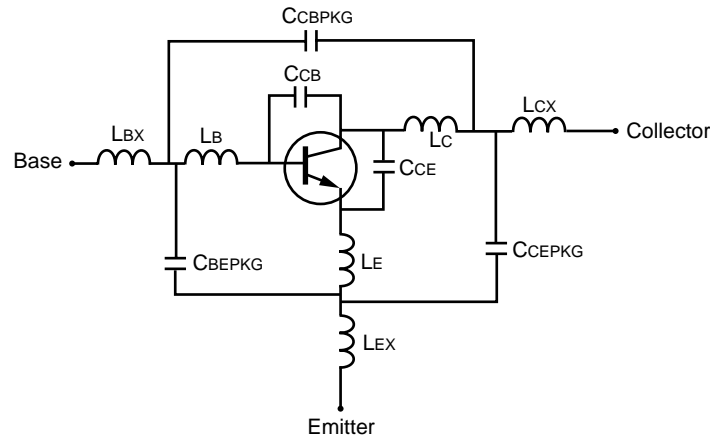


### SCHEMATIC



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

Parameters	Q1	Parameters	Q1
IS	3.8e-16	MJC	0.48
BF	135.7	XCJC	0.56
NF	1	CJS	0
VAF	28	VJS	0.75
IKF	0.6	MJS	0
ISE	3.8e-15	FC	0.75
NE	1.49	TF	11e-12
BR	12.3	XTF	0.36
NR	1.1	VTF	0.65
VAR	3.5	ITF	0.61
IKR	0.06	PTF	50
ISC	3.5e-16	TR	32e-12
NC	1.62	EG	1.11
RE	0.4	XTB	0
RB	6.14	XTI	3
RBM	3.5	KF	1.5e-14
IRB	0.001	AF	1.22
RC	4.2		
CJE	0.796e-12		
VJE	0.71		
MJE	0.38		
CJC	0.549e-12		
VJC	0.65		

(1) Gummel-Poon Model

### UNITS

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

### ADDITIONAL PARAMETERS

Parameters	68818
CCB	0.24e-12
CCE	0.27e-12
LB	0.9e-9
LC	0.52e-9
LE	0.7e-9
CCBPKG	0.001e-12
CCEPKG	0.07e-12
CBEPKG	0.11e-12
LBX	0.18e-9
LCX	0.18e-9
LEX	0.09e-9

### MODEL RANGE

Frequency: 0.5 to 6.0 GHz  
 Bias: V<sub>CE</sub> = 1 V to 5 V, I<sub>c</sub> = 1 mA to 10 mA  
 Date: 5/97

California Eastern Laboratories

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**CEL** CALIFORNIA EASTERN LABORATORIES • Headquarters • 4590 Patrick Henry Drive • Santa Clara, CA 95054-1817 • (408) 988-3500 • Telex 34-6393 • FAX (408) 988-0279  
 24-Hour Fax-On-Demand: 800-390-3232 (U.S. and Canada only) • Internet: <http://WWW.CEL.COM>

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