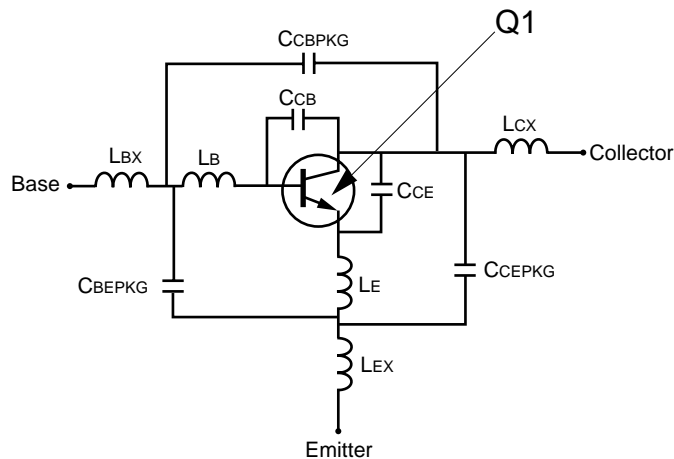


### SCHEMATIC



### BJT NONLINEAR MODEL PARAMETERS <sup>(1)</sup>

Parameters	Q1	Parameters	Q1
IS	3.84e-16	MJC	0.64
BF	124.9	XCJC	0
NF	1.05	CJS	0
VAF	11.9	VJS	0.75
IKF	0.027	MJS	0
ISE	1.0e-14	FC	0.5
NE	2.17	TF	8.7e-12
BR	1	XTF	18
NR	1.05	VTF	19.1
VAR	Infinity	ITF	0.082
IKR	Infinity	PTF	0
ISC	0	TR	0.635e-9
NC	2	EG	1.11
RE	0.6	XTB	0
RB	17.9	XTI	3
RBM	1.02	KF	0
IRB	4.01e-4	AF	1
RC	10.5		
CJE	0.358e-12		
VJE	0.71		
MJE	0.5		
CJC	0.162e-12		
VJC	0.79		

(1) Gummel-Poon Model

### UNITS

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

### ADDITIONAL PARAMETERS

Parameters	68033
CcB	0.08e-12
CcE	0.08e-12
Lb	0.65e-9
Le	0.95e-9
CcBPKG	0.1e-12
CcEPKG	0.1e-12
CbEPKG	0.01e-12
LbX	0.3e-9
LcX	0.5e-9
Lx	0.3e-9

### MODEL RANGE

Frequency: 0.05 to 3.0 GHz  
 Bias:  $V_{CE} = 2.5 \text{ V to } 6 \text{ V}$ ,  $I_c = 0.3 \text{ mA to } 20 \text{ mA}$   
 Date: 7/97