

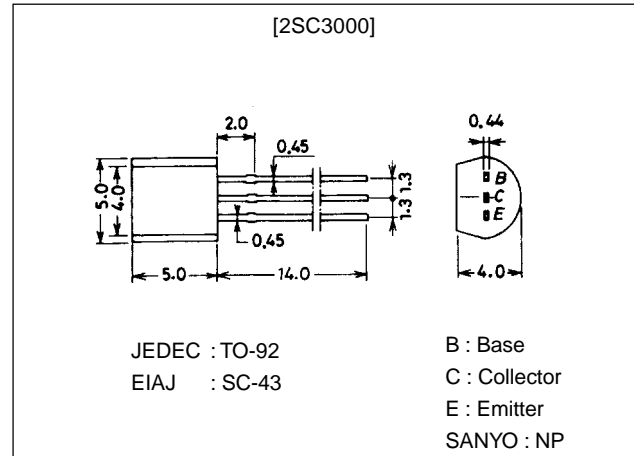
**2SC3000****HF Amplifier Applications****Features**

- FBET series.
- High  $f_T$  and small  $C_{re}$ .

**Package Dimensions**

unit:mm

2003A

**Specifications****Absolute Maximum Ratings at  $T_a = 25^\circ\text{C}$** 

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		30	V
Collector-to-Emitter Voltage	$V_{CE0}$		20	V
Emitter-to-Base Voltage	$V_{EB0}$		5	V
Collector Current	$I_C$		30	mA
Collector Dissipation	$P_C$		250	mW
Junction Temperature	$T_J$		125	$^\circ\text{C}$
Storage Temperature	$T_{stg}$		-55 to +125	$^\circ\text{C}$

**Electrical Characteristics at  $T_a = 25^\circ\text{C}$** 

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=10\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=6\text{V}, I_C=1\text{mA}$	60*		320*	
Gain-Bandwidth Product	$f_T$	$V_{CE}=6\text{V}, I_C=1\text{mA}$	200	320		MHz
Reverse Transfer Capacitance	$C_{re}$	$V_{CB}=6\text{V}, f=1\text{MHz}$	0.7	1.1	1.4	pF
Base-to-Collector Time Constant	$r_{bb}C_C$	$V_{CE}=6\text{V}, I_C=1\text{mA}, f=31.9\text{MHz}$		15	22	ps
Noise Figure	NF	$V_{CE}=6\text{V}, I_C=1\text{mA}, f=100\text{MHz}$		3.0		dB
Power Gain	PG	$V_{CE}=6\text{V}, I_C=1\text{mA}, f=100\text{MHz}$		25		dB

\* : The 2SC2300 are classified by 1mA  $h_{FE}$  as follows :

60	D	120	100	E	200	160	F	320
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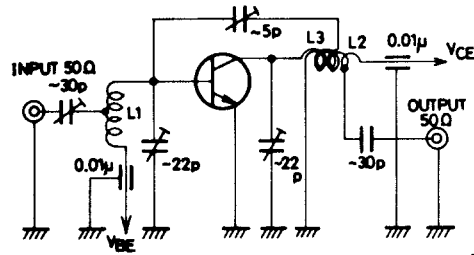
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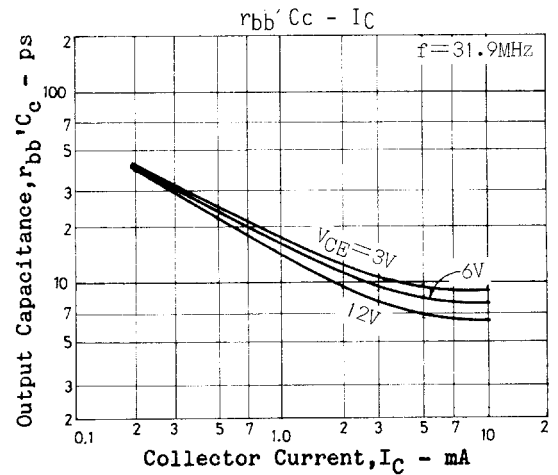
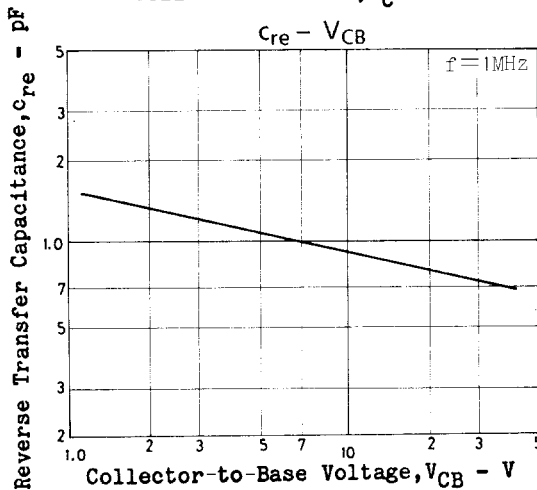
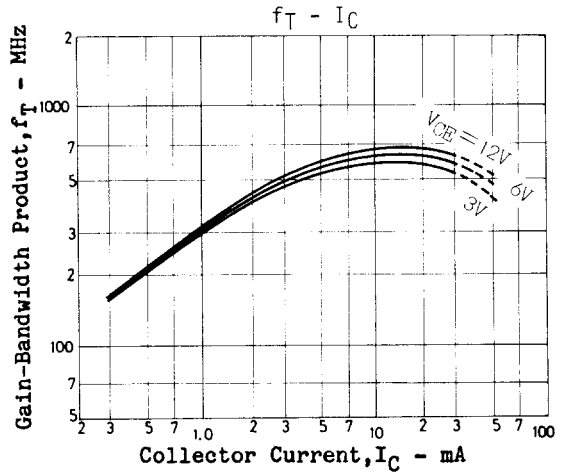
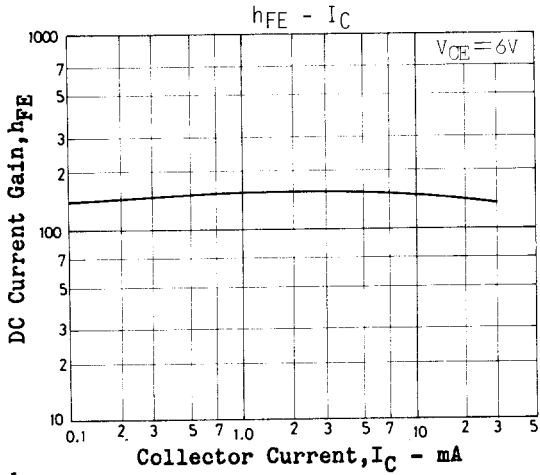
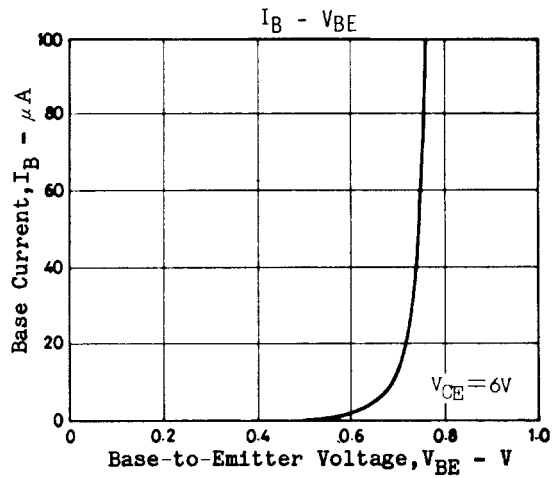
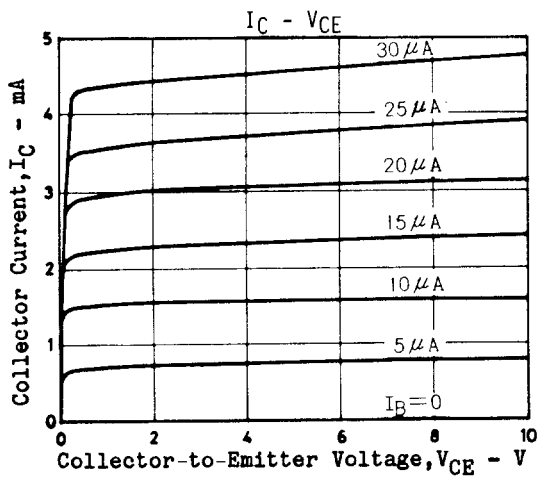
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## NF, PG Test Circuit

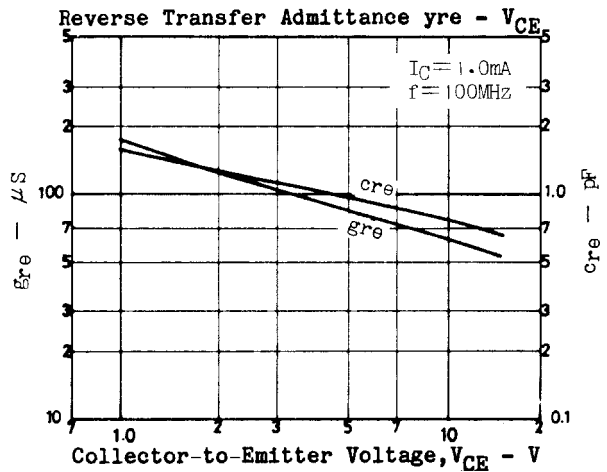
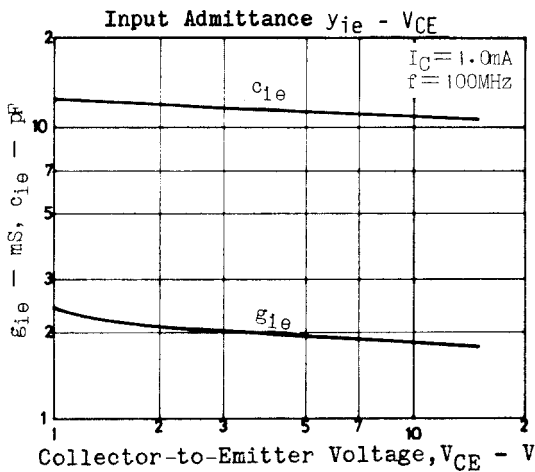
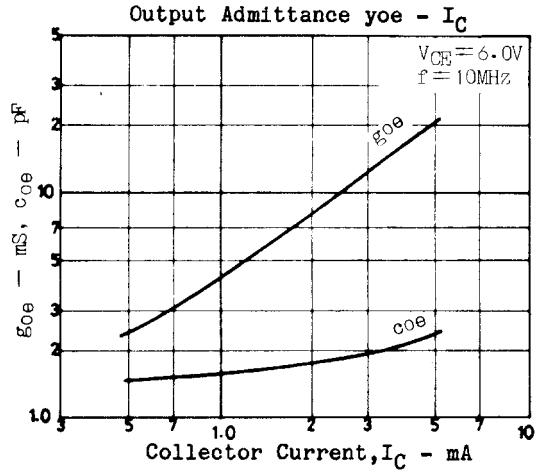
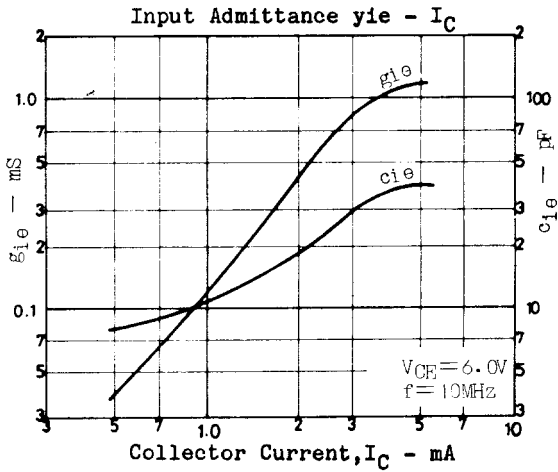
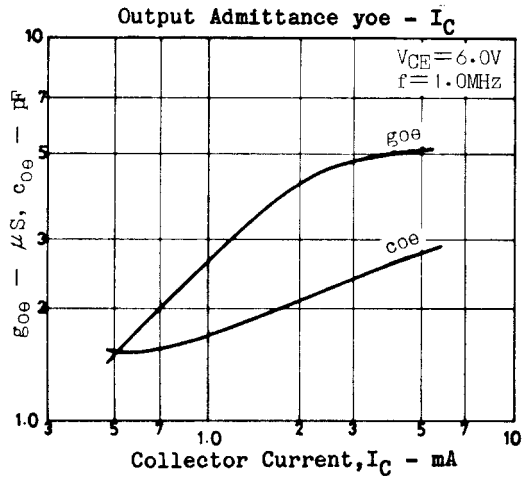
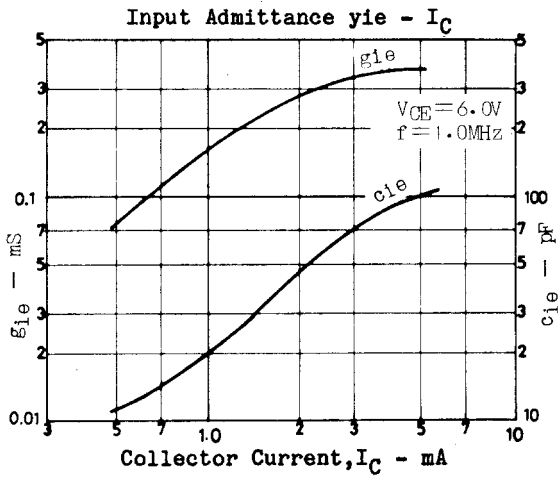
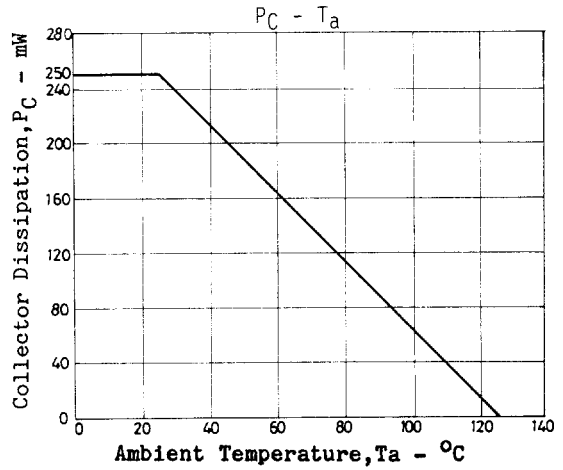
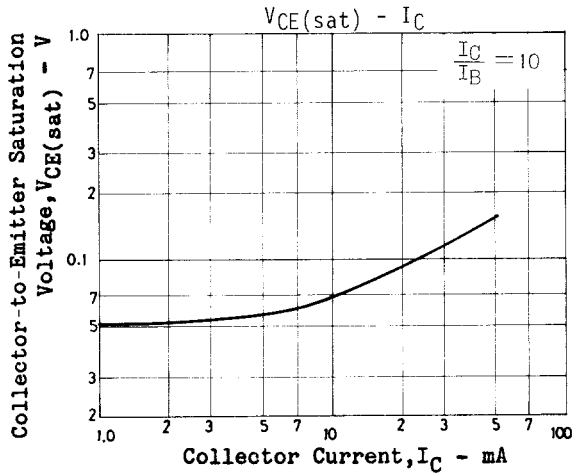


Unit(capacitance : F)

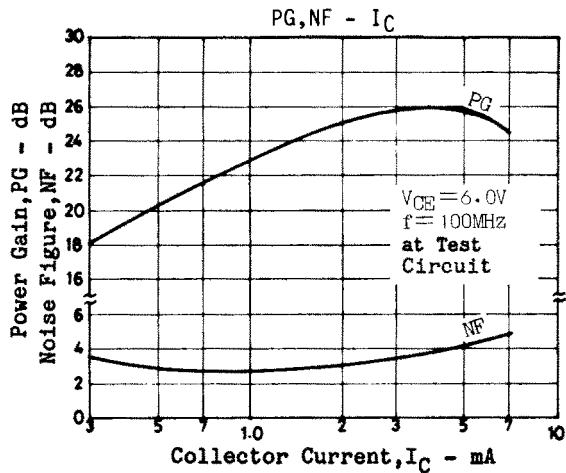
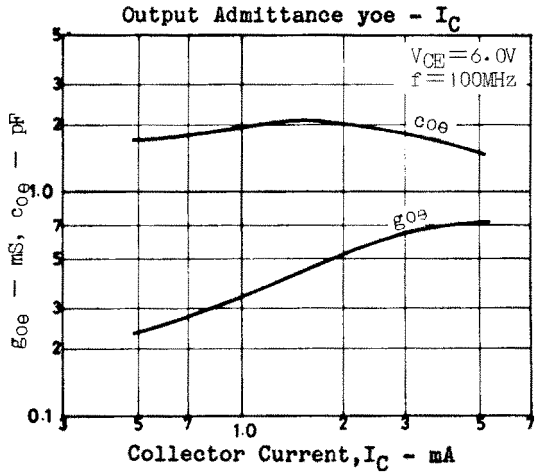
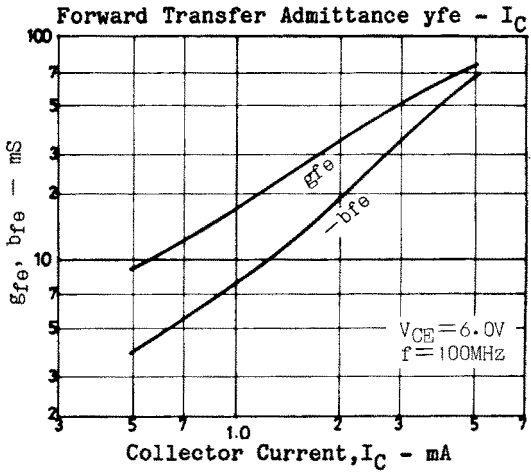
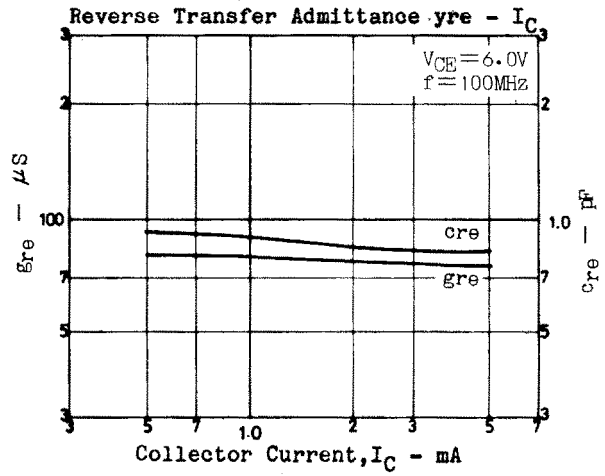
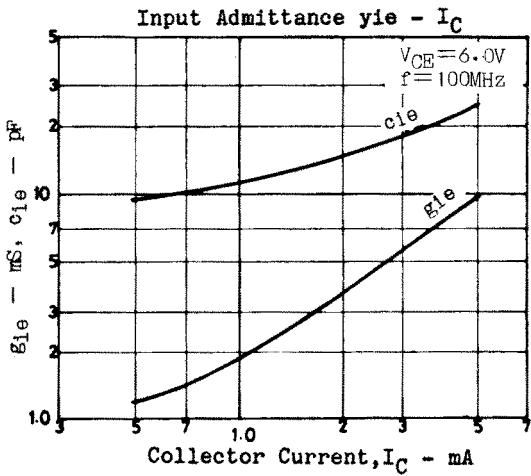
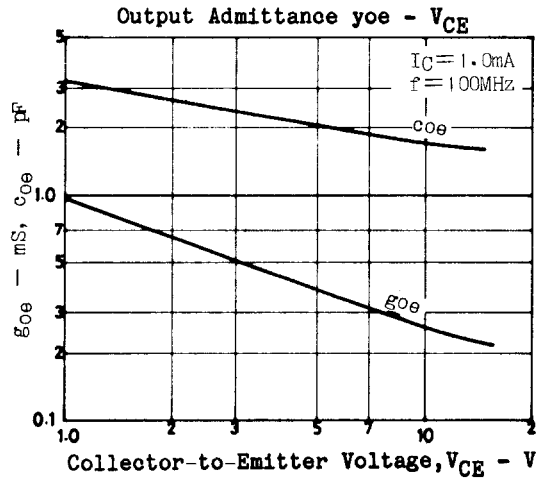
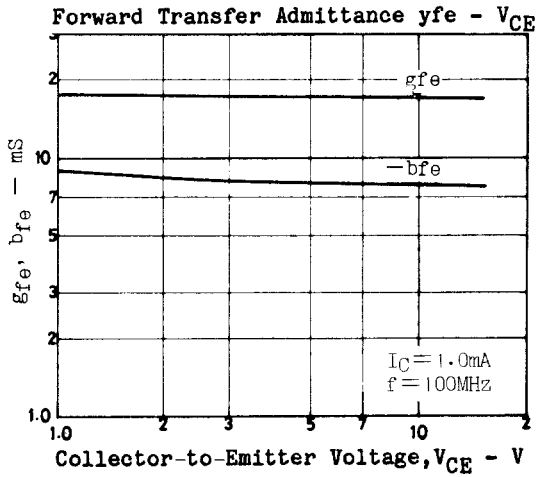
- L1: 1mmϕ plated wire, 10mmϕ 5T, tapped at 2T from  $V_{BE}$ .
- L2: 1mmϕ plated wire, 10mmϕ 7T, tapped at 1T from  $V_{CE}$ .
- L3: 1mmϕ enameled wire, 10mmϕ 3T.



# 2SC3000



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