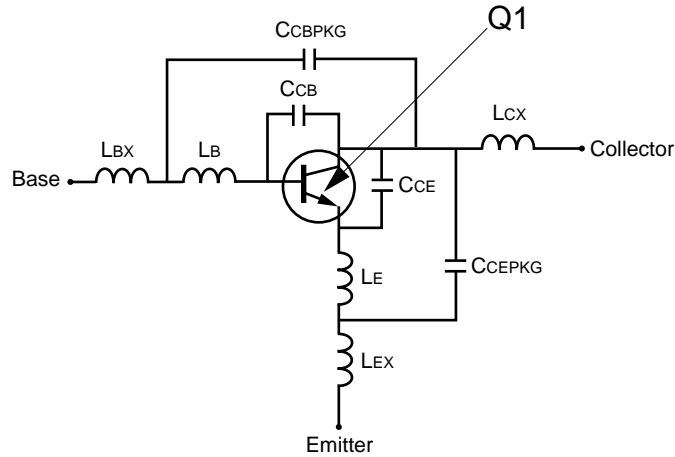


NONLINEAR MODEL

SCHEMATIC



BJT NONLINEAR MODEL PARAMETERS (1)

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		

UNITS

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

ADDITIONAL PARAMETERS

Parameters	688M03
CCB	0.24e-12
CCE	0.27e-12
LB	0.5e-9
LE	0.6e-9
CCBPKG	0.08e-12
CCEPKG	0.08e-12
LBX	0.12e-9
LCX	0.10e-9
LEX	0.12e-9

MODEL RANGE

Frequency: 0.1 to 5.0 GHz
 Bias: VCE = 0.5 V to 3 V, Ic = 0.5 mA to 10 mA
 Date: 11/98

(1) Gummel-Poon Model

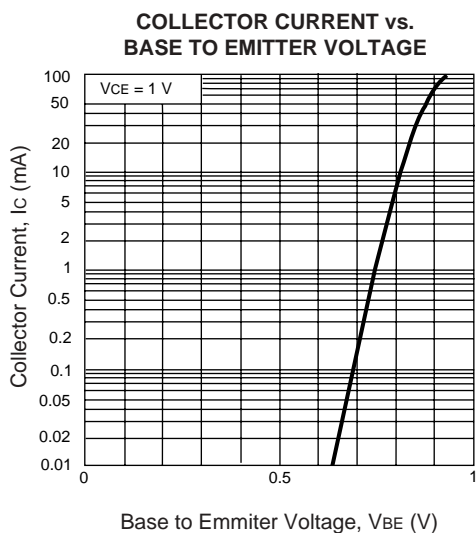
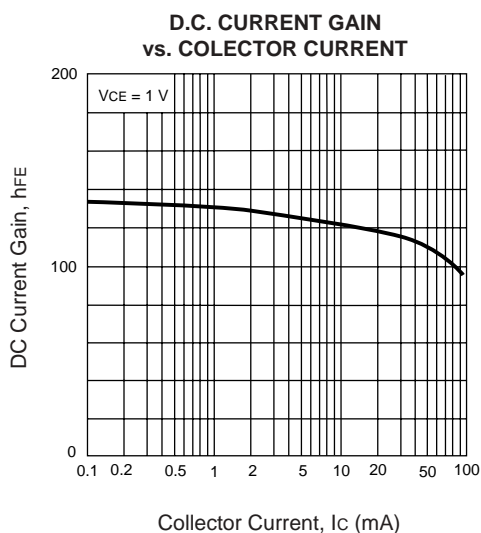
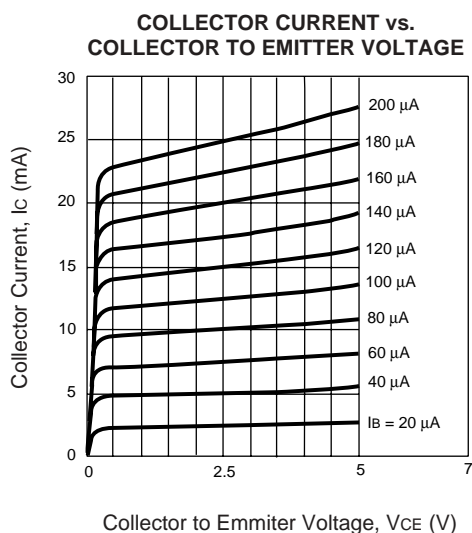
ABSOLUTE MAXIMUM RATINGS¹ (T_A = 25°C)

SYMBOLS	PARAMETERS	UNITS	RATINGS
V _{CB0}	Collector to Base Voltage	V	9
V _{CE0}	Collector to Emitter Voltage	V	6
V _{EB0}	Emitter to Base Voltage	V	2
I _c	Collector Current	mA	100
P _T	Total Power Dissipation	mW	125
T _J	Junction Temperature	°C	150
T _{STG}	Storage Temperature	°C	-65 to +150

Note:

1. Operation in excess of any one of these parameters may result in permanent damage.

TYPICAL PERFORMANCE CURVES (T_A = 25°C)



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