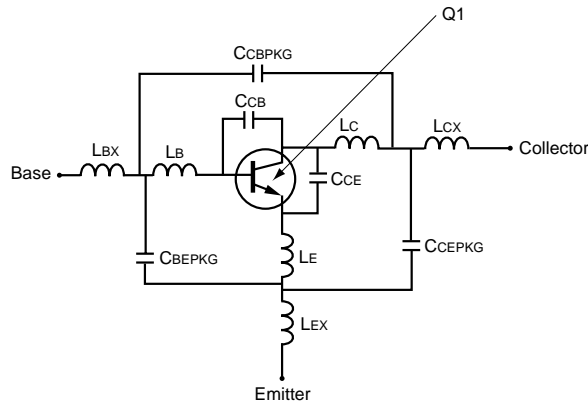


### SCHEMATIC



### BJT NONLINEAR MODEL PARAMETERS (1)

Parameters	Q1	Parameters	Q1
IS	6e-16	MJC	0.55
BF	120	XCJC	0.3
NF	0.98	CJS	0
VAF	10	VJS	0.75
IKF	0.08	MJS	0
ISE	3.2e-15	FC	0.5
NE	1.93	TF	10e-12
BR	12	XTF	6
NR	0.991	VTF	10
VAR	3.9	ITF	0.2
IKR	0.17	PTF	0
ISC	0	TR	1e-9
NC	2	EG	1.11
RE	0.38	XTB	0
RB	4.16	XTI	3
RBM	3.6	KF	0
IRB	1.96e-4	AF	1
RC	2		
CJE	2.8e-12		
VJE	1.3		
MJE	0.5		
CJC	1.1e-12		
VJC	0.7		

(1) Gummel-Poon Model

### UNITS

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

### ADDITIONAL PARAMETERS

Parameters	NE85639
CCB	0.087e-12
CCE	0.16e-12
LB	1.1e-9
LC	0.81e-9
LE	0.58e-9
CCBPKG	0.02e-12
CCEPKG	0.08e-12
CBEPKG	0.01e-12
LBX	0.39e-9
LCX	0.39e-9
LEX	0.2e-9

### MODEL RANGE

Frequency: 0.1 to 3.0 GHz  
 Bias:  $V_{CE} = 2.5$  V to 10 V,  $I_C = 0.3$  mA to 7 mA  
 Date: 6/12/96