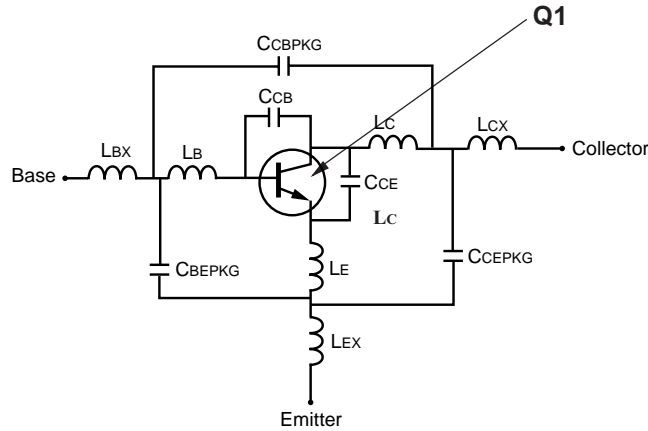


### SCHEMATIC



### BJT NONLINEAR MODEL PARAMETERS(1)

Parameters	Q1	Parameters	Q1
IS	2.7e-16	MJC	0.56
BF	185	XCJC	0
NF	1.02	CJS	0
VAF	15	VJS	0.75
IKF	0.055	MJS	0
ISE	1.77e-11	FC	0.5
NE	2.1	TF	14e-12
BR	1	XTF	3
NR	1	VTF	25
VAR	Infinity	ITF	0.1
IKR	Infinity	PTF	0
ISC	0	TR	0.3e-9
NC	2	EG	1.11
RE	0.6	XTB	0
RB	12	XTI	3
RBM	3.7	KF	0
IRB	1.2e-5	AF	1
RC	8		
CJE	1.2e-12		
VJE	0.77		
MJE	0.5		
CJC	0.8e-12		
VJC	0.27		

(1) Gummel-Poon Model

### UNITS

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

### ADDITIONAL PARAMETERS

Parameters	68118
CCB	0.07e-12
CCE	0.01e-12
LB	1.16e-9
LC	1.54e-9
LE	0.83e-9
CCBPKG	0.09e-12
CCEPKG	0.51e-12
CBEPKG	0.25e-12
LBX	0.18e-9
LCX	0.8e-9
LEX	0.09e-9

### MODEL RANGE

Frequency: 0.05 to 5.0 GHz  
 Bias:  $V_{CE} = 2.5 \text{ V to } 8.0 \text{ V}$ ,  $I_c = 3 \text{ mA to } 10 \text{ mA}$   
 Date: 5/29/96

## California Eastern Laboratories

EXCLUSIVE NORTH AMERICAN AGENT FOR **NEC** RF, MICROWAVE & OPTOELECTRONIC SEMICONDUCTORS

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