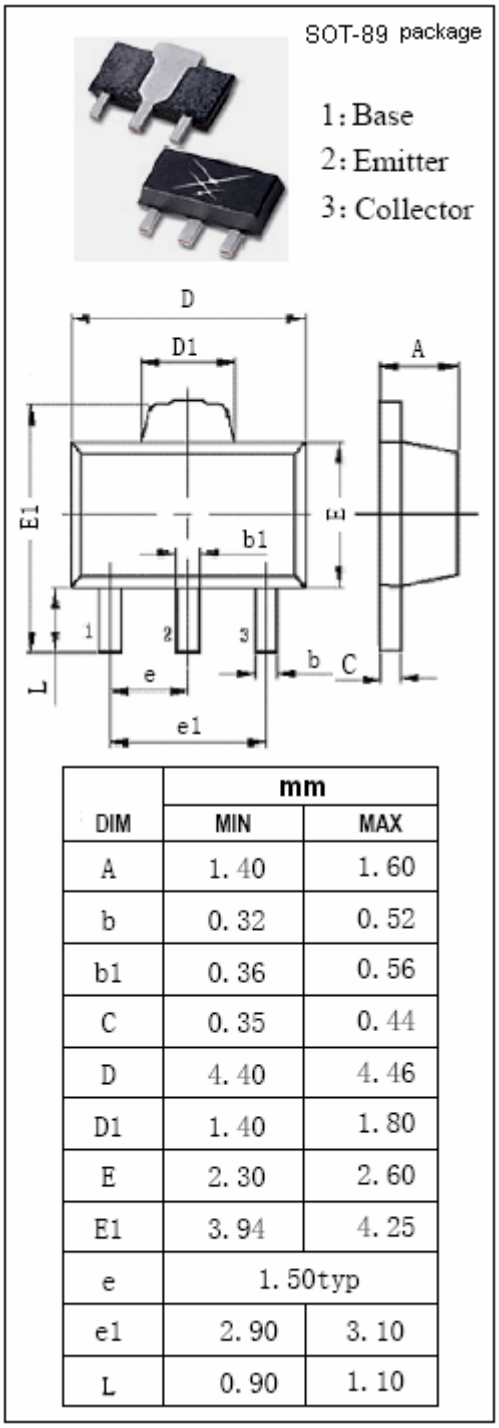
isc Silicon NPN RF Transistor BFQ540



DIM	mm MIN	mm 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

DESCRIPTION

- High Gain
- High Output Voltage
- Low Noise

APPLICATIONS

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

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

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℃	1.2	W
T_J	Junction Temperature	175	℃
T_{stg}	Storage Temperature Range	-65~150	℃

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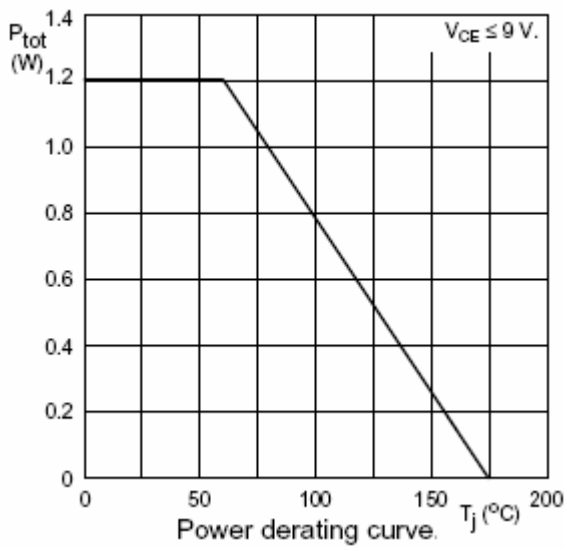
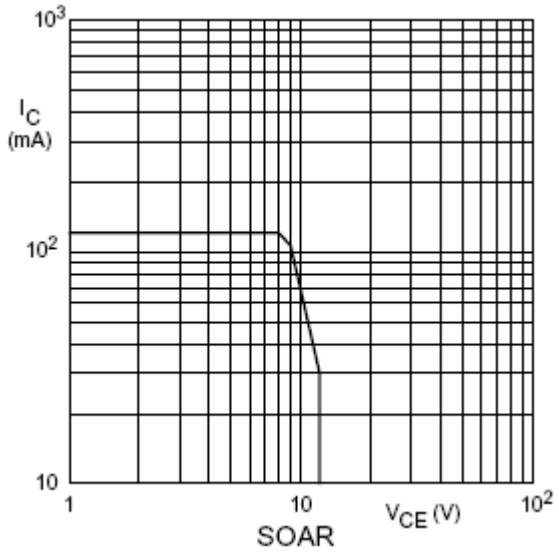
ELECTRICAL CHARACTERISTICS

T_C=25℃ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CES}$	Collector-Emitter Breakdown Voltage	I_C= 40μA ; R_{BE}= 0	15			V
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C= 10μA ; I_E= 0	20			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E= 100μA ; I_C= 0	2			V
I_{CBO}	Collector Cutoff Current	V_{CB}= 8V; I_E= 0			0.05	μA
I_{EBO}	Emitter Cutoff Current	V_{EB}= 1V; I_C= 0			0.2	μA
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



Power derating curve.



SOAR

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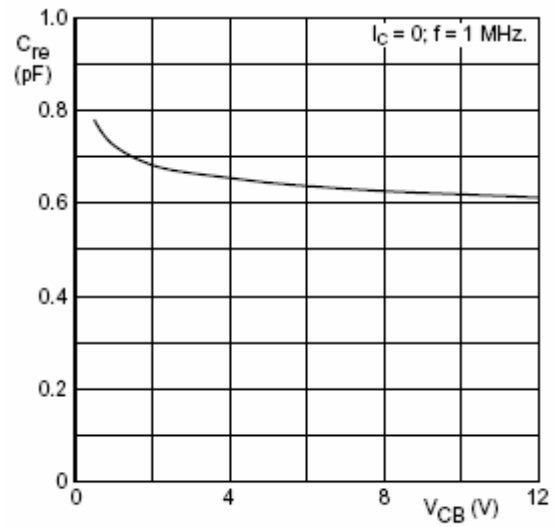
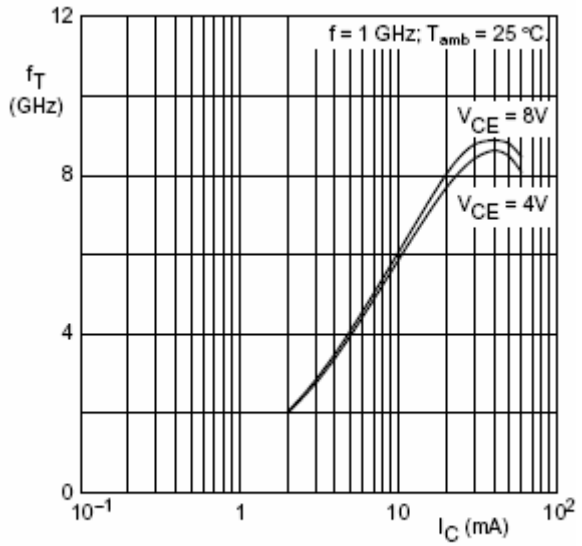
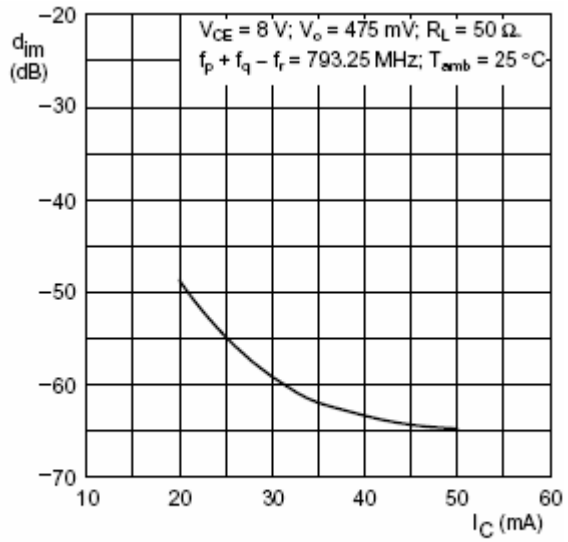


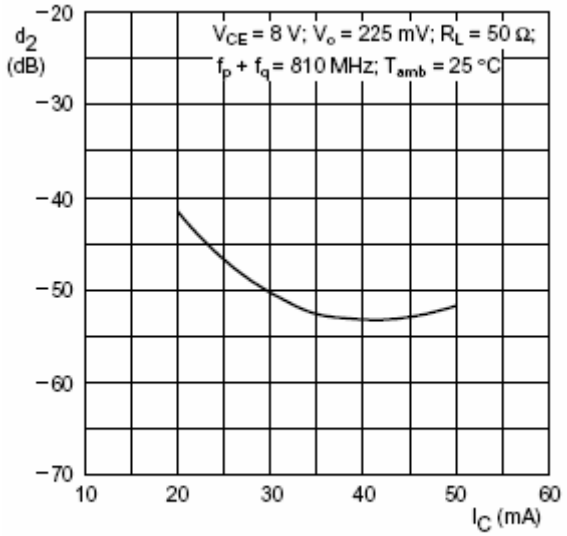
Feedback capacitance as a function of collector-base voltage; typical values.



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.