



No.1066A

2SC3142

NPN Epitaxial Planar Silicon Transistor

**High-Frequency
General-Purpose Amp Applications**

Features

- . FBET series.
- . Compact package enabling compactness of sets.
- . High f_T and small c_{re} . ($f_T=750\text{MHz typ}$, $c_{re}=0.6 \text{ typ}$)

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_{CB0}	$V_{CB}=10\text{V}, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=3\text{V}, I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=6\text{V}, I_C=1\text{mA}$	40*		180*	
Gain-Bandwidth Product	f_T	$V_{CE}=6\text{V}, I_C=4\text{mA}$	450	750		MHz
Feedback Capacitance	c_{re}	$V_{CB}=6\text{V}, f=1\text{MHz}$	0.6	0.9		pF
B to C 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

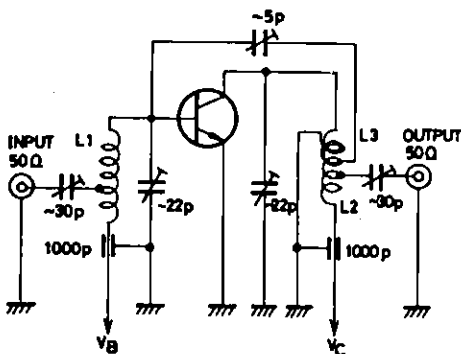
* The 2SC3142 is classified as follows according to h_{FE} at 1mA:

40	2	80	60	3	120	90	4	180
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(Note) Marking : J

h_{FE} rank: 2,3,4

NF, PG Test Circuit



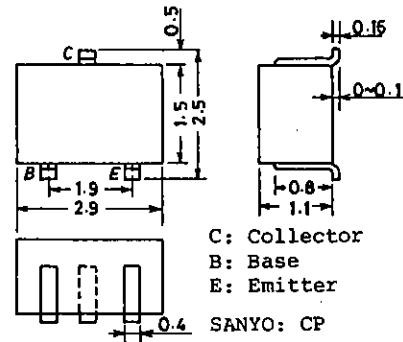
L1 : 1mm ϕ plated wire 10mm ϕ 5T, pitch 15mm, tap : 2T from base.

L2 : 1mm ϕ plated wire 10mm ϕ 7T, pitch 10mm, tap : 2T from V_C .

L3 : 1mm ϕ enameled wire 10mm ϕ 3T, pitch 10mm.

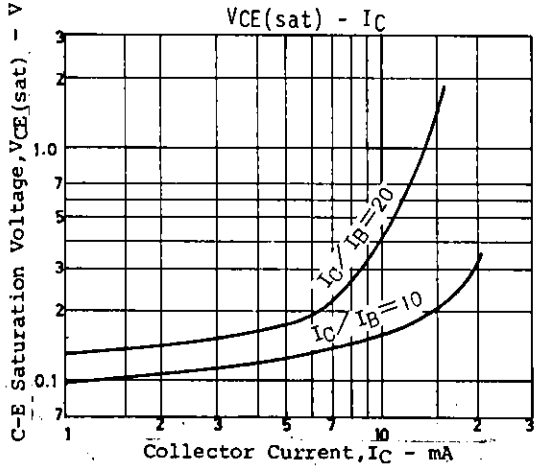
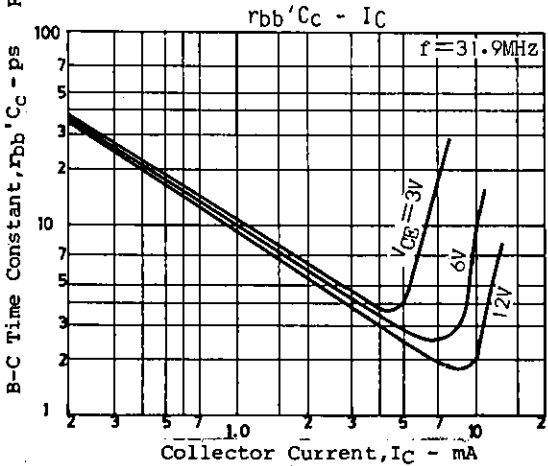
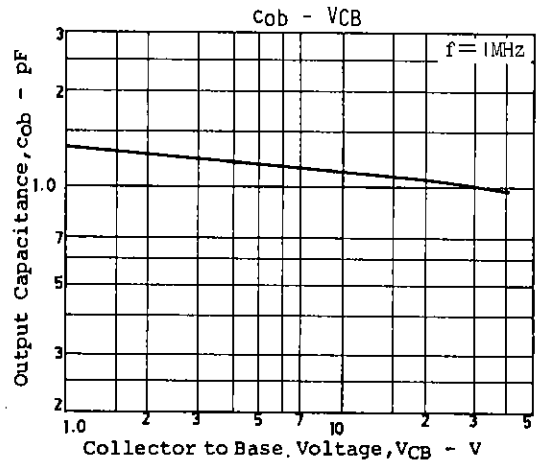
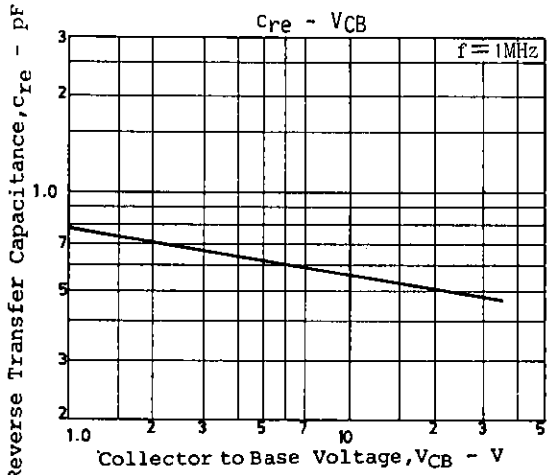
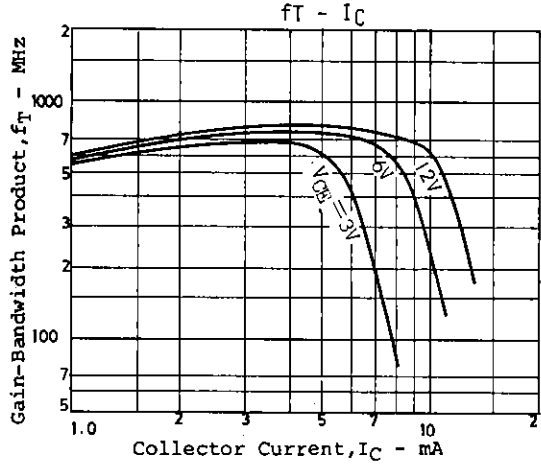
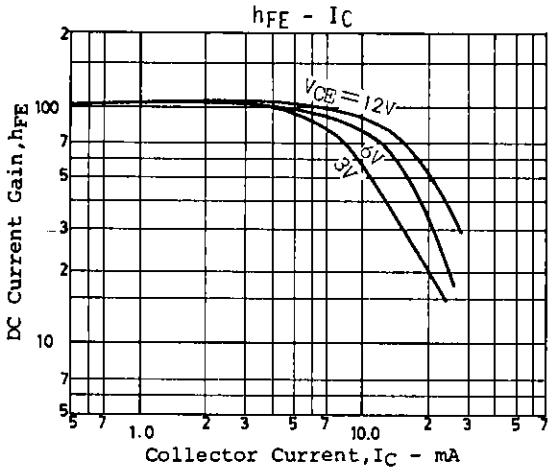
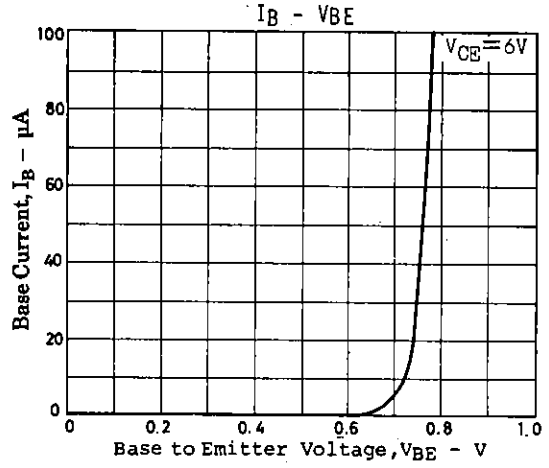
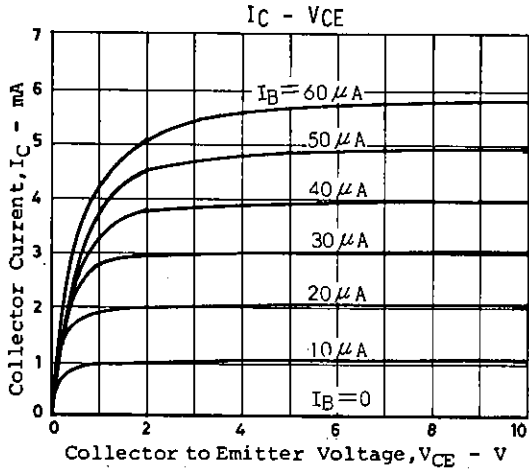
Unit (Capacitance : F)

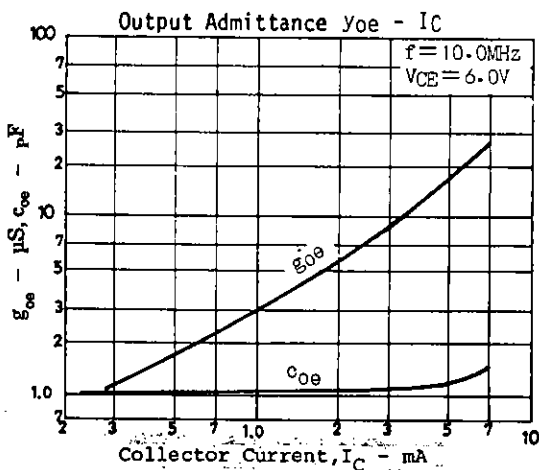
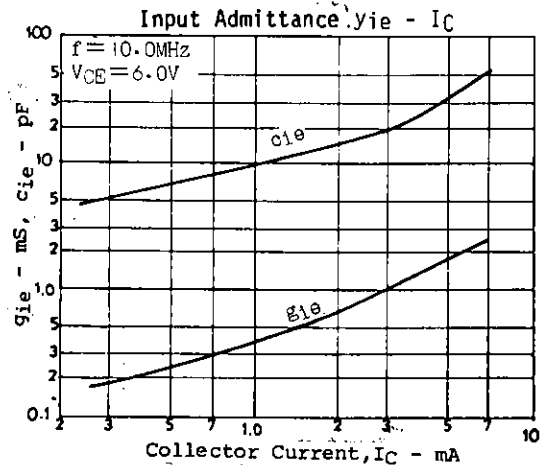
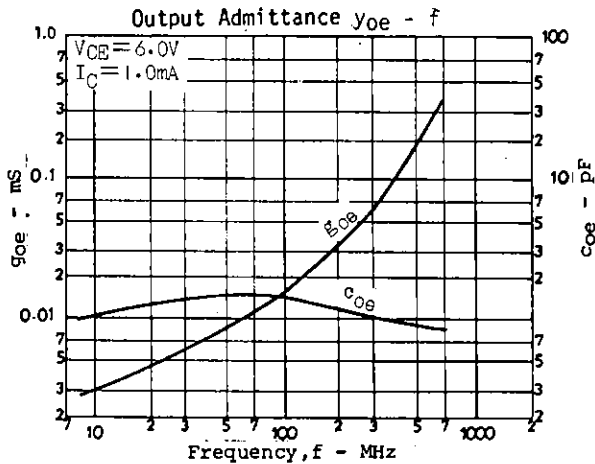
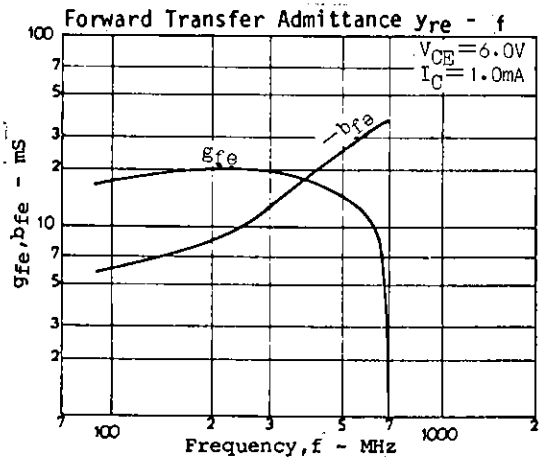
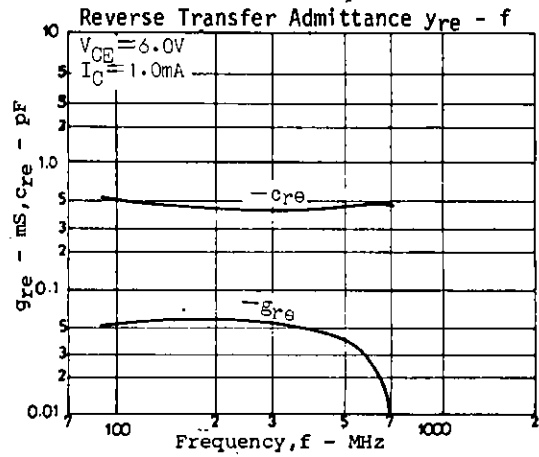
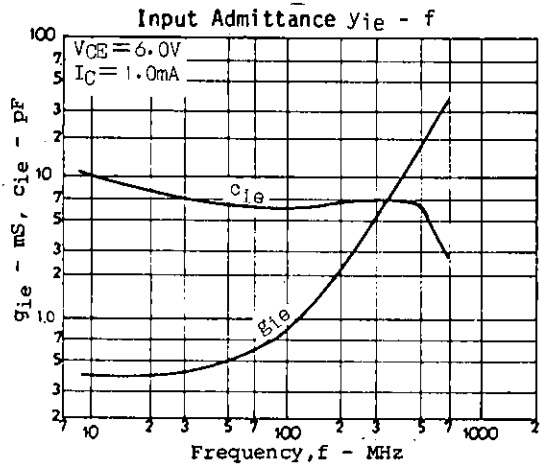
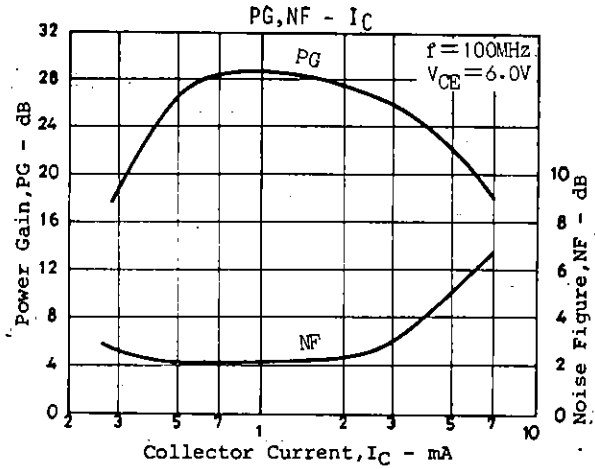
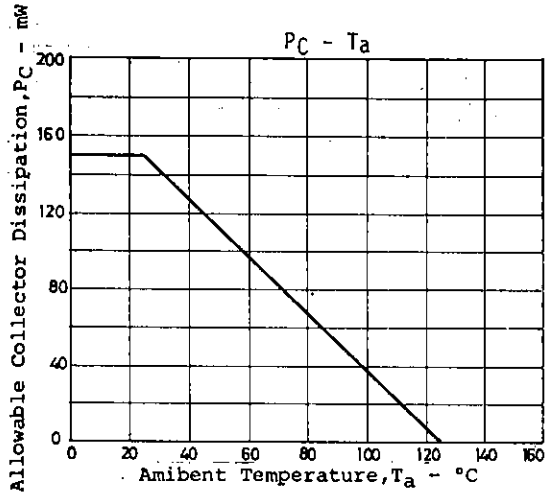
**Package Dimensions 2018A
(unit:mm)**

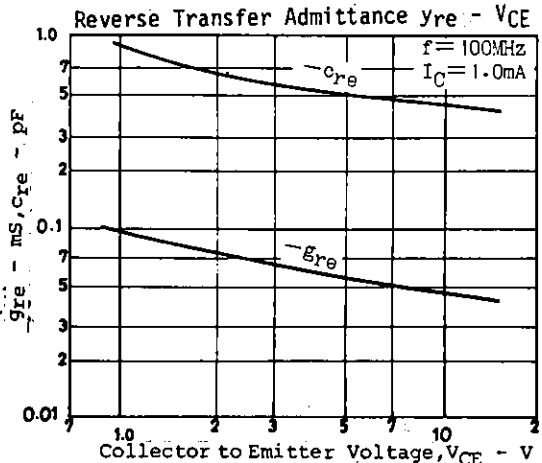
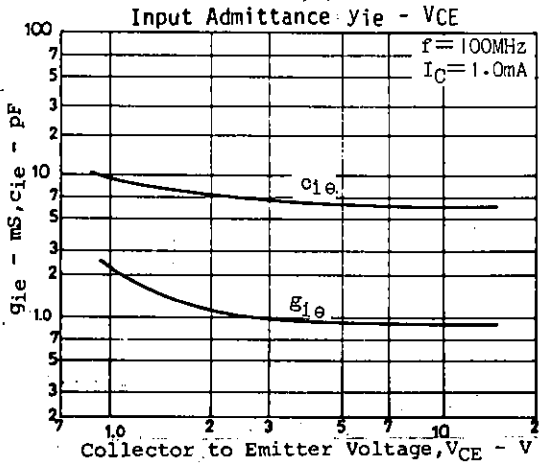
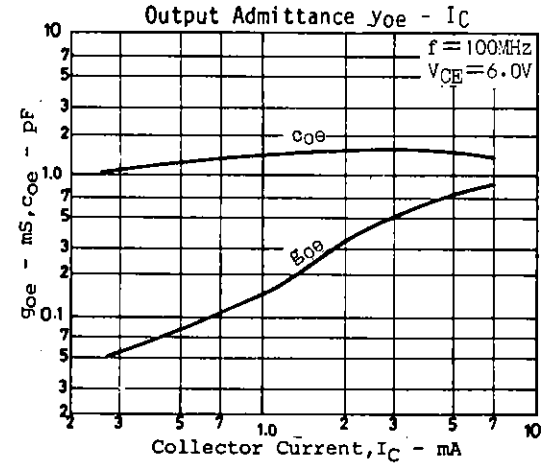
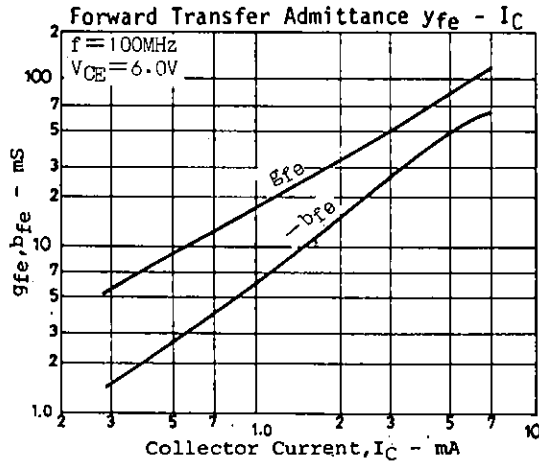
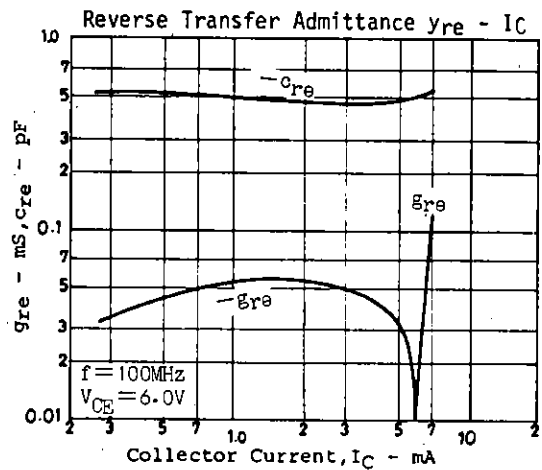
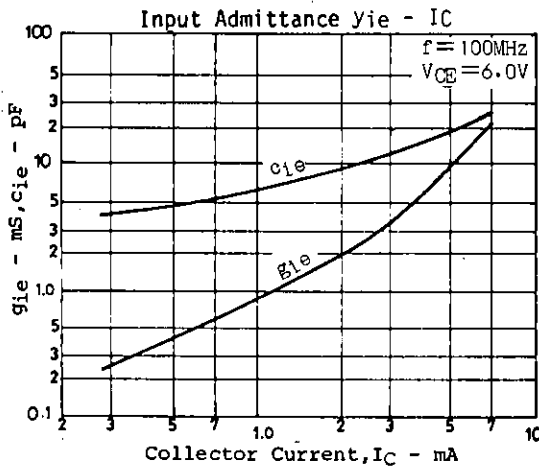
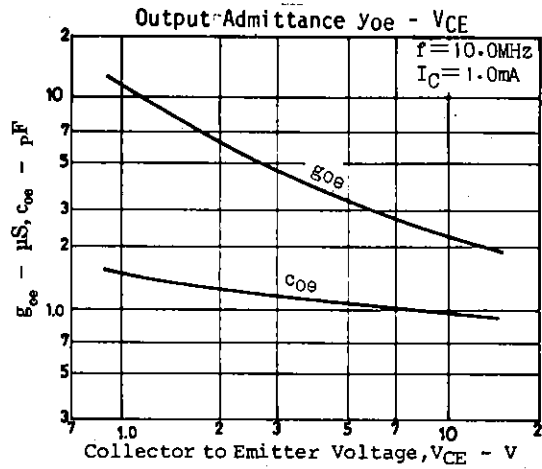
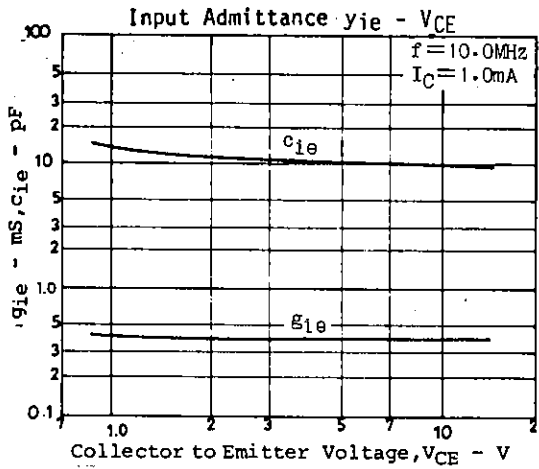


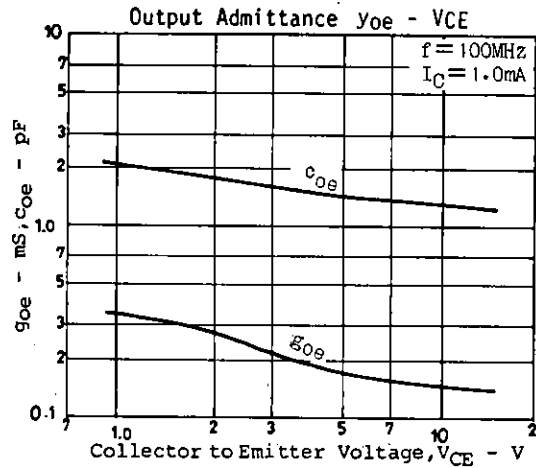
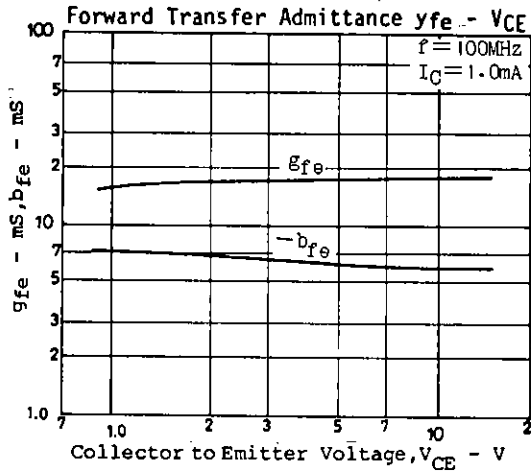
C: Collector
B: Base
E: Emitter

SANYO: CP









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