

BJT NONLINEAR MODEL PARAMETERS(1)

Parameters	Q1 & Q2	Parameters	Q1 & Q2
IS	7e-16	MJC	0.34
BF	109	XCJC	0
NF	1	CJS	0
VAF	15	VJS	0.75
IKF	0.19	MJS	0
ISE	7.9e-13	FC	0.5
NE	2.19	TF	3e-12
BR	1	XTF	5.2
NR	1.08	VTF	4.58
VAR	12.4	ITF	0.01
IKR	Infinity	PTF	0
ISC	0	TR	1e-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

MODEL RANGE

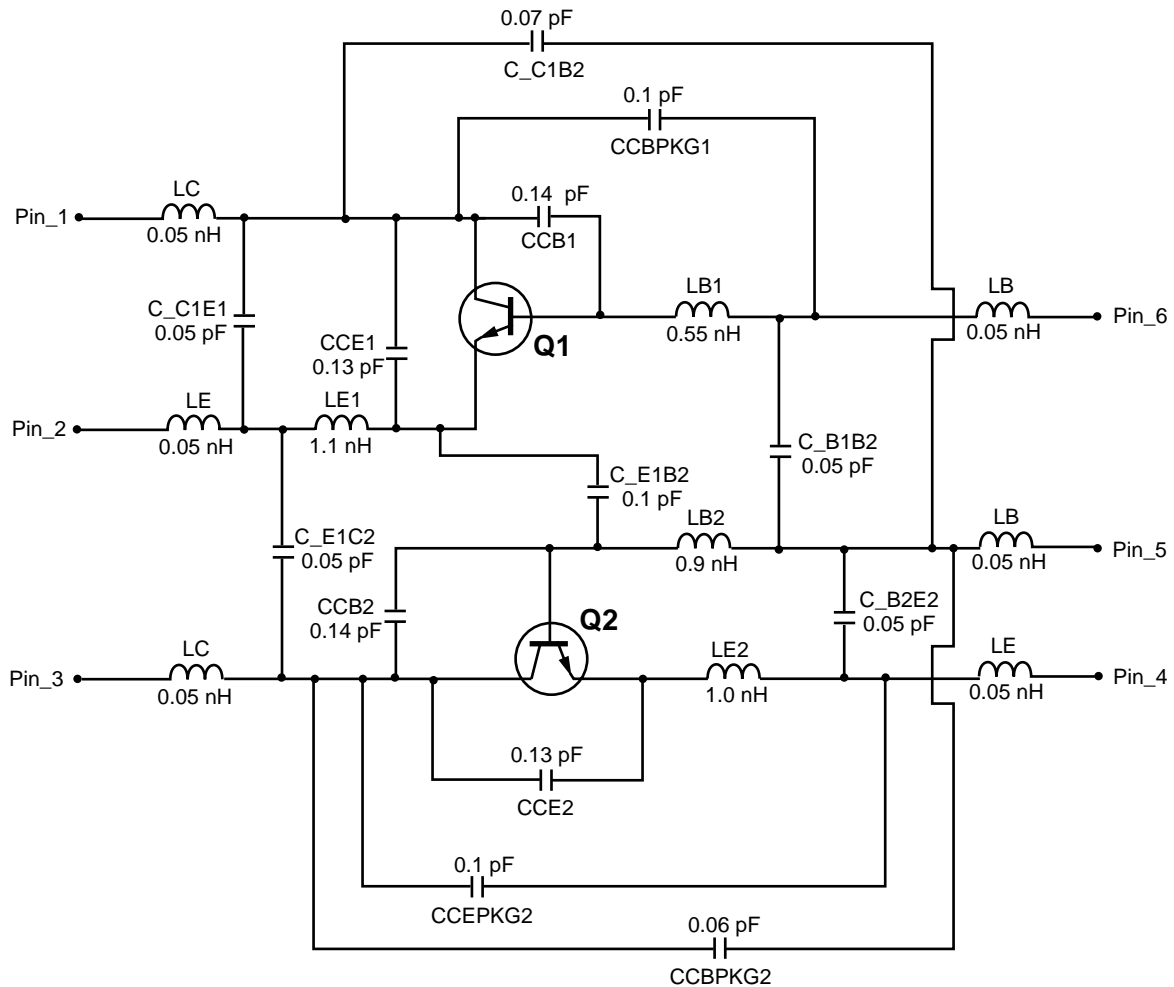
Frequency: 0.1 to 3.0 GHz
 Bias: $V_{CE} = 0.5 \text{ V to } 5 \text{ V}$, $I_c = 1 \text{ mA to } 10 \text{ mA}$
 Date: 10/98

Note:

This nonlinear model utilized the latest data available. See our Design Parameter Library at www.cel.com for this data.

NONLINEAR MODEL

SCHEMATIC



MODEL RANGE

Frequency: 0.1 to 3.0 GHz

Bias: $V_{CE} = 0.5 \text{ V to } 5 \text{ V}$, $I_c = 1 \text{ mA to } 10 \text{ mA}$

Date: 10/98

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

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>

DATA SUBJECT TO CHANGE WITHOUT NOTICE

PRINTED IN USA ON RECYCLED PAPER -11/98