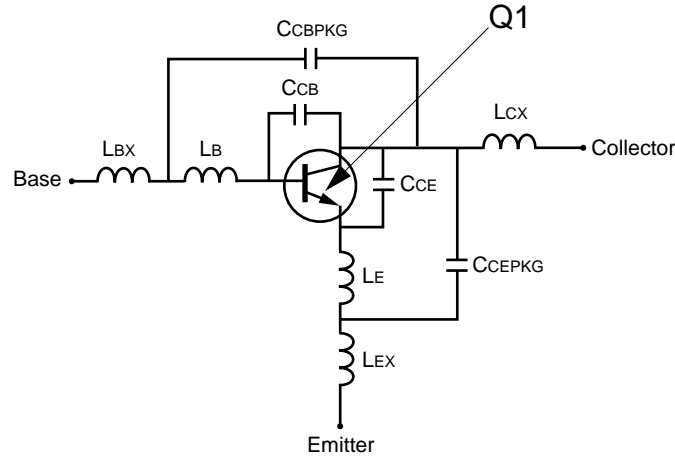


### SCHEMATIC



### BJT NONLINEAR MODEL PARAMETERS (1)

Parameters	Q1	Parameters	Q1
IS	8.98e-17	MJC	0.19
BF	107.1	XCJC	0
NF	0.99	CJS	0
VAF	22	VJS	0.75
IKF	0.55	MJS	0
ISE	1e-6	FC	0.5
NE	31.10	TF	4e-12
BR	16.06	XTF	12
NR	0.98	VTF	1
VAR	6	ITF	0.04
IKR	8.02e-3	PTF	120
ISC	0	TR	1e-9
NC	2	EG	1.11
RE	0.6	XTB	0
RB	10	XTI	3
RBM	8.34	KF	0
IRB	0.009	AF	1
RC	5.07		
CJE	0.50e-12		
VJE	0.95		
MJE	0.5		
CJC	0.11e-12		
VJC	0.56		

(1) Gummel-Poon Model

### UNITS

Parameter	Units
time	seconds
capacitance	farads
inductance	henries
resistance	ohms
voltage	volts
current	amps

### ADDITIONAL PARAMETERS

Parameters	68533
CCB	0.13e-12
CCE	0.14e-12
LB	0.3e-9
LE	0.8e-9
CCBPKG	0.08e-12
CCEPKG	0.08e-12
LBX	0.12e-9
LCX	0.10e-9
LEX	0.12e-9

### MODEL RANGE

Frequency: 0.1 to 4.0 GHz  
 Bias: VCE = 0.5 V to 3 V, IC = 0.5 mA to 20 mA  
 Date: 11/98