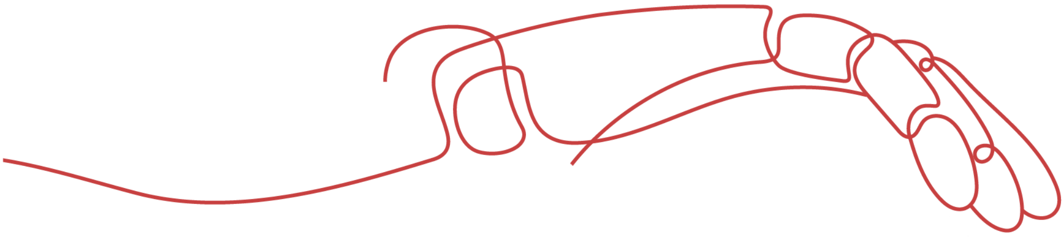
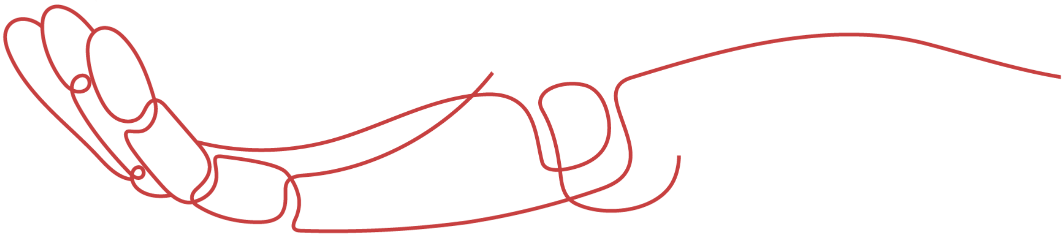
JG Techology



PRODUCT DATA SHEET



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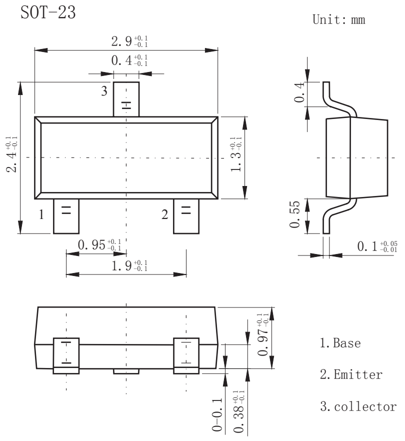
Datasheet **Resources** **Samples**

BFS17NTA

NPN Transistors



■ Features

- ● Low noise and high gain.

  NF = 1.1 dB Typ., G_a = 11 dB Typ. @V_{CE} = 10 V, I_C = 7 mA, f = 1.0 GHz

- ● High power gain.

  MAG = 13 dB Typ. @V_{CE} = 10 V, I_C = 20 mA, f = 1.0 GHz

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	20	V
Collector to emitter voltage	V_{CEO}	12	V
Emitter to base voltage	V_{EBO}	3.0	V
Collector current (DC)	I_C	100	mA
Total power dissipation	P_{tot}	200	mW
Junction temperature	T_j	150	℃
Storage temperature range	T_{stg}	-65 to +150	℃

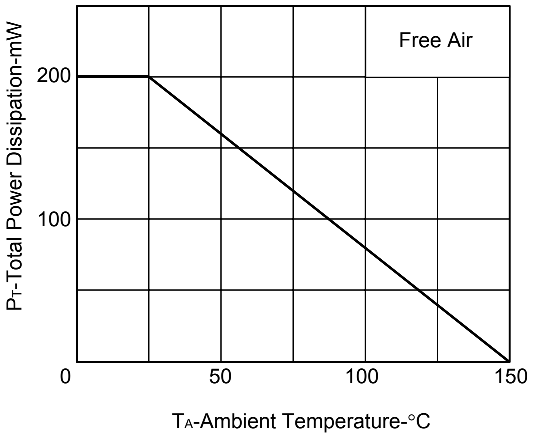
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 μA， I_E= 0	20			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA， I_B= 0	12			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 uA， I_C= 0	3			
Collector-base cut-off current	I_{CBO}	V_{CB}= 10 V , I_E= 0			1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 3V , I_C=0			1	
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C=50 mA, I_B=5mA			0.4	V
Base - emitter saturation voltage *	$V_{BE(sat)}$	I_C=50 mA, I_B=5mA			1.2	
DC current gain *	h_{FE}	V_{CE}= 10V, I_C= 20mA	50		400	
Insertion power gain	$\|S21e\|^2$	V_{CE} = 10 V, I_C = 20 mA, f= 1GHz		11.5		dB
Noise figure	NF	V_{CE} = 10 V, I_C = 7 mA, f= 1GHz		1.1	2	
Reverse transfer capacitance	C_{re}	V_{CB}= 10V, I_E= 0,f=1MHz		0.55	1	pF
Transition frequency	f_T	V_{CE}= 10V, I_C= 20mA		7		GHz

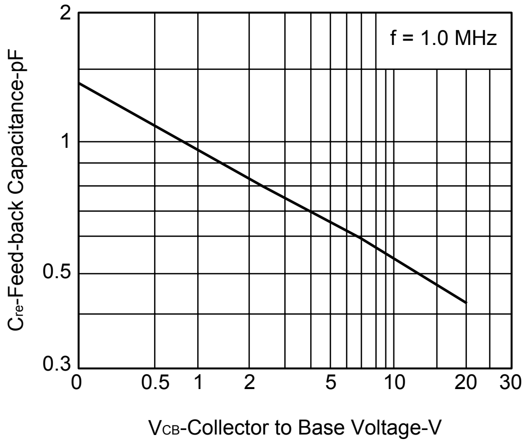
*. Pulse measurement: PW ≤ 350 μs, Duty Cycle ≤ 2%.

■ Typical Characterisitics

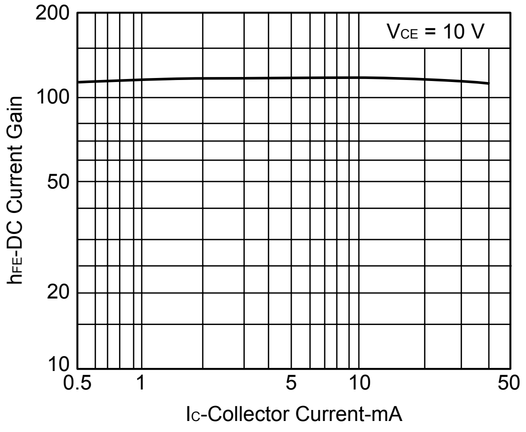
TOTAL POWER DISSIPATION vs.
AMBIENT TEMPERATURE



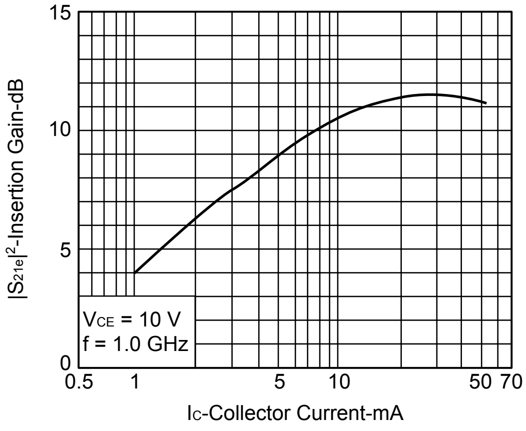
FEED-BACK CAPACITANCE vs.
COLLECTOR TO BASE VOLTAGE



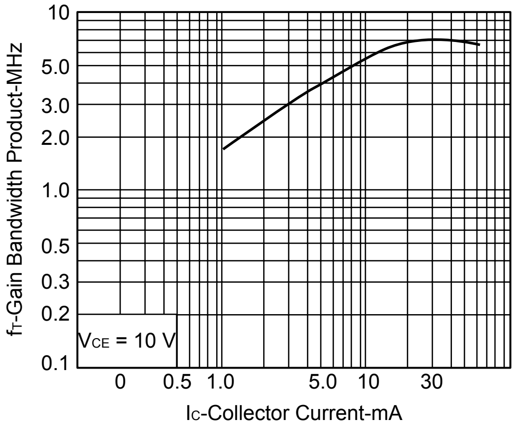
DC CURRENT GAIN vs.
COLLECTOR CURRENT



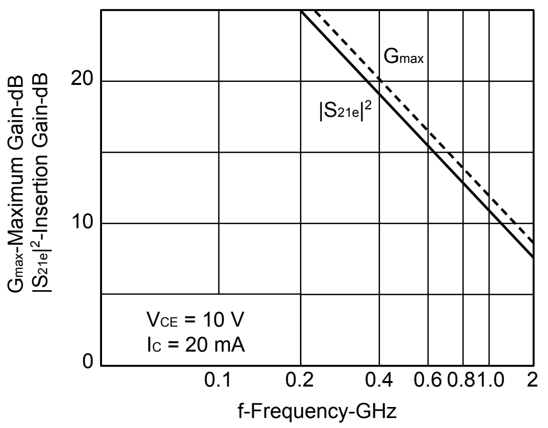
INSERTION GAIN vs.
COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs.
COLLECTOR CURRENT



INSERTION GAIN, MAXIMUM GAIN
vs. FREQUENCY



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