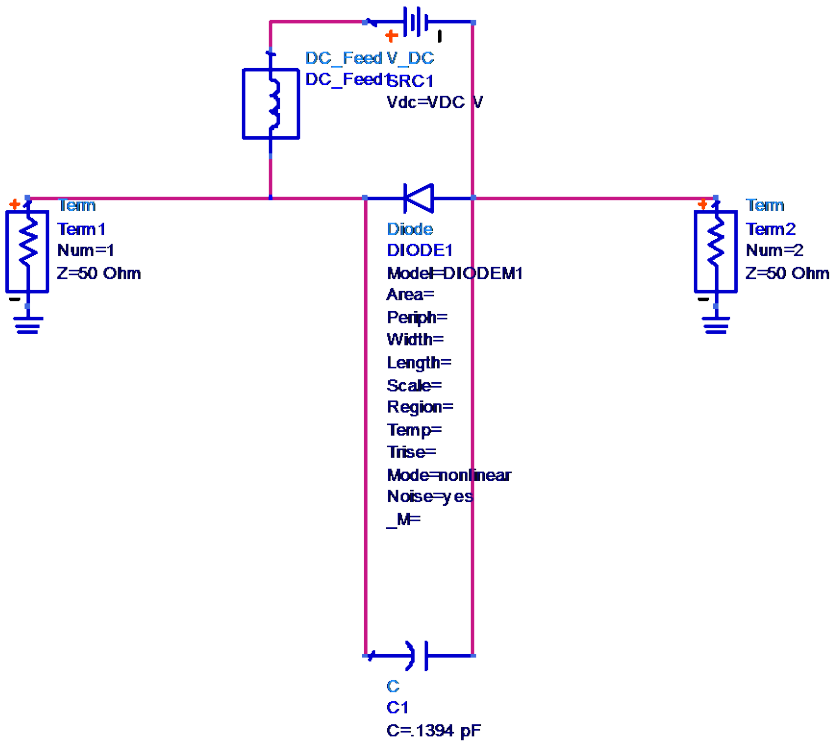
MA46H120 ADS/Spice Diode Model

MA46H120 :
ADS Diode Model



S-PARAMETERS

S_Param
SP1
Freq=13 GHz

PARAMETER SWEEP

ParamSweep
Sweep1
SweepVar="VDC"
SimInstanceName[1]="SP1"
SimInstanceName[2]=
SimInstanceName[3]=
SimInstanceName[4]=
SimInstanceName[5]=
SimInstanceName[6]=
Start=0
Stop=15
Step=.1

VAR
VAR1
VDC=1.0

Diode_Model
DIODEM1

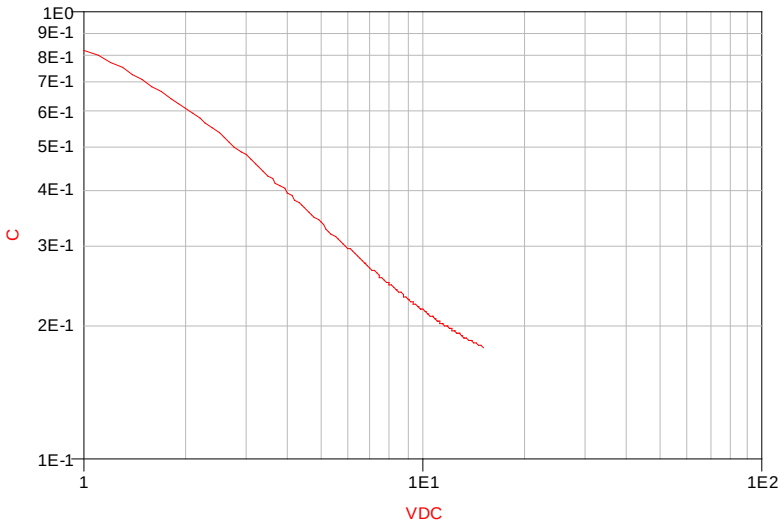
Level=	Ikf=1.572e-2 A	Ikp=	Trise=	Trs=
Is=2.374e-18 A	Ikr=	Cjsw=	Tlev=	Trs2=
Rs=.880 Ohm	IkModel=	Msw=	Tlevc=	Tgs=
Gleak=	Bv=27.41 V	Vjsw=	Xti=	Tgs2=
N=1.372	Ibv=10 uA	Fcsw=	Eg=	Tbv=
Tt=	Nbv=	Area=	EgAlpha=	Tbv2=
Cd=	Ibvl=	Periph=	EgBeta=	wBv=
Cjo=1.09 pF	Nbvl=	Width=	Tcjo=	wPmax=
Vj=4.445 V	Kf=	Length=	Tcjsw=	AllParams=
M=2.256	Af=	Etch=	Ttt1=	
Fc=.5	Ffe=	Etchl=	Ttt2=	
Imax=	Jsw=	Dwl=	Tm1=	
Imelt=	Rsw=	Shrink=	Tm2=	
Isr=	Gleaksw =	AllowScaling=no	Tvj=	
Nr=	Ns=	Tnom=	Tvjsw=	

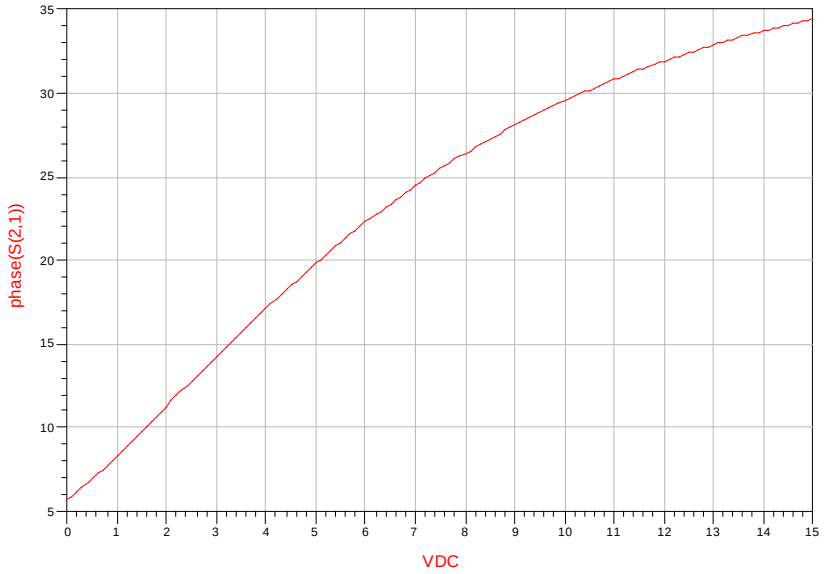
MA46H120 :
ADS Diode Model

Eqn Z=50*((1+S(1,1))*(1+S(2,2))-S(1,2)*S(2,1))/(2*S(2,1))

Eqn R=real(Z) Eqn X=imag(Z)

Eqn C=-1e12/(2*3.14159*freq*X)





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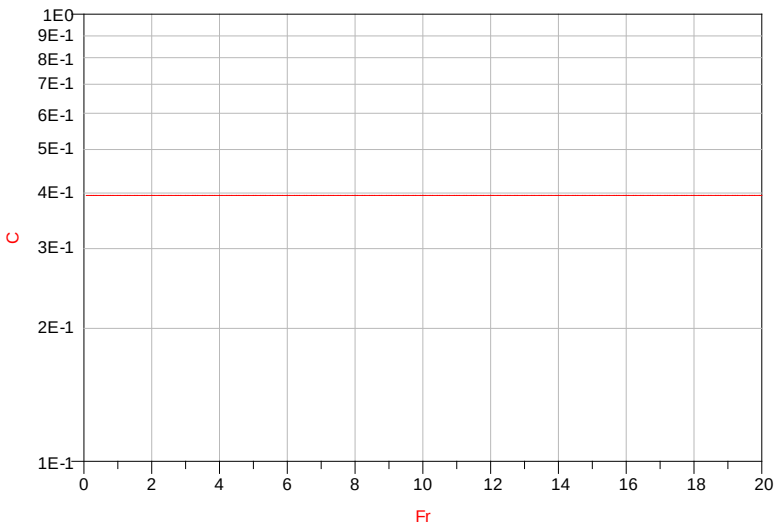

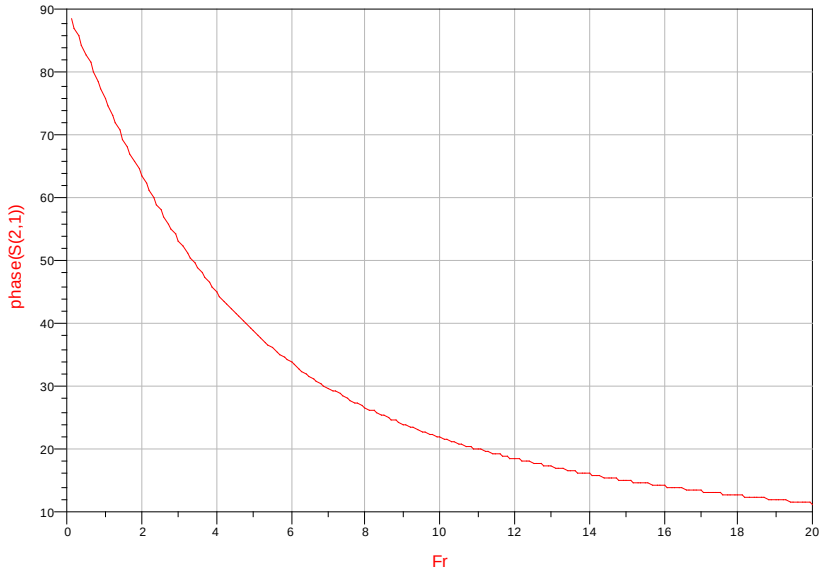

MA46H120 : Spice Model

GaAs Constant Gamma Flip-Chip Varactor

Spice Model Parameters

MA46H120

7451316

Run #: C

	First Pass N	First Pass $R_{S\,(PC)}$ Ω	First Pass I_S A	First Pass I_K (A)	First Pass BV (Volts)	First Pass IBV (μA)	C_t (pF)	Optimized C_{JO} (pF)	Optimized V_J (Volts)	Optimized M	Fixed FC	Optimized Cpar_Cj (F)
D01	1.356	0.895	1.52E-18	1.58E-02	27.48	10.0	1.18	1.09	4.376	2.228	0.50	1.360E-13
D02	1.379	0.845	2.78E-18	1.57E-02	27.05	10.0	1.22	1.12	4.427	2.244	0.50	1.410E-13
D03	1.375	0.990	2.49E-18	1.49E-02	27.46	10.0	1.19	1.09	4.452	2.259	0.50	1.400E-13
D04	1.373	0.840	2.35E-18	1.60E-02	27.38	10.0	1.19	1.09	4.504	2.278	0.50	1.400E-13
D05	1.378	0.832	2.73E-18	1.62E-02	27.66	10.0	1.18	1.08	4.467	2.272	0.50	1.400E-13
Average	1.372	0.880	2.374E-18	1.572E-02	27.41	10.00	1.19	1.09	4.445	2.256	0.50	1.394E-13