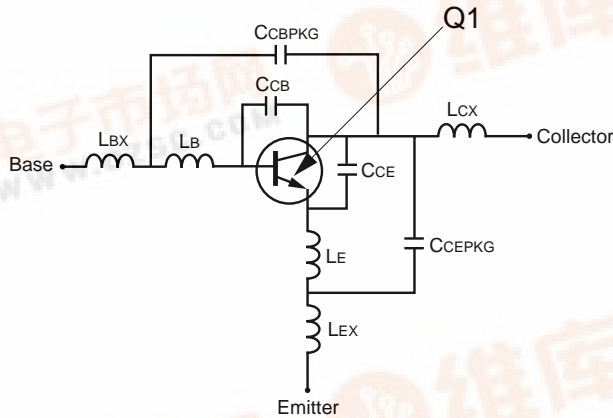


NEC

NONLINEAR MODEL

NE68519

SCHEMATIC



BJT NONLINEAR MODEL PARAMETERS (1)

Parameters	Q1	Parameters	Q1
IS	7.0e-16	MJC	0.34
BF	109	XCJC	0
NF	1	CJS	0
VAF	15	VJS	0.75
IKF	0.19	MJS	0
ISE	7.90e-13	FC	0.5
NE	2.19	TF	2.0e-12
BR	1	XTF	5.2
NR	1.08	VTF	4.58
VAR	12.4	ITF	0.011
IKR	Infinity	PTF	0
ISC	0	TR	1.0e-9
NC	2	EG	1.11
RE	1.3	XTB	0
RB	10	XTI	3
RBM	8.34	KF	0
IRB	0.009	AF	1
RC	10		
CJE	0.4e-12		
VJE	0.81		
MJE	0.5		
CJC	0.18e-12		
VJC	0.75		

(1) Gummel-Poon Model

UNITS

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

ADDITIONAL PARAMETERS

Parameters	68519
CCB	0.13e-12
CCE	0.14e-12
LB	0.9e-9
LE	0.9e-9
CCBPKG	0.17e-12
CCEPKG	0.21e-12
LBX	0.19e-9
LCX	0.19e-9
LEX	0.19e-9

MODEL RANGE

Frequency: 0.05 to 3.0 GHz

Bias: $V_{CE} = 0.5 \text{ V to } 3.0 \text{ V}$, $I_c = 0.5 \text{ mA to } 20 \text{ mA}$