

isc Silicon NPN RF Transistor

BFQ540

DESCRIPTION

- High Gain
- High Output Voltage
- Low Noise

APPLICATIONS

- Designed for use in VHF, UHF and CATV amplifiers.

ABSOLUTE MAXIMUM RATINGS(T_a=25°C)

SYMBOL	PARAMETER	VALUE	UNIT
V _{CBO}	Collector-Base Voltage	20	V
V _{CES}	Collector-Emitter Voltage	15	V
V _{EBO}	Emitter-Base Voltage	2	V
I _C	Collector Current-Continuous	120	mA
P _C	Collector Power Dissipation @T _C =25°C	1.2	W
T _J	Junction Temperature	175	°C
T _{stg}	Storage Temperature Range	-65~150	°C

SOT-89 package

1: Base
2: Emitter
3: Collector

DIM	mm	
	MIN	MAX
A	1.40	1.60
b	0.32	0.52
b1	0.36	0.56
C	0.35	0.44
D	4.40	4.46
D1	1.40	1.80
E	2.30	2.60
E1	3.94	4.25
e	1.50typ	
e1	2.90	3.10
L	0.90	1.10

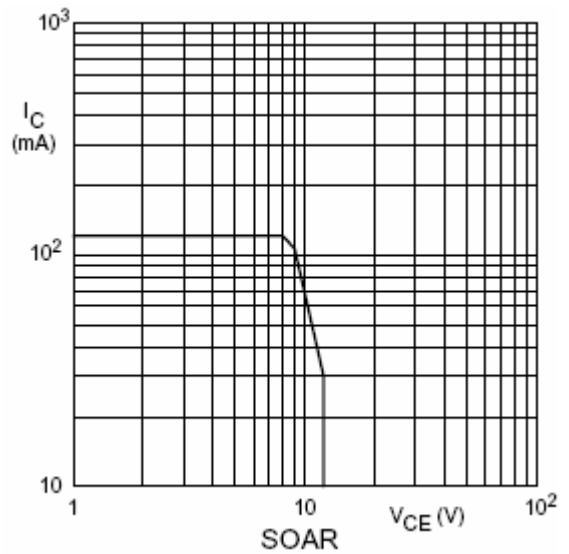
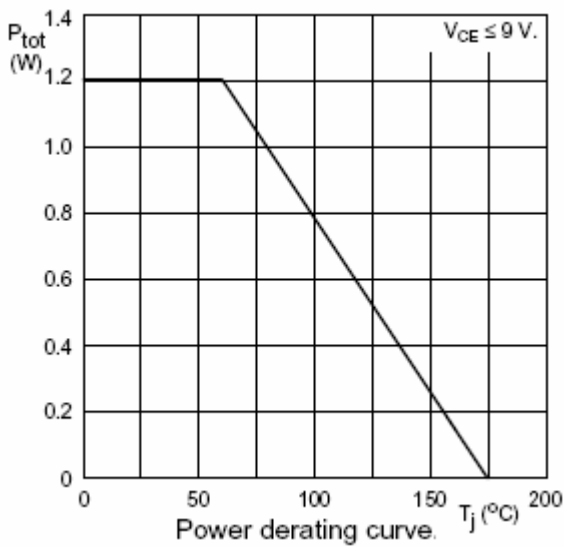
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ELECTRICAL CHARACTERISTICS

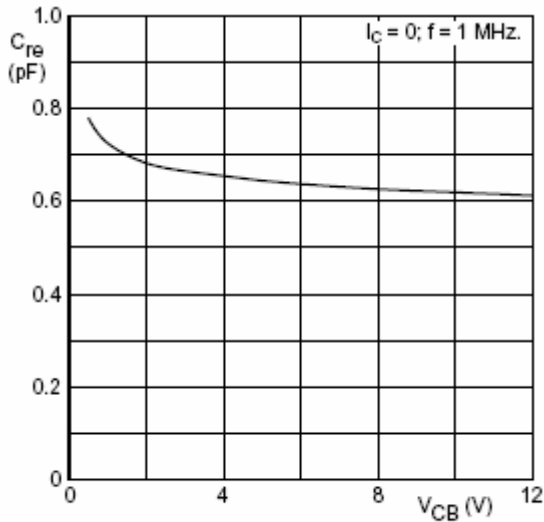
T_C=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CES}	Collector-Emitter Breakdown Voltage	I _C = 40 μ A ; R _{BE} = 0	15			V
V _{(BR)CBO}	Collector-Base Breakdown Voltage	I _C = 10 μ A ; I _E = 0	20			V
V _{(BR)EBO}	Emitter-Base Breakdown Voltage	I _E = 100 μ A ; I _C = 0	2			V
I _{CBO}	Collector Cutoff Current	V _{CB} = 8V ; I _E = 0			0.05	μ A
I _{EBO}	Emitter Cutoff Current	V _{EB} = 1V ; I _C = 0			0.2	μ A
h _{FE}	DC Current Gain	I _C = 40mA ; V _{CE} = 8V	60		250	
f _T	Current-Gain—Bandwidth Product	I _C = 40mA ; V _{CE} = 8V ; f= 1GHz		9		GHz
C _{re}	Feedback Capacitance	I _E = 0 ; V _{CB} = 8V ; f= 1MHz		0.9		pF
S _{21e} ²	Insertion Power Gain	I _C = 40mA ; V _{CE} = 8V ; f= 900MHz	12	13		dB
NF	Noise Figure	I _C = 40mA ; V _{CE} = 8V ; f= 900MHz		1.9	2.4	dB

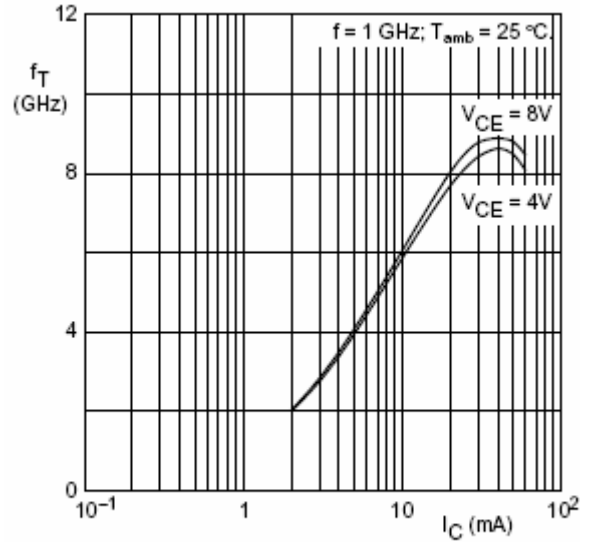


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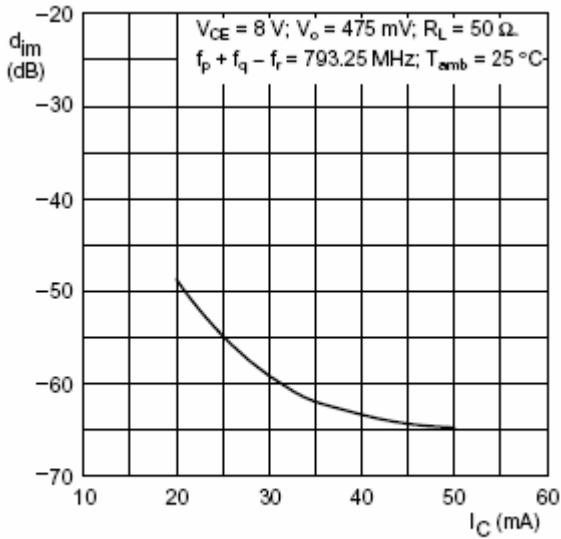
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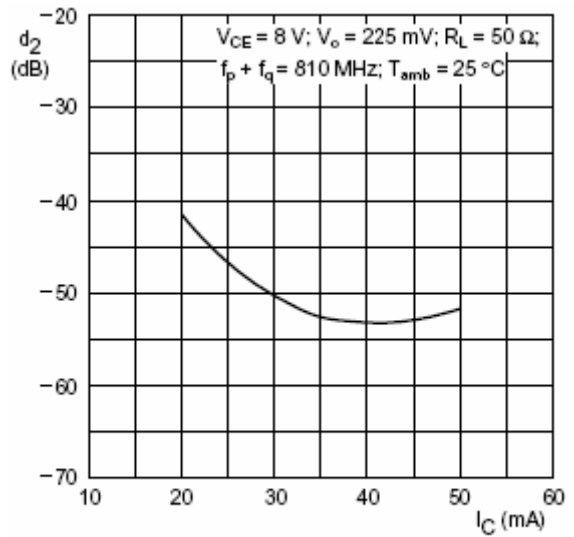
Feedback capacitance as a function of collector-base voltage; typical values.



Transition frequency as a function of collector current; typical values.



Intermodulation distortion as a function of collector current; typical values.



Second order intermodulation distortion as a function of collector current; typical values.