

isc Silicon NPN RF Transistor

BFS67

DESCRIPTION

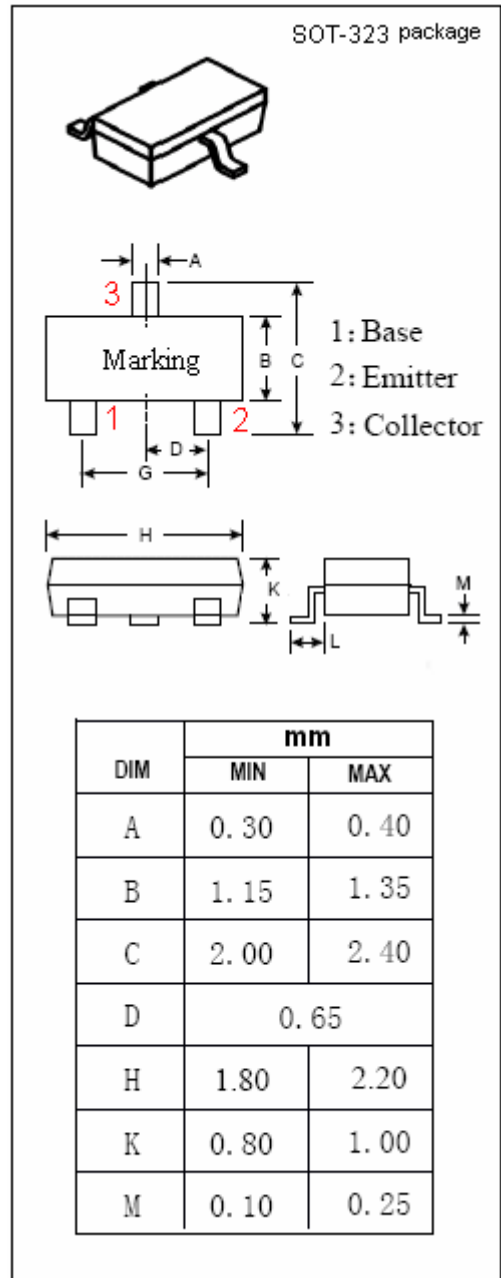
- Low Noise Figure
 $NF = 4.5 \text{ dB TYP. @ } V_{CE} = 5 \text{ V, } I_C = 2 \text{ mA, } f = 500 \text{ MHz}$
- High Current-Gain—Bandwidth Product
 $fT = 1 \text{ GHz TYP. @ } V_{CE} = 5 \text{ V, } I_C = 2 \text{ mA, } f = 500 \text{ MHz}$

APPLICATIONS

- For a wide range of RF applications such as: mixers and oscillators in TV tuners and RF communications equipment.

ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	25	V
V_{CEO}	Collector-Emitter Voltage	15	V
V_{EBO}	Emitter-Base Voltage	2.5	V
I_C	Collector Current-Continuous	25	mA
I_{CM}	Collector Current-Peak	50	mA
P_C	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	0.3	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature Range	-65~150	$^\circ\text{C}$



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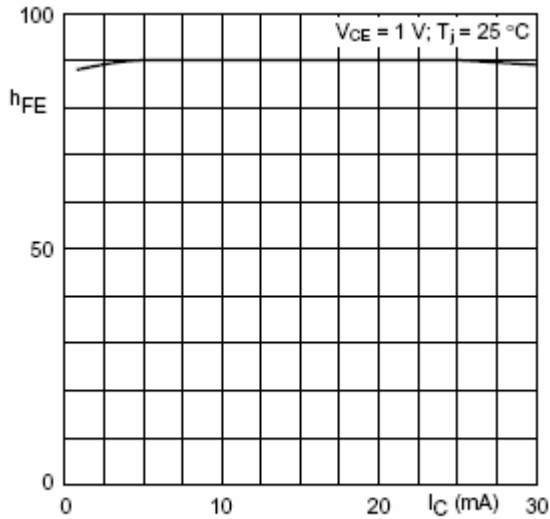
ELECTRICAL CHARACTERISTICS

 $T_C=25^{\circ}\text{C}$ unless otherwise specified

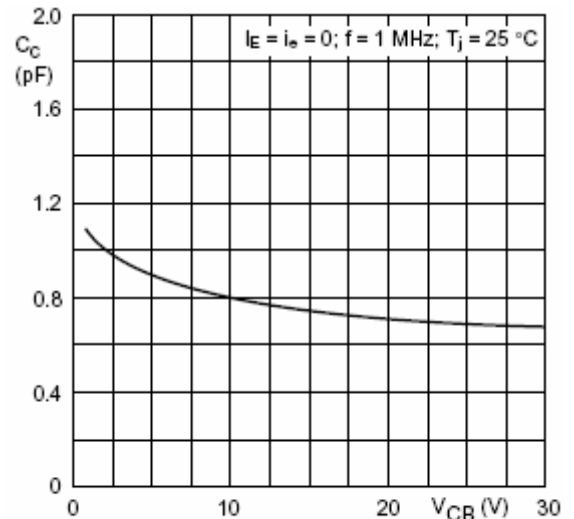
SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
I_{CBO}	Collector Cutoff Current	$V_{CB}= 10V; I_E= 0$			0.01	μA
h_{FE-1}	DC Current Gain	$I_C= 2mA; V_{CE}= 1V$	25			
h_{FE-2}	DC Current Gain	$I_C= 25mA; V_{CE}= 1V$	25			
f_T	Current-Gain—Bandwidth Product	$I_C= 2mA; V_{CE}= 5V; f= 500MHz$		1		GHz
f_T	Current-Gain—Bandwidth Product	$I_C= 25mA; V_{CE}= 5V; f= 500MHz$		1.6		GHz
C_{OB}	Output Capacitance	$I_E= 0; V_{CB}= 10V; f= 1MHz$		0.8	1.5	pF
C_{re}	Feedback Capacitance	$I_C= 1mA; V_{CB}= 5V; f= 1MHz$		0.65		pF
NF	Noise Figure	$I_C= 2mA; V_{CE}= 5V; R_S= 50\Omega$ $f= 500MHz$		4.5		dB

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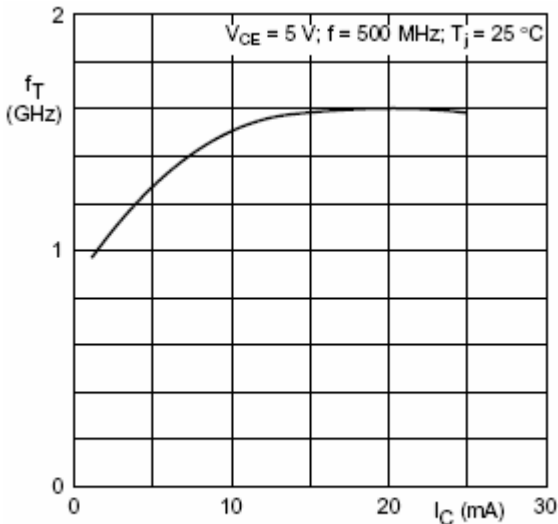
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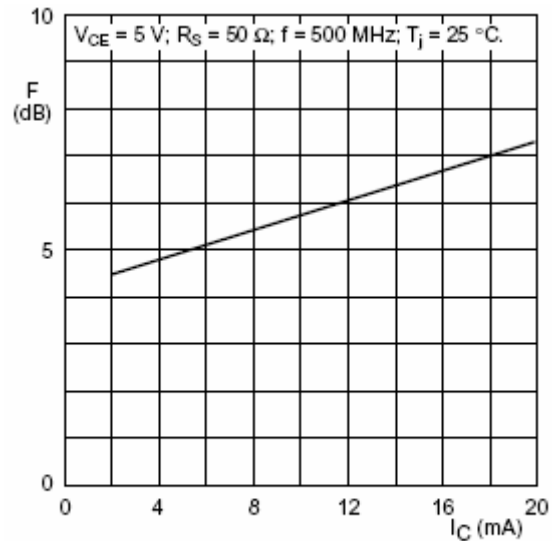
DC current gain as a function of collector current



Collector capacitance as a function of collector-base voltage



Transition frequency as a function of collector current



Minimum noise figure as a function of collector current