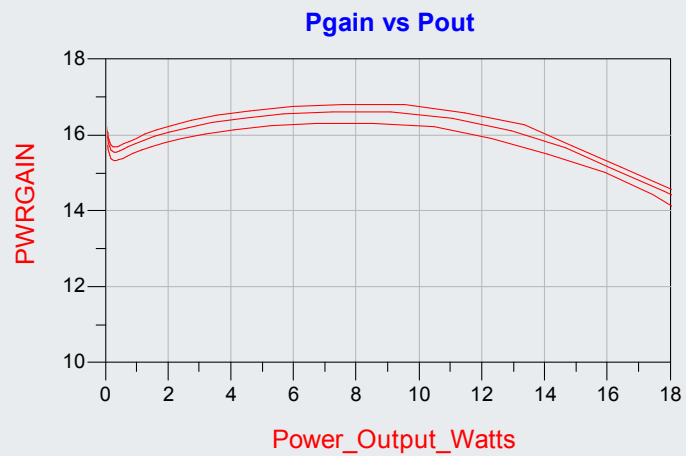
simulated

freq	S(1,1)	S(2,1)	S(1,2)	S(2,2)
50.00 MHz	0.839 / -164.343	15.216 / 88.708	0.023 / -0.267	0.719 / -161.123
100.0 MHz	0.846 / -171.249	7.458 / 77.483	0.022 / -10.452	0.732 / -167.087
150.0 MHz	0.858 / -173.492	4.786 / 68.982	0.021 / -17.876	0.754 / -168.324
200.0 MHz	0.872 / -174.798	3.415 / 61.656	0.020 / -24.072	0.780 / -168.879
250.0 MHz	0.887 / -175.879	2.580 / 55.218	0.018 / -29.303	0.806 / -169.456
300.0 MHz	0.900 / -176.925	2.021 / 49.550	0.016 / -33.658	0.831 / -170.174
350.0 MHz	0.912 / -177.983	1.625 / 44.561	0.015 / -37.194	0.852 / -171.013
400.0 MHz	0.923 / -179.056	1.334 / 40.165	0.013 / -39.951	0.871 / -171.925
450.0 MHz	0.932 / -179.865	1.113 / 36.282	0.012 / -41.948	0.886 / -172.871
500.0 MHz	0.940 / -178.788	0.941 / 32.840	0.010 / -43.176	0.900 / -173.821
550.0 MHz	0.946 / -177.719	0.806 / 29.777	0.009 / -43.580	0.911 / -174.759
600.0 MHz	0.952 / -176.661	0.698 / 27.038	0.008 / -43.052	0.920 / -175.674
650.0 MHz	0.957 / -175.617	0.610 / 24.579	0.007 / -41.396	0.929 / -176.561



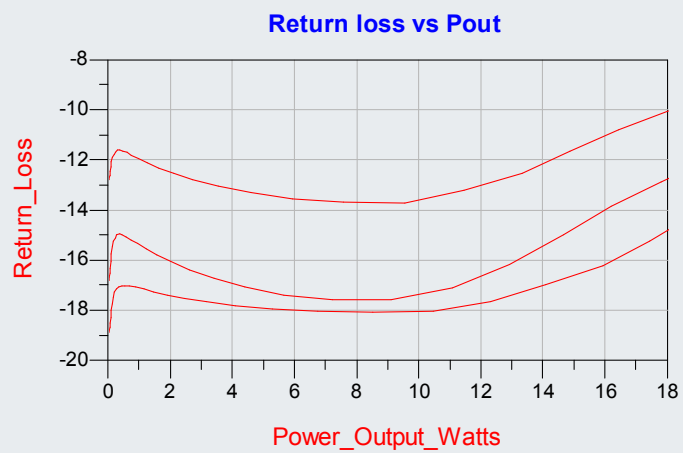
PD55015E

480 MHz – 520 MHz Large Signal RF



PD55015E

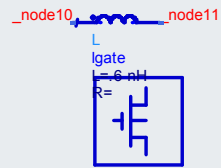
480 MHz – 520 MHz Large Signal RF



NETLIST

- *PD55015SE_rev1_0
- *11/20/2008
- *STMicroelectronics
- *port 1 = GATE , 2 = Drain , 3 = Source
- *
- .SUBCKT PD55015SE 10 20 30
- LGATE 10 11 .6N
- RGATE 11 12 .4
- CG 10 30 1P
- CRSS 12 17 6.2P
- CISS 12 14 80P
- LS 14 30 0.04N
- CS 14 30 .164P
- R 17 13 100K
- LD 17 20 .45N
- CD 20 30 1P
- MOS 13 12 14 14 mos_55015SE L=.6UM W= 99mM
- JFET 17 14 13 jf_55015SE
- DBODY 14 17 d_55015SE
- .MODEL mos_55015SE nmos (vto=3 KP=2E-5 LAMBDA=0.15 RD=0.125 RS=0.125)
- .MODEL jf_55015SE njf (VTO=-5 BETA=6 LAMBDA=1)
- .MODEL d_55015SE d (CJO=138p RS=0.25 VJ=.4 M=0.325 BV=80)
- .ENDS





LEVEL1_Model
mos_55015se
NMOS=yes
PMOS=no
Vto=3
Kp=2e-5
Gamma=
Phi=
Lambda=0.15
Rd=0.125
Rs=0.125
Cbd=
Cbs=
Is=
Pb=
Cgso=
Cgdo=

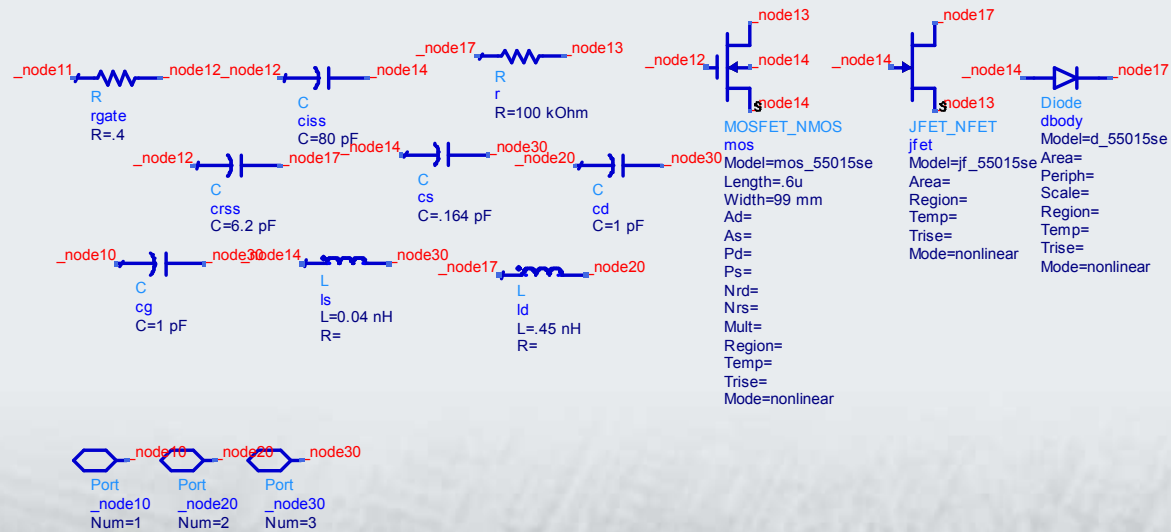
Cgbo=
Rsh=
Cj=
Mj=
Cjsw=
Mjsw=
Js=
Tox=
Nsub=
Nss=
Tpg=
Ld=
Uo=
Nlev=
Gdsnoi=



JFET_Model
jf_55015se
NFET=yes
PFET=no
Vto=-5
Beta=6
Lambda=1
Rs=
Is=
Cgs=
Cgd=
Fc=
Tnom=27
Trise=
Kf=
Af=
Imax=
Imelt=
N=
Isr=
Rd=
Rs=
Is=
Cgs=
Cgd=
Fc=
Tnom=27
Trise=
Kf=

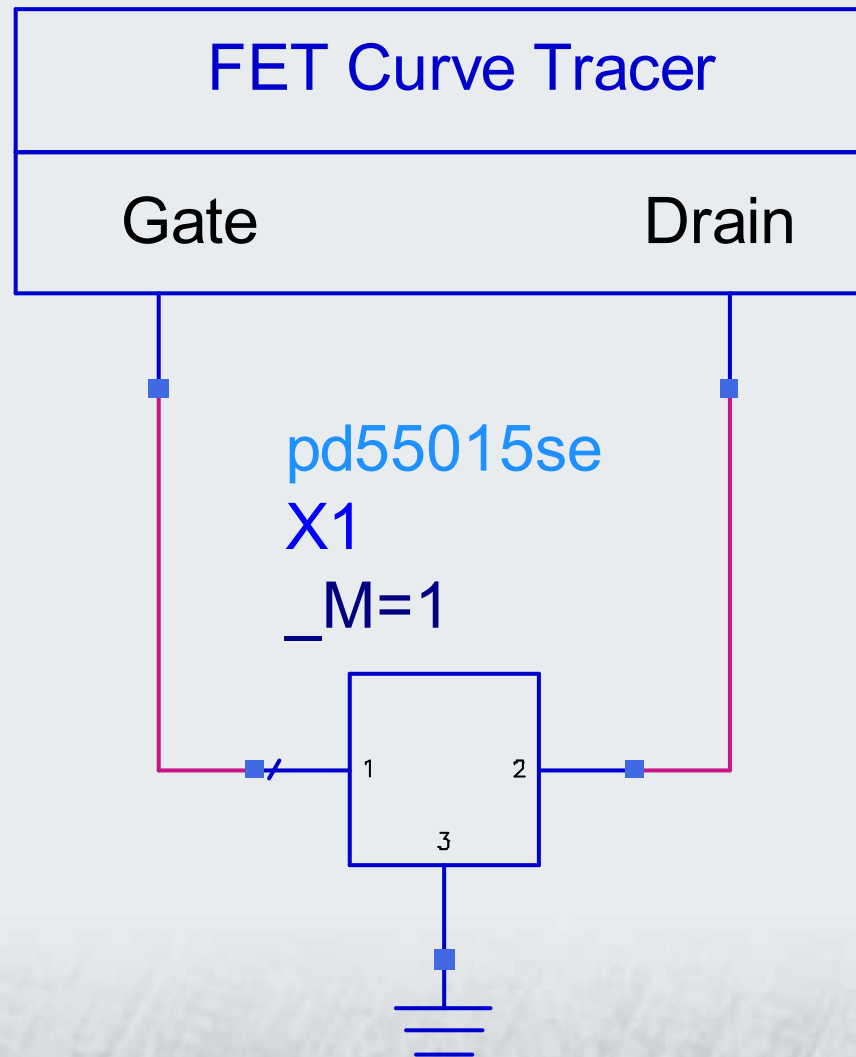


Diode_Model
d_55015se
Is=
Rs=0.25
Gleak=
N=
Tt=
Cd=
Cjo=138 pF
Vj=.4
M=0.325
Fc=
Imax=
Imelt=
Isr=
Nr=
Ikf=
Bv=80
Ibv=1e-10
Nbv=
IbvI=
NbvI=
Af=
Ffe=
Jsw=
Gleaksw=
Ns=
Ikp=
Cjsw=
Msw=
Vjsw=
Fcsw=
AllowScaling=no
Tnom=27
Trise=
Xti=
Eg=
AllParams=



Imported NETLIST

DC_FET
DC_FET1
VGS_start=0
VGS_stop=10
VGS_points=101
VDS_start=0
VDS_stop=16.0
VDS_points=41



Example of imported netlist attached to “X”

