



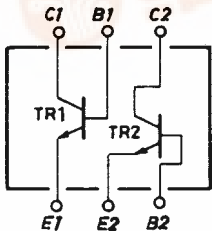
FC120

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.

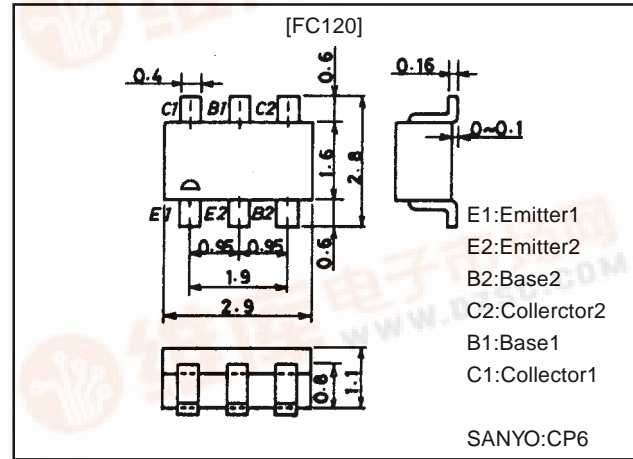
Electrical Connection



Package Dimensions

unit:mm

2068



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	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	1 unit	200	mW
Total Power Dissipation	P _T		300	mW
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to+150	°C

Electrical Characteristics at Ta = 25°C

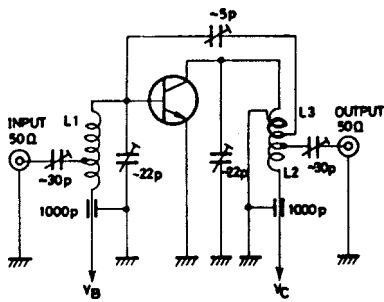
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =10V, I _E =0			0.1	μA
Emitter Cutoff Current	I _{EB0}	V _{EB} =3V, I _C =0			0.1	μA
DC Current Gain	h _{FE}	V _{CE} =6V, I _C =1mA	80		200	
DC Current Gain Ratio	h _{FE} (small/large)	V _{CE} =6V, I _C =1mA	0.8	0.98		
Base to Emitter Voltage Drop	V _{BE} (large-small)	V _{CE} =6V, I _C =1mA		1.0	15	mV
Gain-Bandwidth Product	f _T	V _{CE} =6V, I _C =4mA	450	750		MHz
Reverse Transfer Capacitance	C _{re}	V _{CE} =6V, f=1MHz		0.6	0.9	pF
Base to Collector Time Constant	τ _{bb'Cc}	V _{CE} =6V, I _C =1mA, f=31.9MHz			19	ps
Noise Figure	NF	V _{CE} =6V, I _C =1mA, f=100MHz		2.2		dB
Power Gain	PG	V _{CE} =6V, I _C =1mA, f=100MHz		28		dB

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

Marking:120



NF, PG Test Circuit



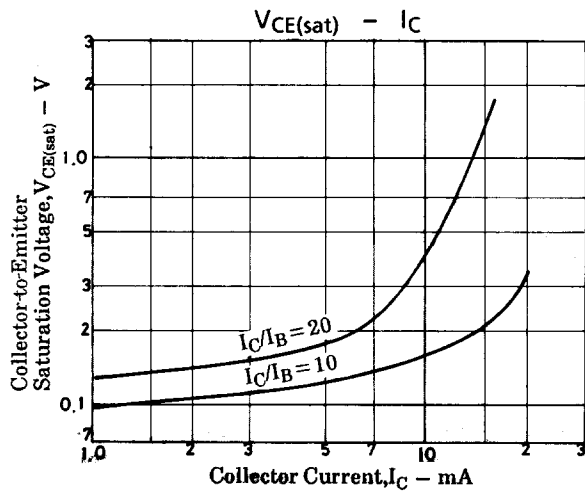
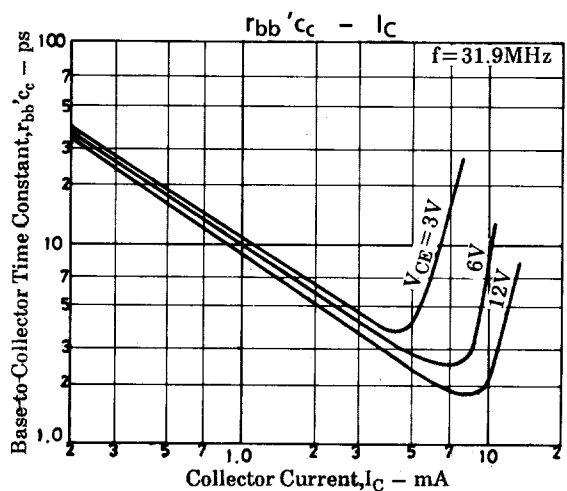
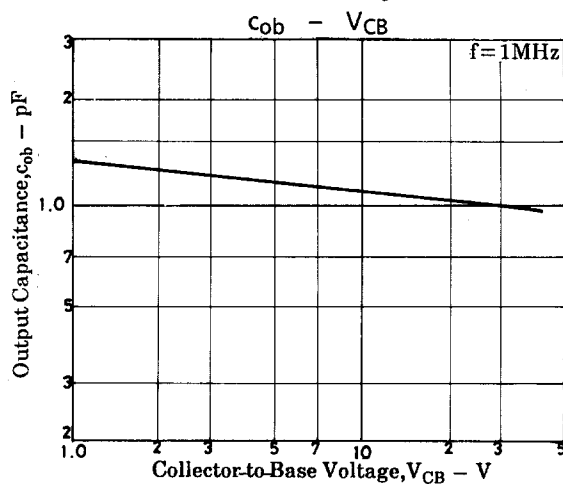
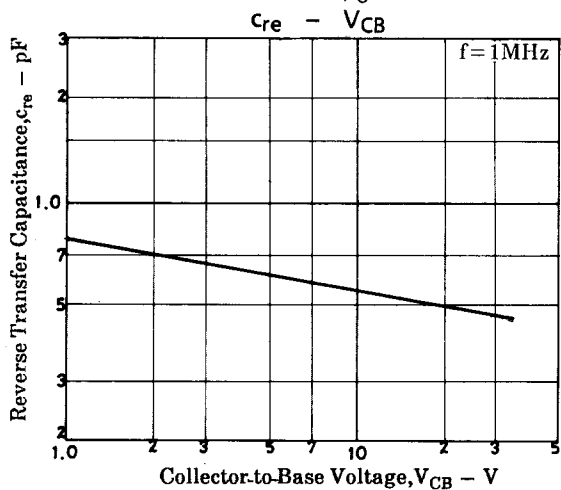
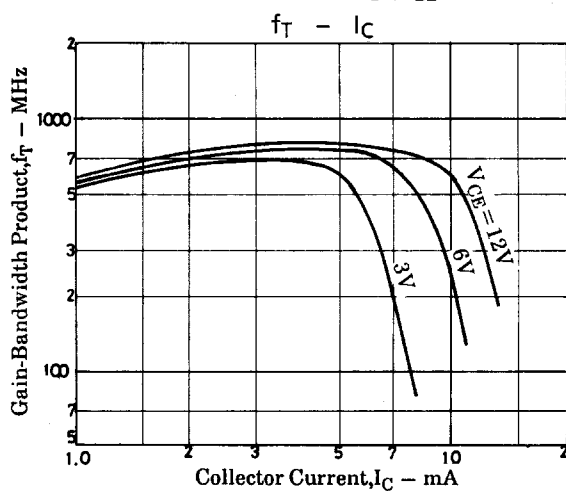
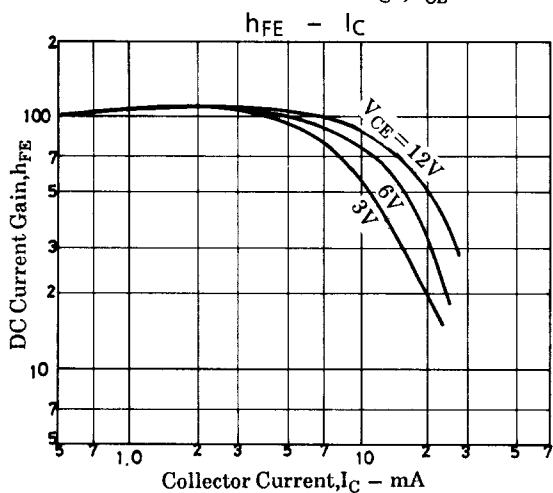
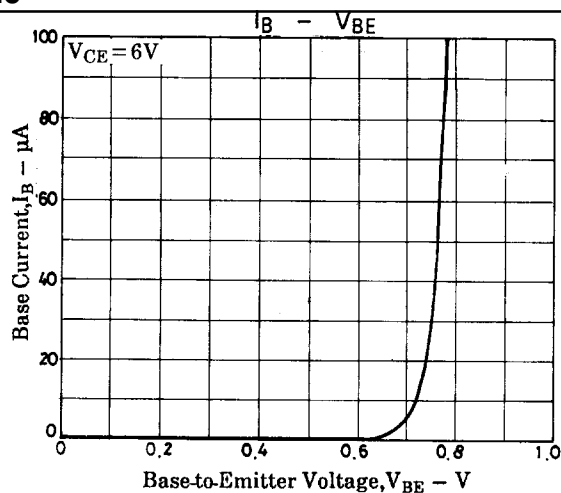
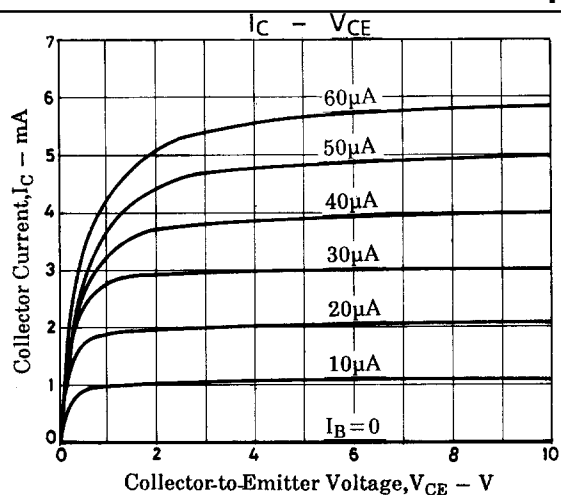
L₁: 1mm[∅] plated wire, 10mm[∅] 5T, 15mm pitch,
tap : 2T from base side

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

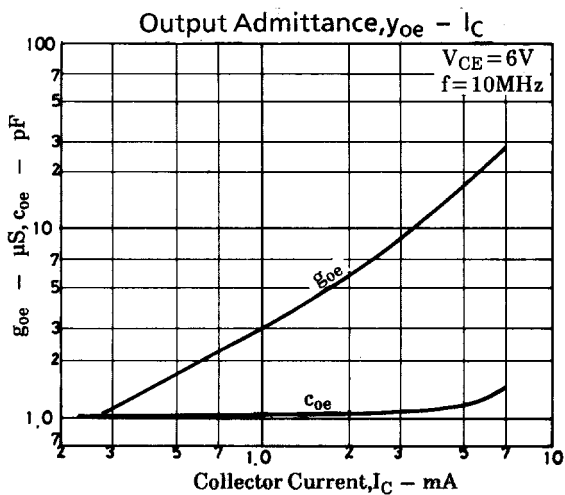
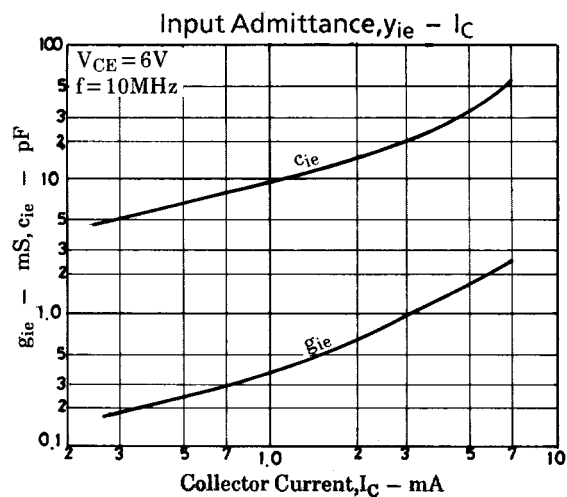
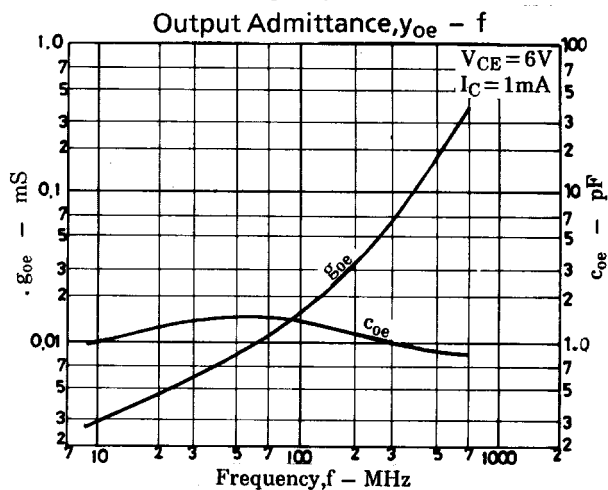
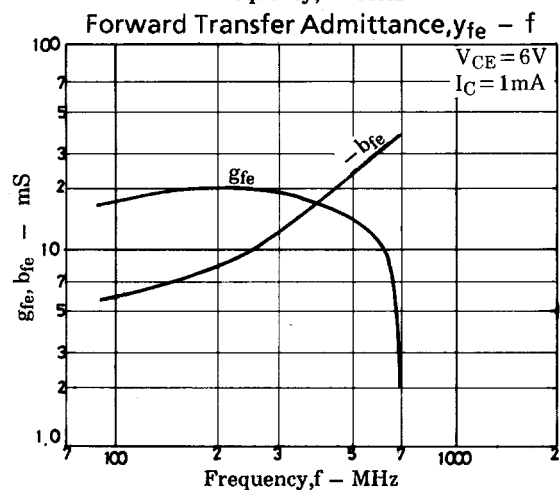
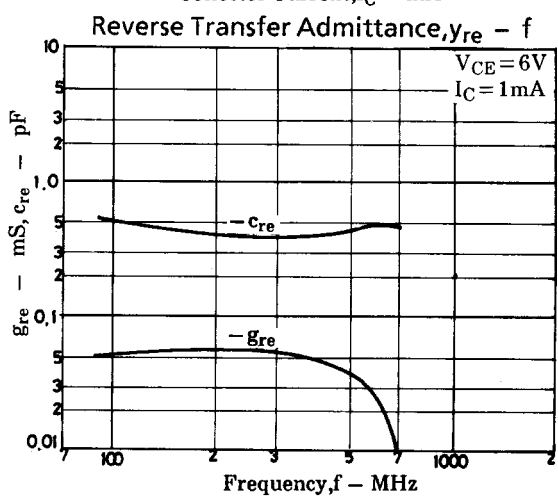
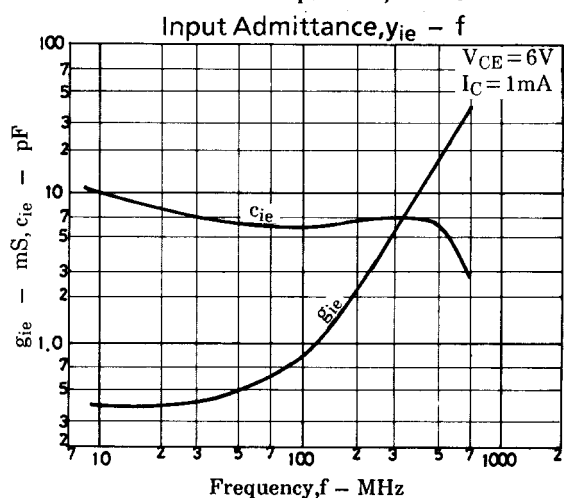
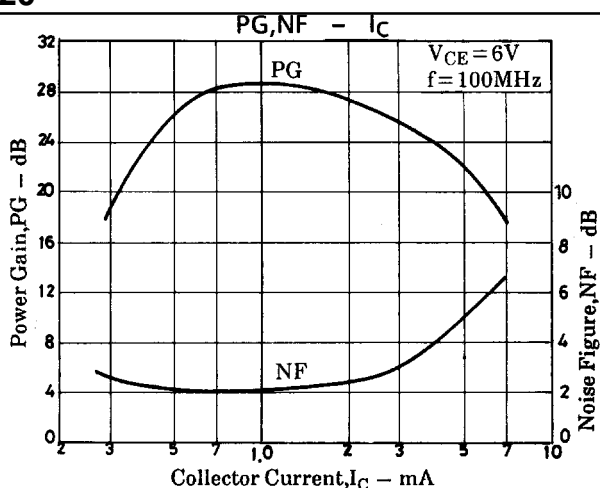
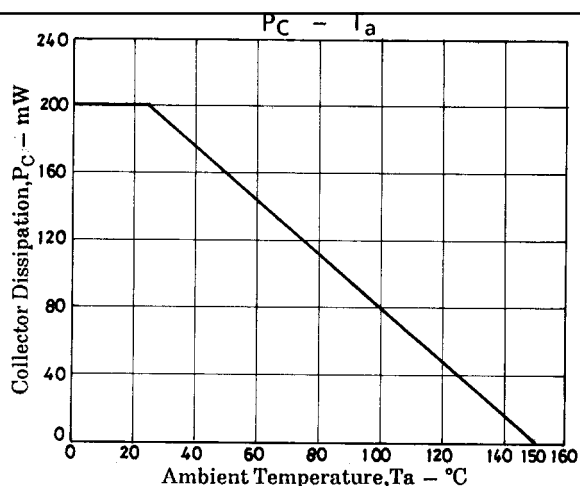
L₃: 1mm[∅] enamel wire, 10mm[∅] 3T, 10mm pitch

Unit (Capacitance:F)

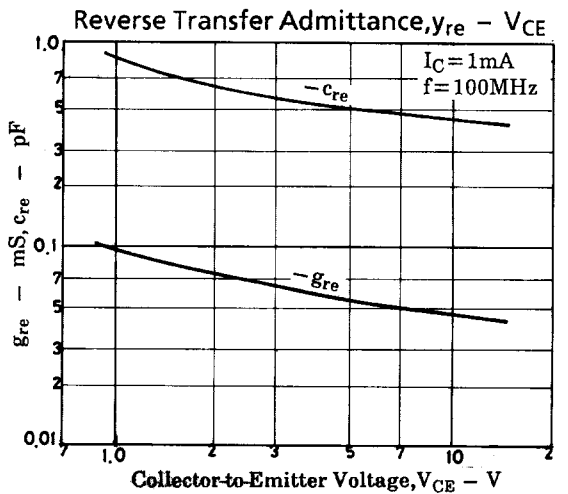
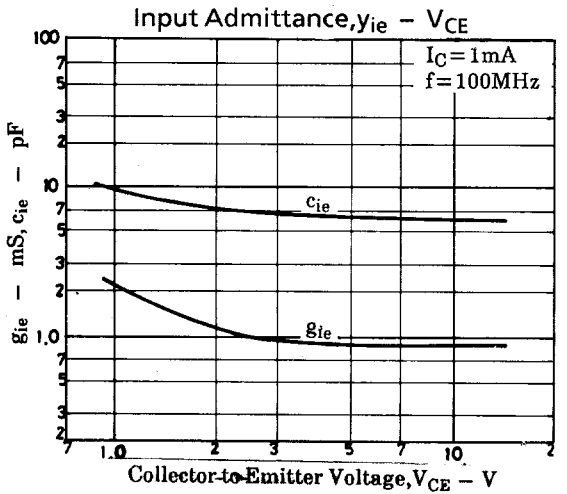
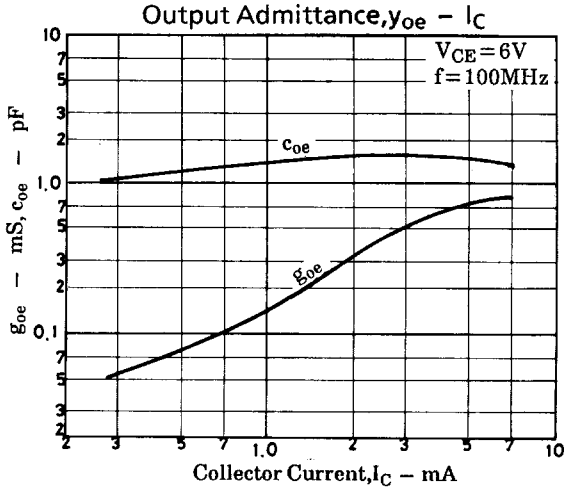
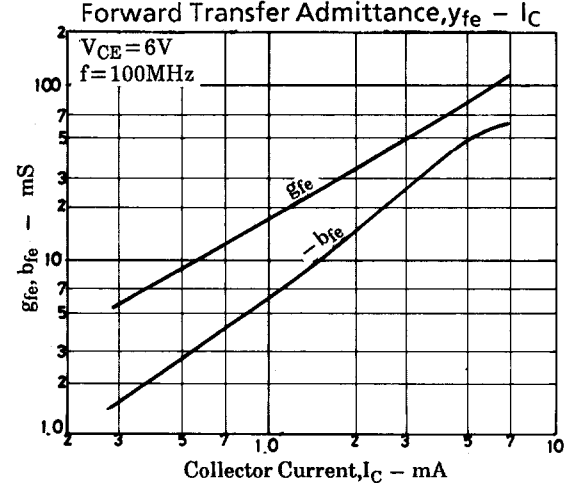
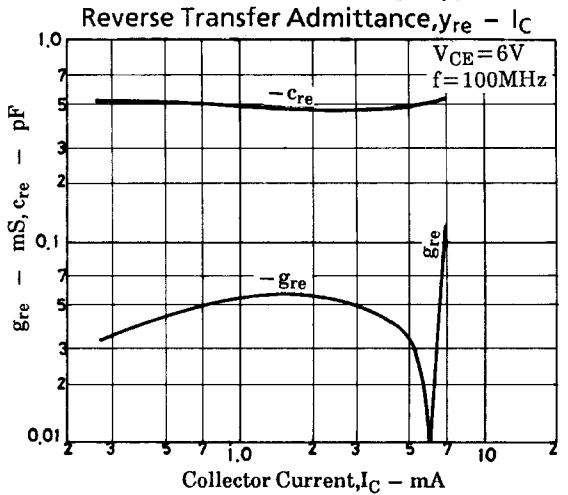
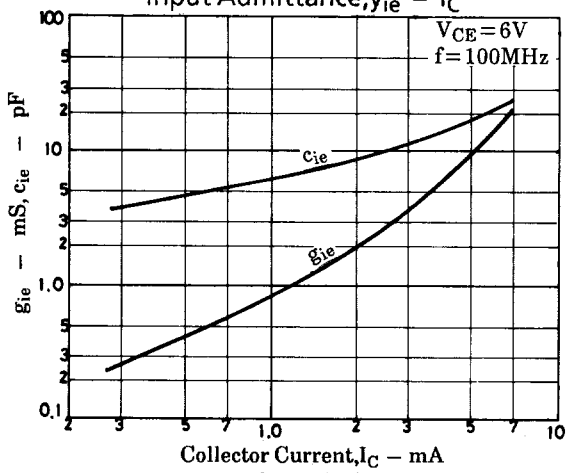
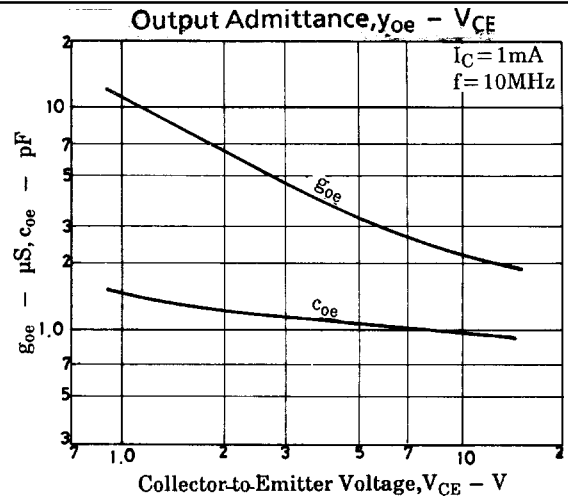
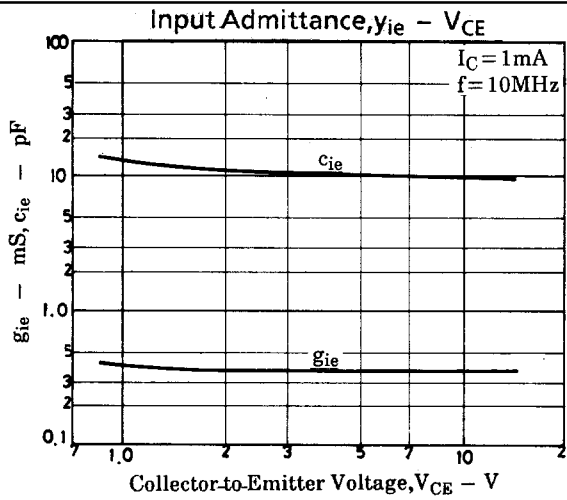
FC120



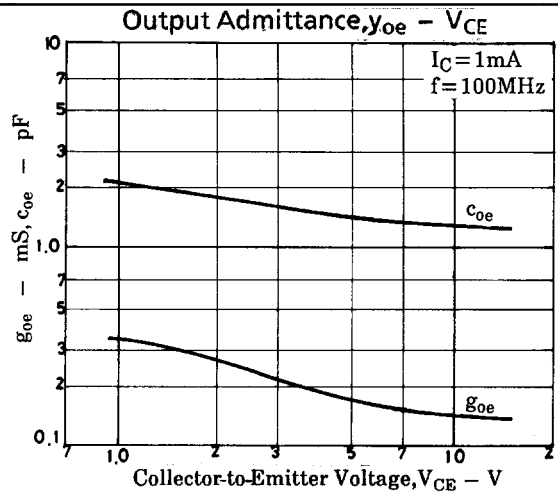
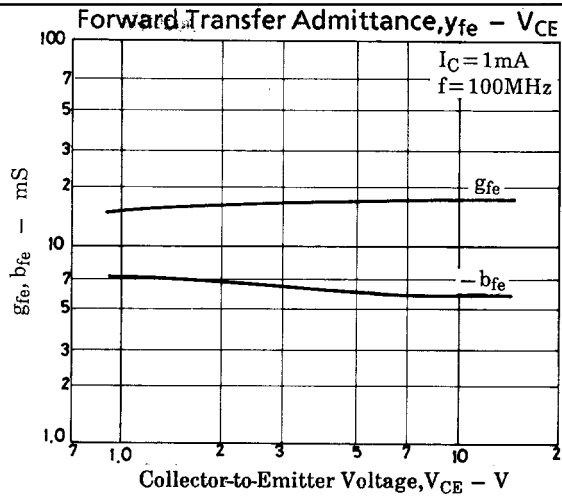
FC120



FC120



FC120



■ No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.

■ Anyone purchasing any products described or contained herein for an above-mentioned use shall:

- ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use:
- ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.

■ Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.