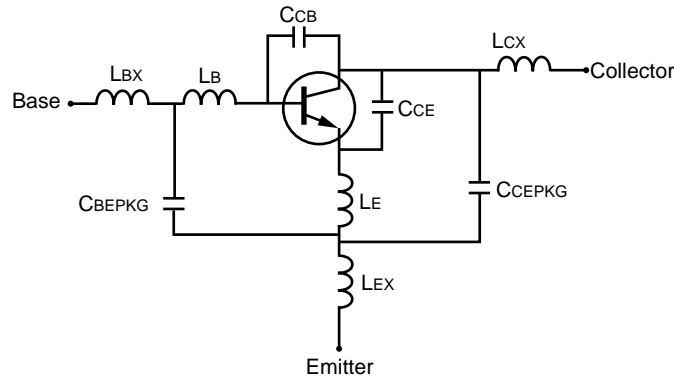


### SCHEMATIC



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

Parameters	Q1	Parameters	Q1
IS	2.42e-13	MJC	0.16
BF	500	XCJC	1
NF	1.025	CJS	0
VAF	87	VJS	0.75
IKF	100	MJS	0
ISE	5.2e-13	FC	0.5
NE	2.806	TF	3e-12
BR	15.7	XTF	2
NR	1.02	VTF	0.15
VAR	1.307	ITF	0.0001
IKR	0.037	PTF	0
ISC	9e-14	TR	50e-12
NC	2.194	EG	1.37
RE	1.6	XTB	0
RB	5	XTI	3
RBM	1	KF	120e-15
IRB	0.007	AF	1.37
RC	4.2		
CJE	0.4e-12		
VJE	0.98		
MJE	0.25		
CJC	0.12e-12		
VJC	0.63		

### ADDITIONAL PARAMETERS

Parameters	NESG2030M16
CCB	0.04e-12
CCE	0.05e-12
LB	0.42e-9
LE	0.17e-9
CCEPKG	0.12e-12
CBEPK	0.1e-12
LBX	0.1e-9
LCX	0.6e-9
LEX	0.04e-9

### MODEL RANGE

Frequency: 0.1 to 4 GHz  
 Bias: V<sub>CE</sub> = 0.5 V to 2 V, I<sub>c</sub> = 1 mA to 30 mA  
 Date: 01/2002

(1) Gummel-Poon Model

### Life Support Applications

These NEC products are not intended for use in life support devices, appliances, or systems where the malfunction of these products can reasonably be expected to result in personal injury. The customers of CEL using or selling these products for use in such applications do so at their own risk and agree to fully indemnify CEL for all damages resulting from such improper use or sale.

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  
 DATA SUBJECT TO CHANGE WITHOUT NOTICE

Internet: <http://WWW.CEL.COM>

02/13/2002