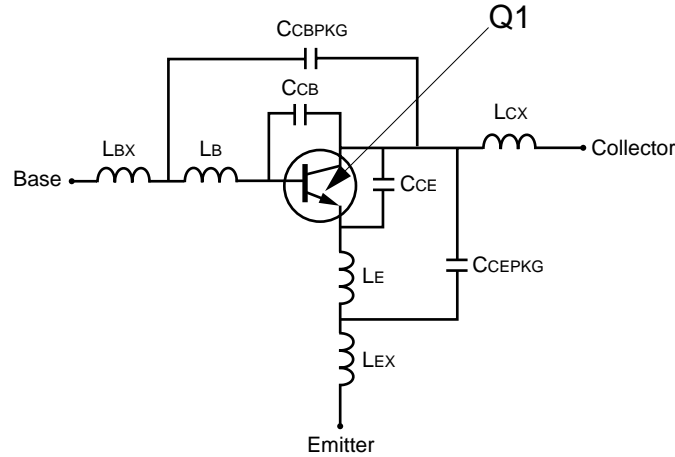


### SCHEMATIC



### BJT NONLINEAR MODEL PARAMETERS (1)

Parameters	Q1	Parameters	Q1
IS	9.2e-16	MJC	0.55
BF	110.3	XCJC	0.3
NF	1.01	CJS	0
VAF	18	VJS	0.75
IKF	1	MJS	0
ISE	4.89e-9	FC	0.5
NE	4.37	TF	4e-12
BR	10.08	XTF	30
NR	1.0	VTF	0.69
VAR	8	ITF	0.06
IKR	0.03	PTF	0
ISC	3.32e-11	TR	1e-9
NC	3.95	EG	1.11
RE	0.33	XTB	0
RB	1.26	XTI	3
RBM	2	KF	1.56e-18
IRB	0.05	AF	1.49
RC	6.63		
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	856M03
CCB	0.087e-12
CCE	0.16e-12
LB	0.5e-9
LE	0.6e-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 10 V, IC = 0.5 mA to 10 mA  
 Date: 11/98