



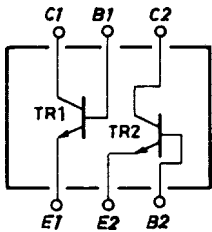
FC120

NPN Epitaxial Planar Silicon Composite Transistor High-Frequency General-Purpose Amp, Differential Amp Applications

Features

- Composite type with 2 transistors contained in the CP package currently in use, improving the mounting efficiency greatly.
- The FC120 is formed with two chips, being equivalent to the 2SC3142, placed in one package.
- Excellent in thermal equilibrium and pair capability.

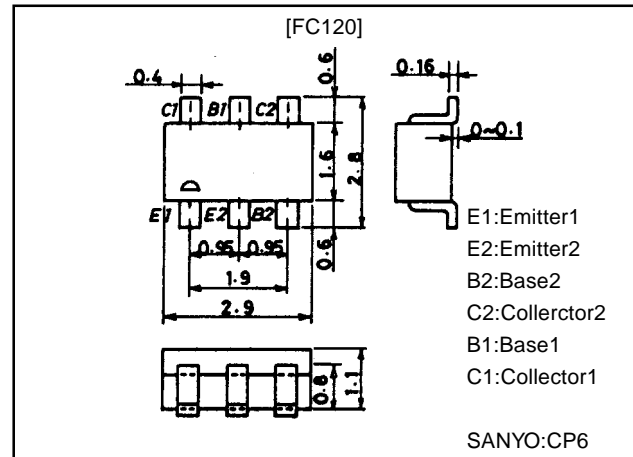
Electrical Connection



Package Dimensions

unit:mm

2068



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		25	V
Collector-to-Emitter Voltage	V_{CEO}		20	V
Emitter-to-Base Voltage	V_{EBO}		3	V
Collector Current	I_C		30	mA
Collector Dissipation	P_C	1 unit	200	mW
Total Power Dissipation	P_T		300	mW
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB}=10\text{V}, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=3\text{V}, I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=6\text{V}, I_C=1\text{mA}$	80		200	
DC Current Gain Ratio	$h_{FE}(\text{small/large})$	$V_{CE}=6\text{V}, I_C=1\text{mA}$	0.8	0.98		
Base to Emitter Voltage Drop	$V_{BE}(\text{large-small})$	$V_{CE}=6\text{V}, I_C=1\text{mA}$		1.0	15	mV
Gain-Bandwidth Product	f_T	$V_{CE}=6\text{V}, I_C=4\text{mA}$	450	750		MHz
Reverse Transfer Capacitance	C_{re}	$V_{CE}=6\text{V}, f=1\text{MHz}$		0.6	0.9	pF
Base to Collector Time Constant	$\tau_{bb}C_c$	$V_{CE}=6\text{V}, I_C=1\text{mA}, f=31.9\text{MHz}$			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

Note: The specifications shown above are for each individual transistor.

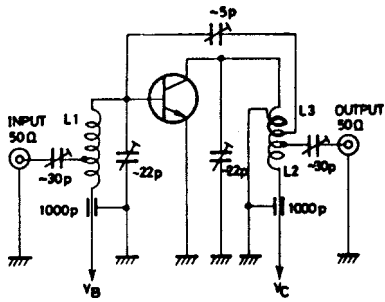
Marking:120

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52098HA (KT)/6169MO/5169MO, TS No.3062-1/6

NF, PG Test Circuit



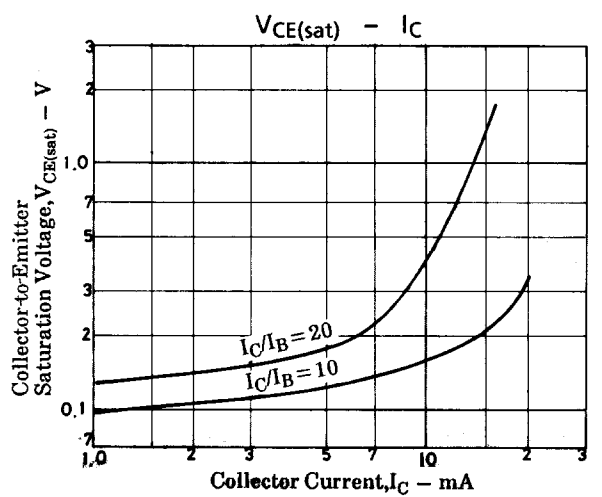
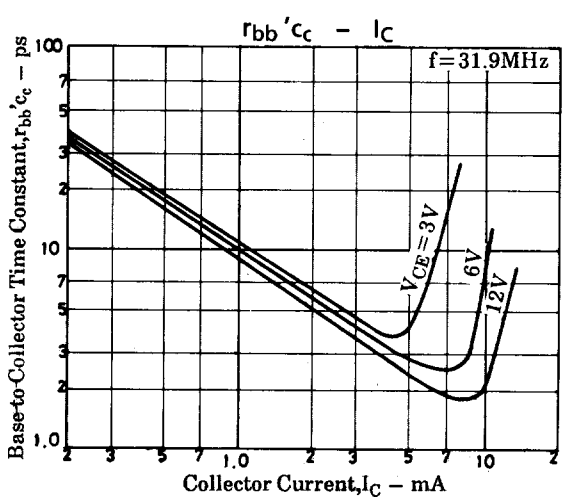
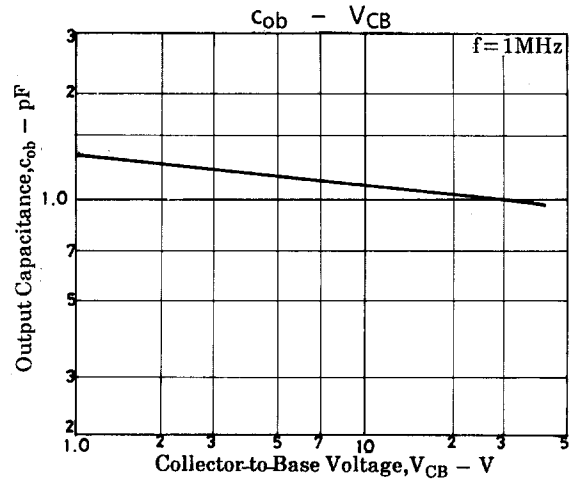
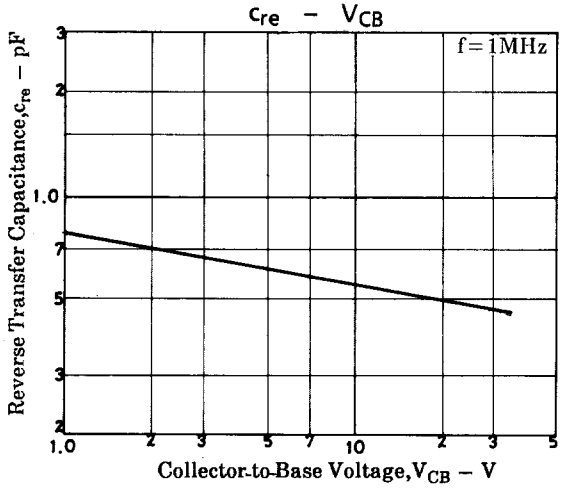
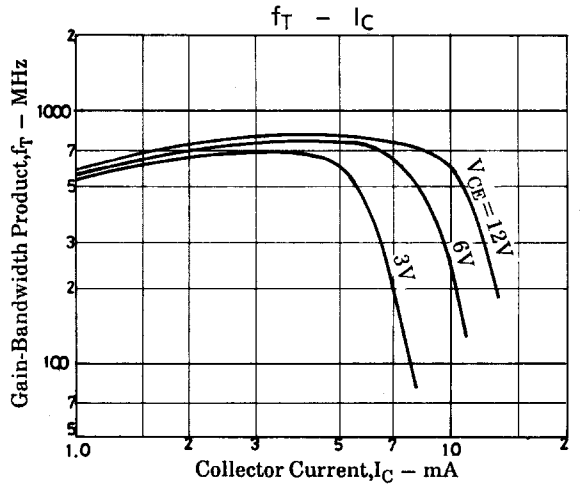
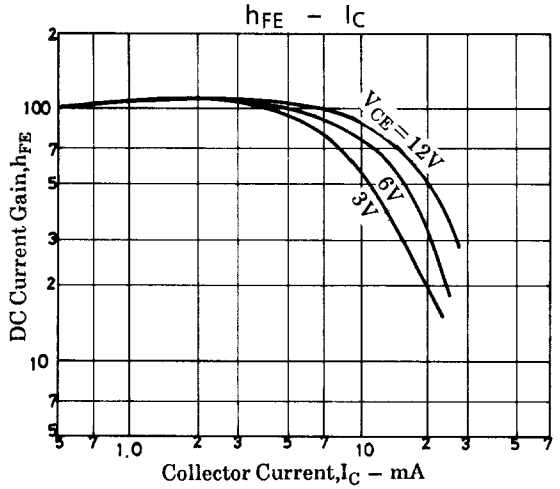
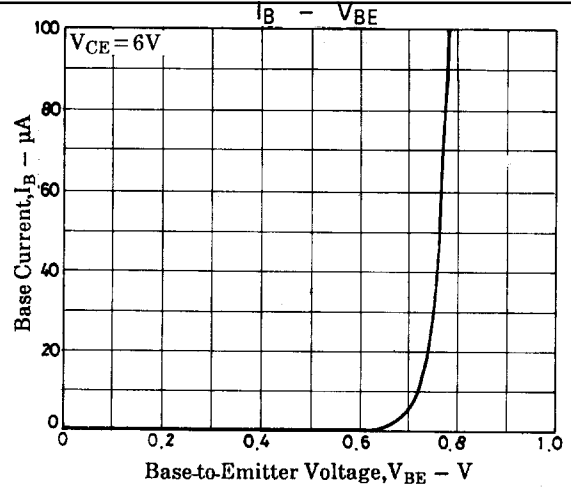
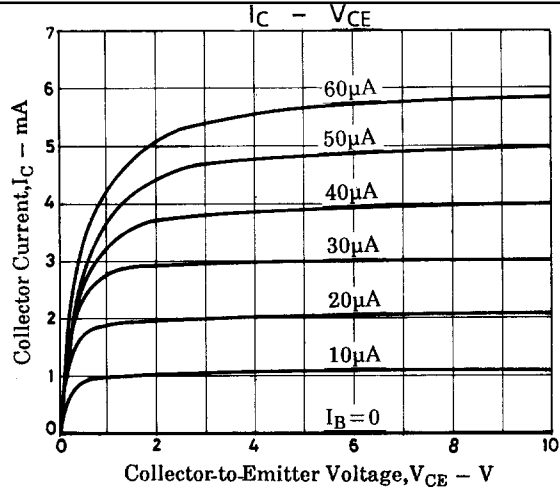
L₁: 1mm[∅] plated wire, 10mm[∅] 5T, 15mm pitch,
tap : 2T from base side

L₂: 1mm[∅] plated wire, 10mm[∅] 7T, 10mm pitch,
tap : 2T from V_C side

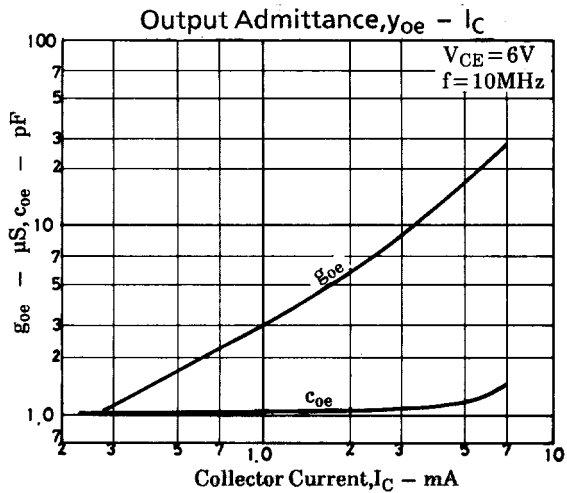
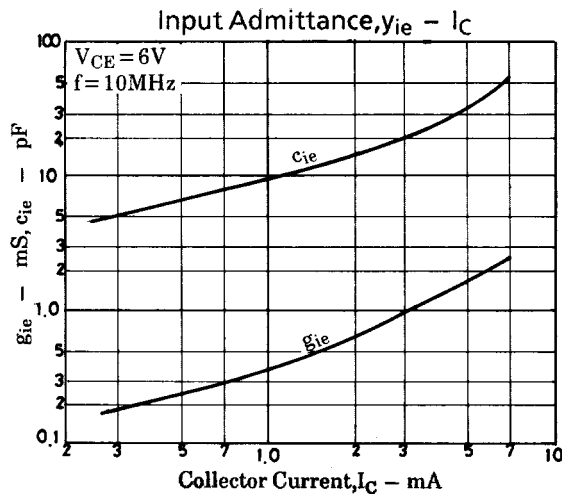
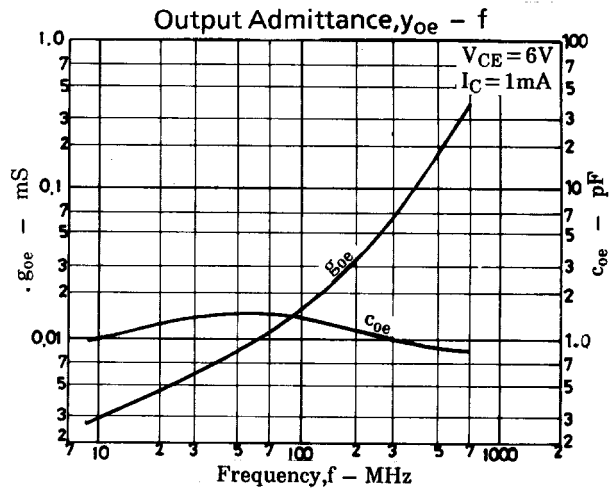
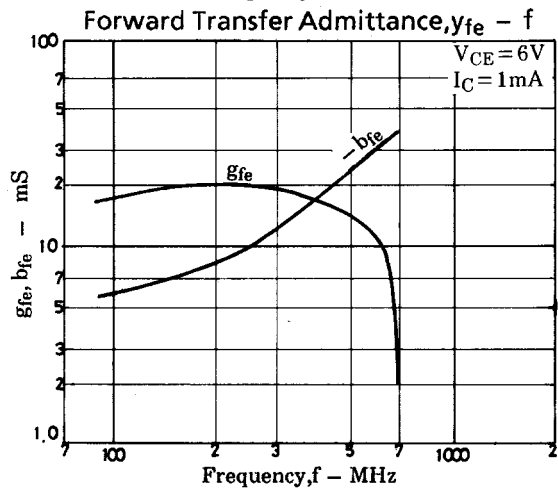
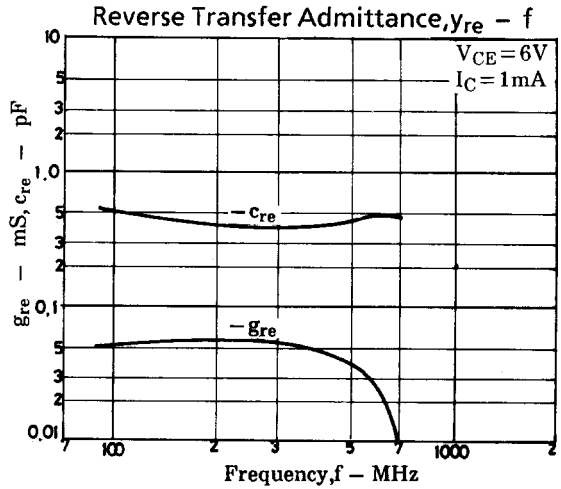
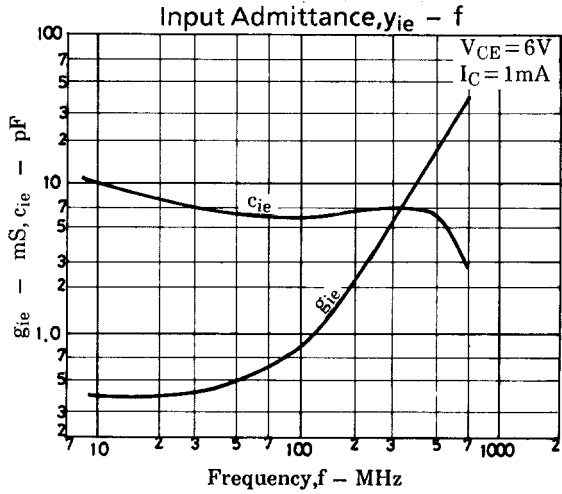
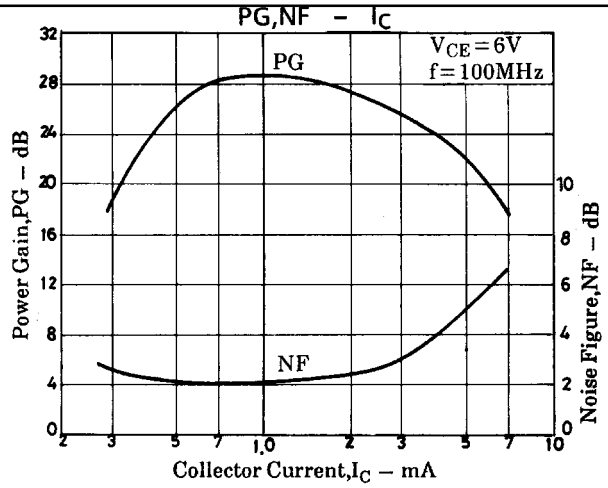
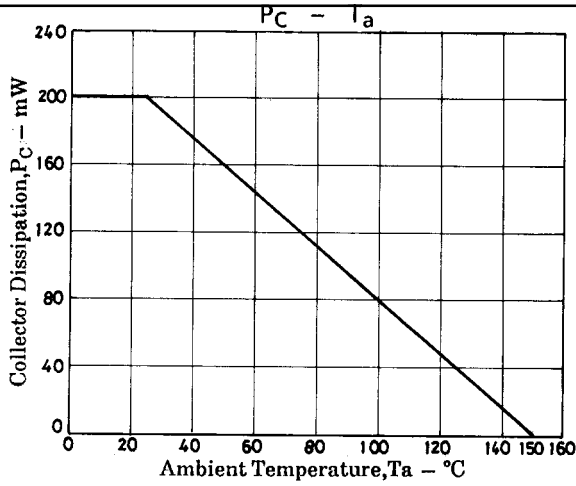
L₃: 1mm[∅] enamel wire, 10mm[∅] 3T, 10mm pitch

Unit (Capacitance:F)

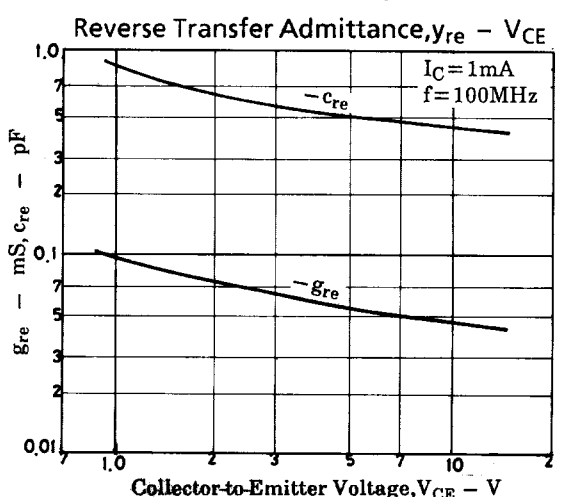
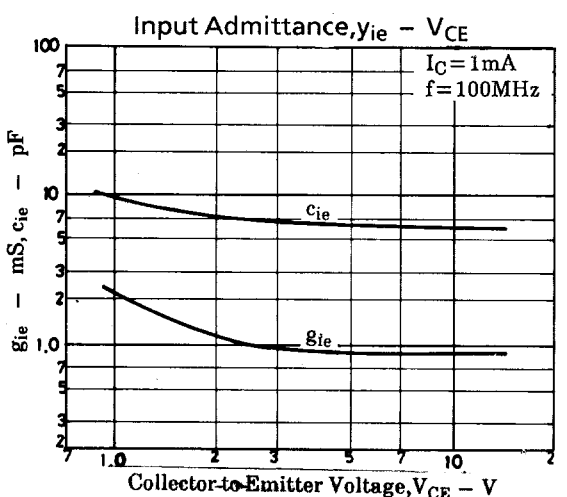
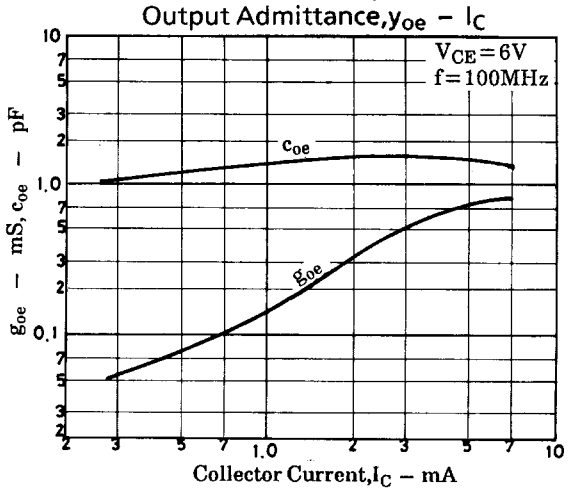
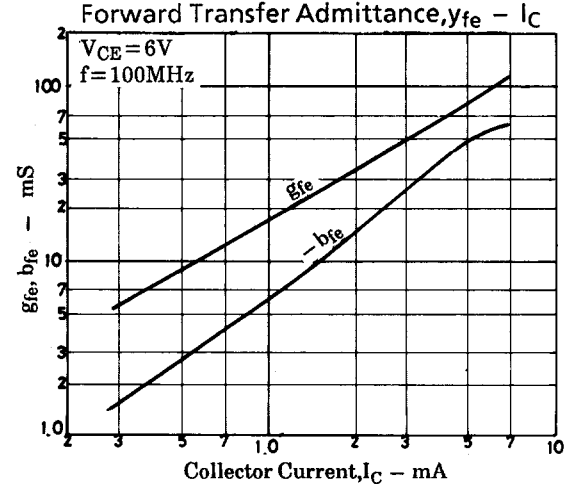
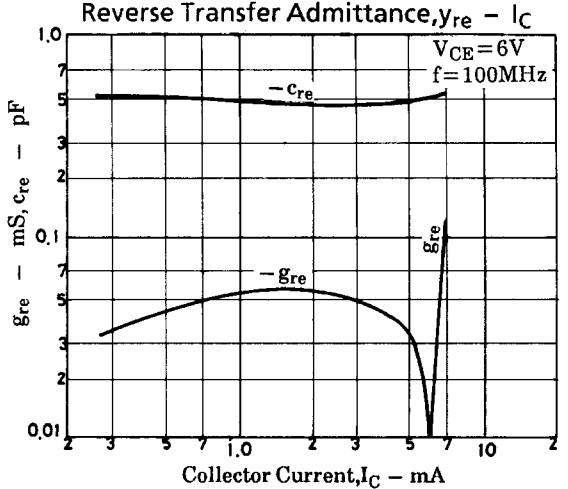
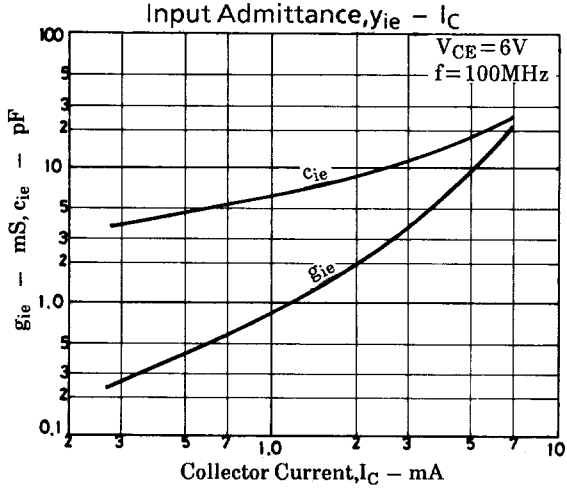
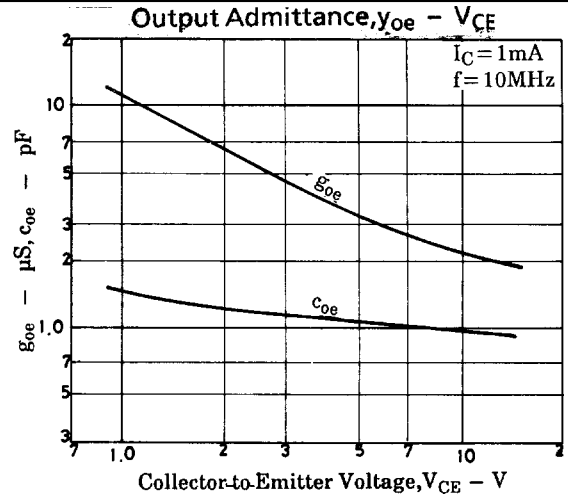
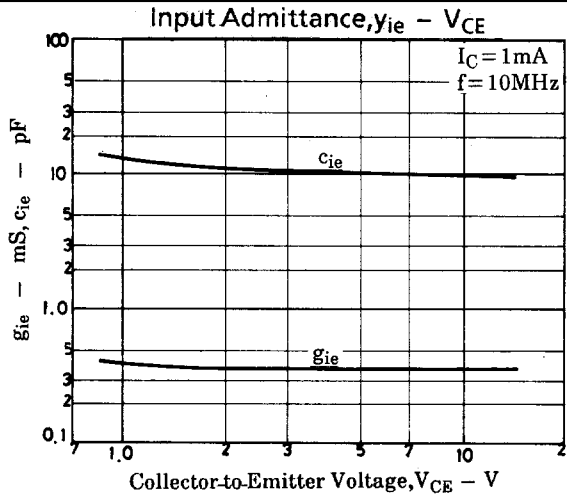
FC120



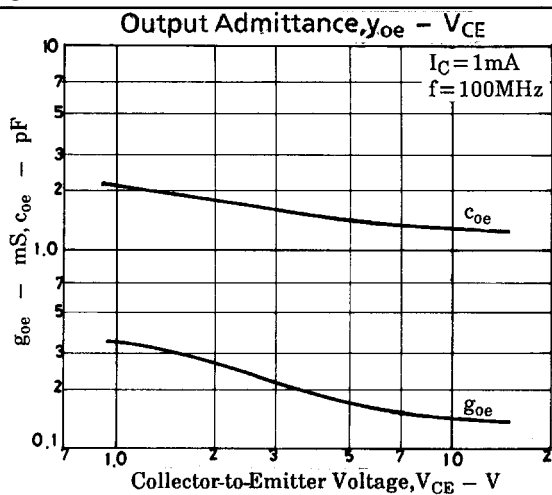
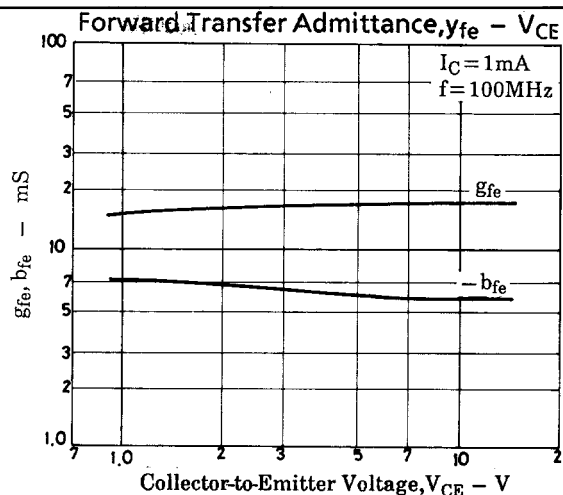
FC120



FC120



FC120



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