

SANYO	No.931D	2SC2999
		NPN Epitaxial Planar Silicon Transistor

HF Amp Applications

Features

- FBET series.
- Very small-sized package permitting sets to be small-sized and slim.
- High f_T ($f_T=750\text{MHz}$ typ.) and small c_{re} ($c_{re}=0.6\text{pF}$ typ.)

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

			unit
Collector to Base Voltage	V_{CB0}	25	V
Collector to Emitter Voltage	V_{CE0}	20	V
Emitter to Base Voltage	V_{EB0}	3	V
Collector Current	I_C	30	mA
Collector Dissipation	P_C	150	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40 to +125	$^\circ\text{C}$

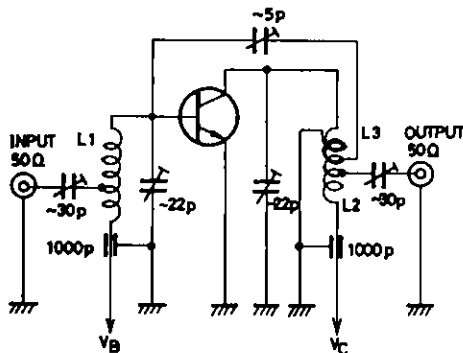
Electrical Characteristics at $T_a=25^\circ\text{C}$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=10\text{V}, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=3\text{V}, I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=6\text{V}, I_C=1\text{mA}$	40*		200*	
Gain-Bandwidth Product	f_T	$V_{CE}=6\text{V}, I_C=4\text{mA}$	450	750		MHz
Reverse Transfer Capacitance	c_{re}	$V_{CB}=6\text{V}, f=1\text{MHz}$	0.6	0.9		pF
Base to Collector Time Constant	$r_{bb}'C_c$	$V_{CB}=6\text{V}, I_C=1\text{mA}, f=31.9\text{MHz}$			19	ps
Noise Figure	NF	$V_{CE}=6\text{V}, I_C=1\text{mA}, f=100\text{MHz}$	2.2			dB
Power Gain	PG	$V_{CE}=6\text{V}, I_C=1\text{mA}, f=100\text{MHz}$	28			dB

*: The 2SC2999 is classified as follows according to h_{FE} at 1mA.

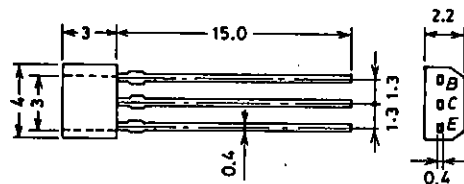
40 C 80	60 D 120	100 E 200
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NF, PG Test Circuit



- L1: 1mm ϕ plated wire, 10mm ϕ 5T, pitch: 15mm, tapped at 2T from base side.
 - L2: 1mm ϕ plated wire, 10mm ϕ 7T, pitch 10mm, patted at 2T from V_C side.
 - L3: 1mm ϕ enameled wire, 10mm ϕ 3T, pitch 10mm.
- Unit(Capacitance : F)

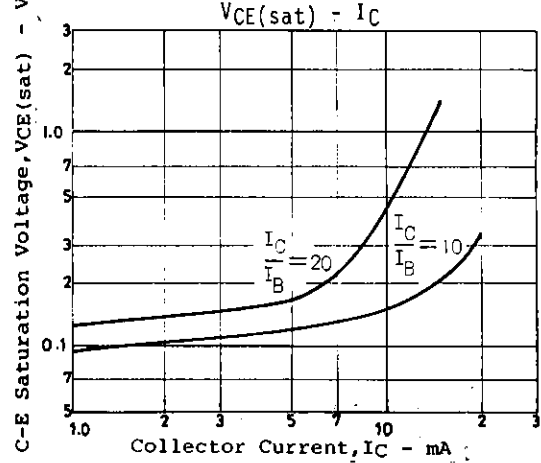
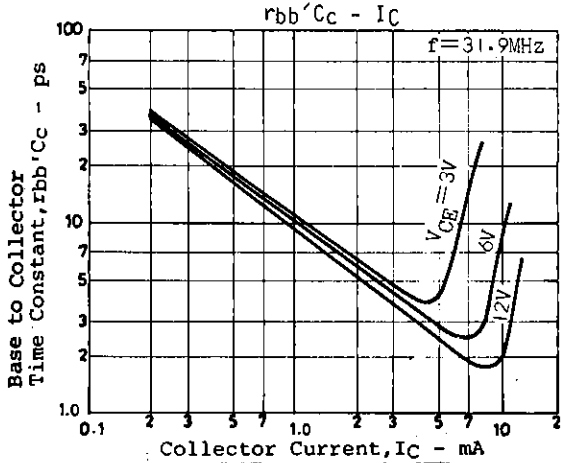
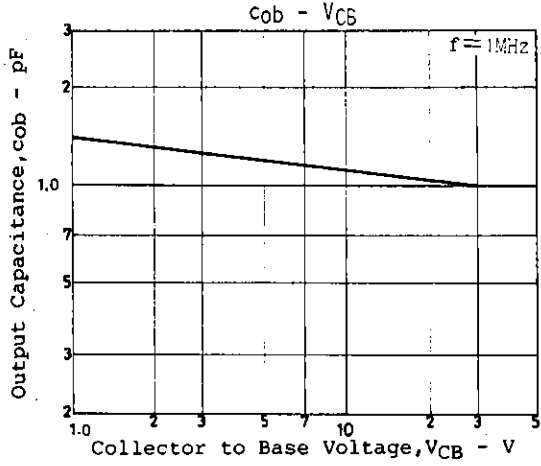
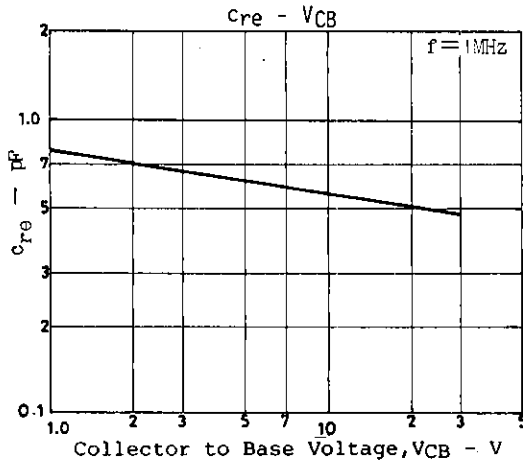
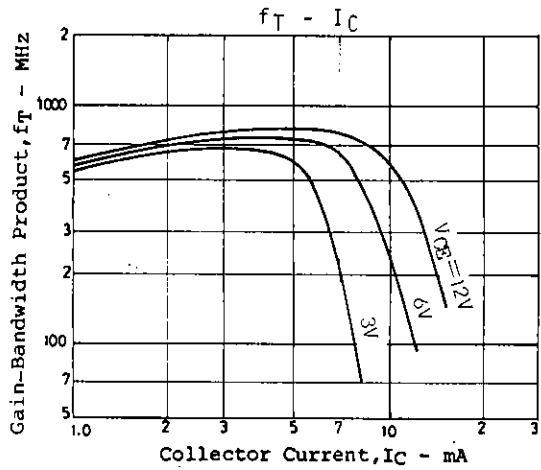
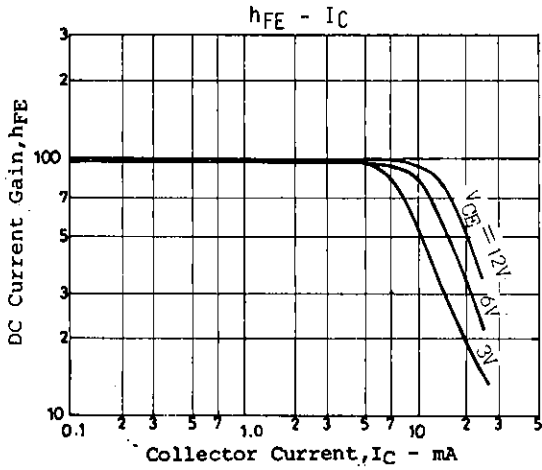
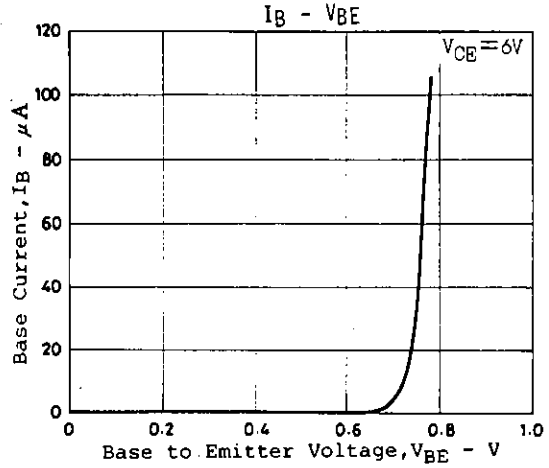
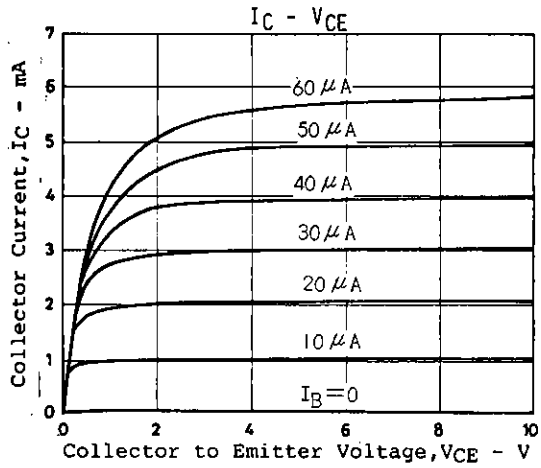
Package Dimensions 2033
(unit: mm)

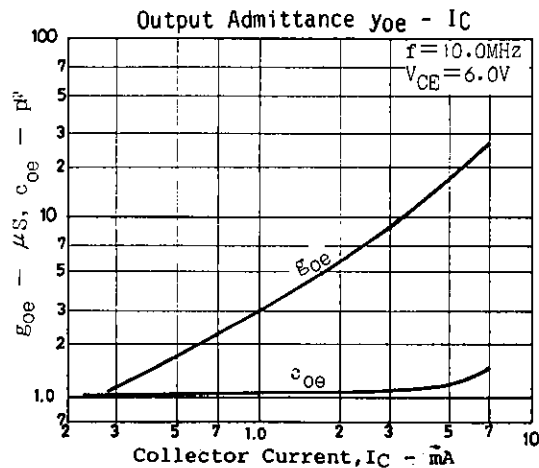
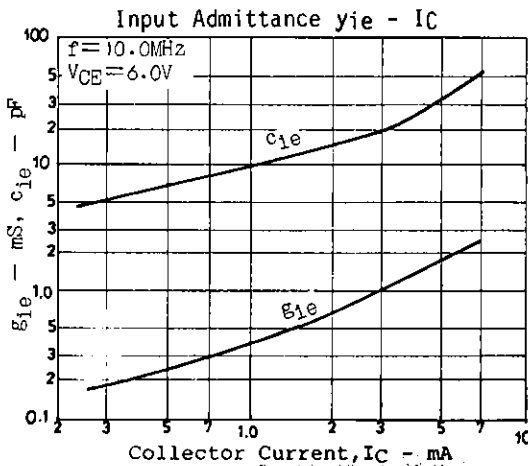
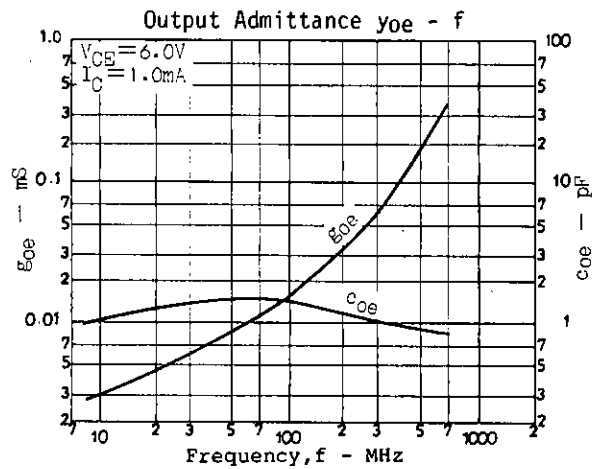
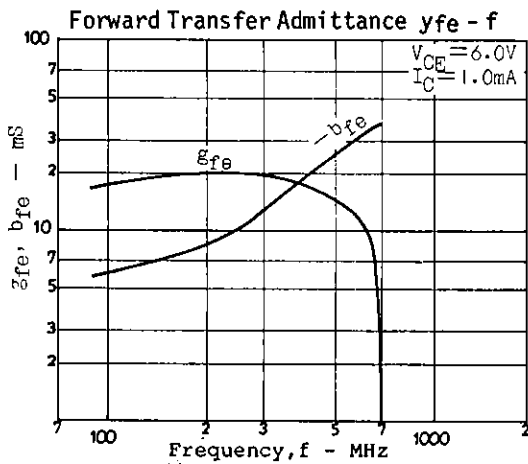
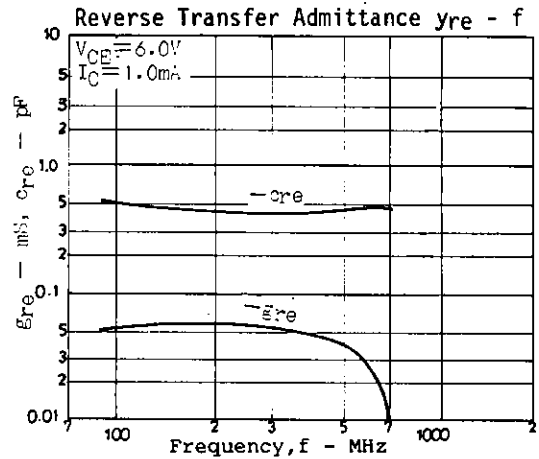
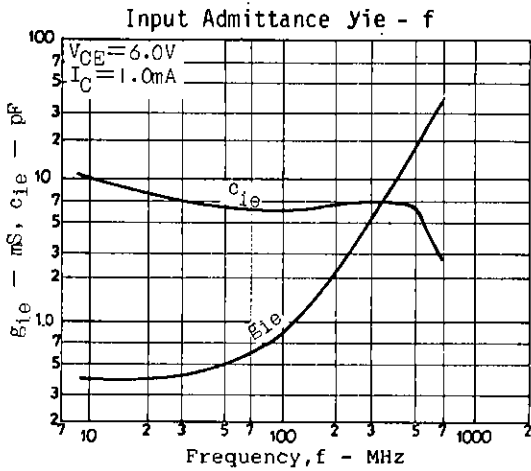
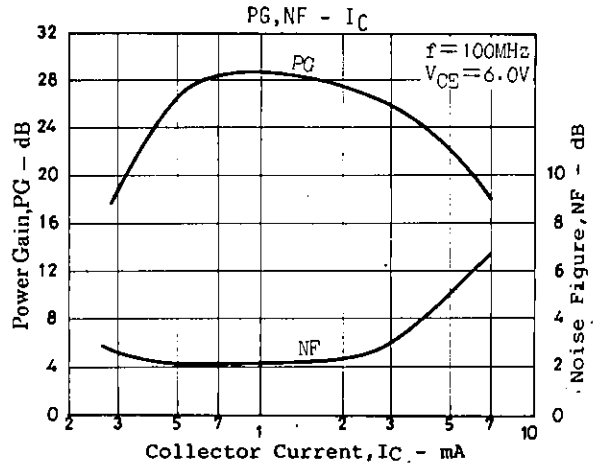
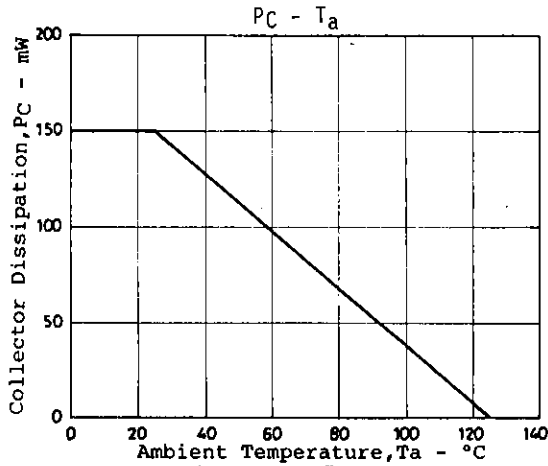


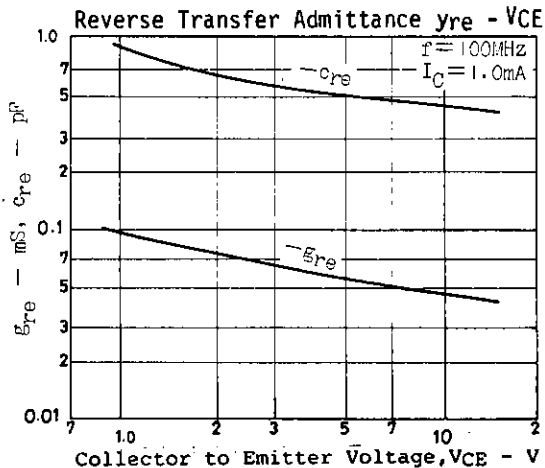
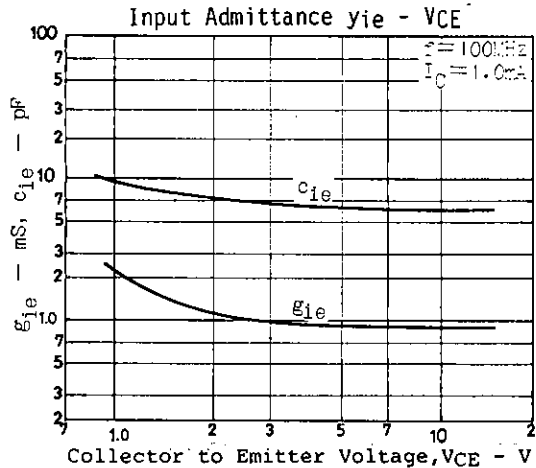
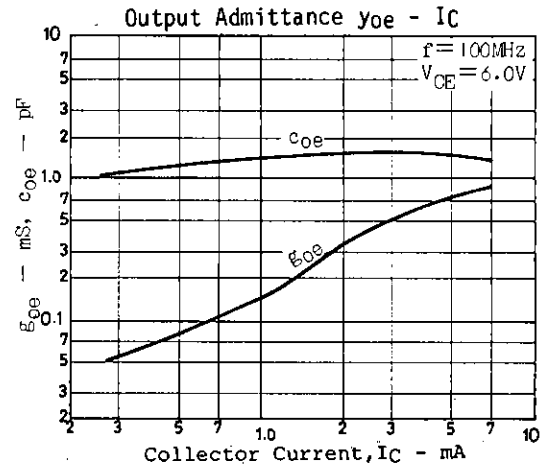
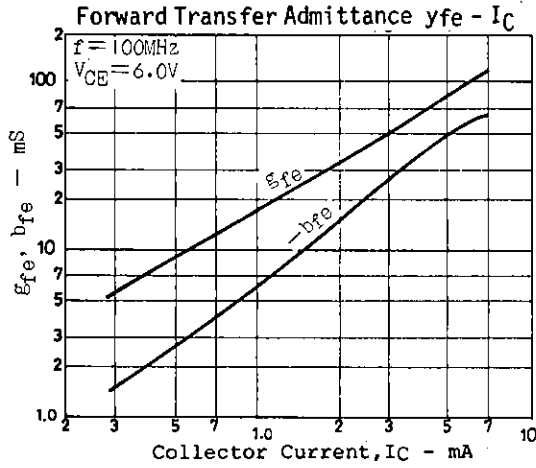
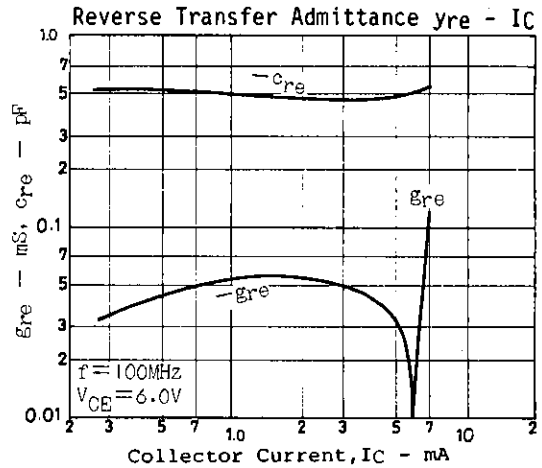
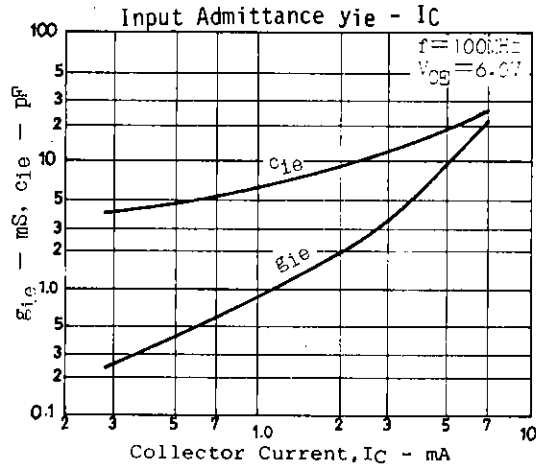
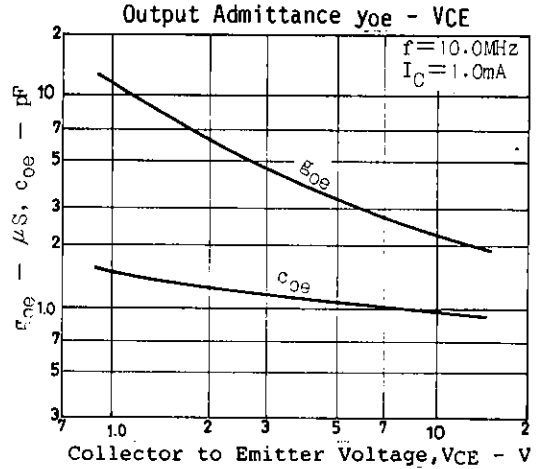
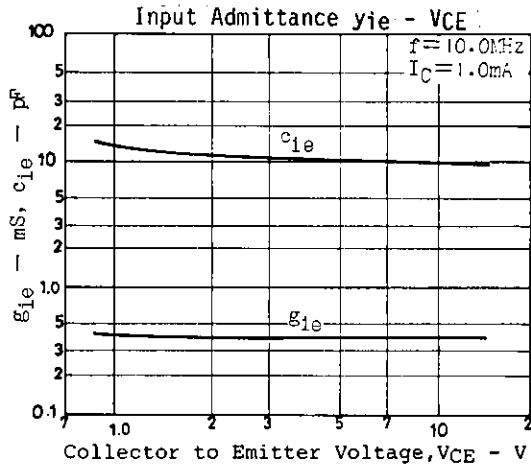
B: Base
C: Collector
E: Emitter

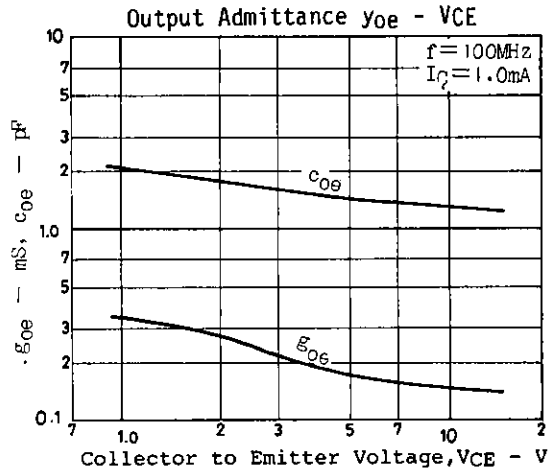
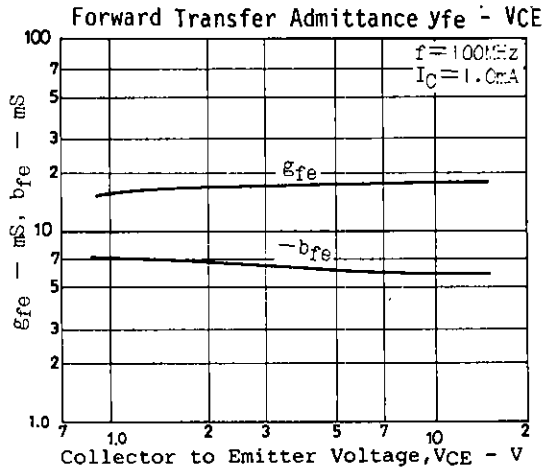
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