

SANYO	No.866C	2SC3000
	NPN Epitaxial Planar Silicon Transistor	
HF Amp Applications		

Features

- . FBET series.
- . High f_T and small c_{re} .

Absolute Maximum Ratings at Ta=25°C

		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 °C
Storage Temperature	T_{stg}	-55 to +125 °C

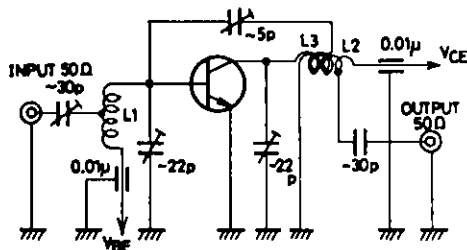
Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CB0}	$V_{CB}=10V, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=4V, I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=6V, I_C=1mA$	60*		320*	
Gain Bandwidth Product	f_T	$V_{CE}=6V, I_C=1mA$	200	320		MHz
Reverse Transfer Capacitance	c_{re}	$V_{CB}=6V, f=1MHz$	0.7	1.1	1.4	pF
Base to Collector Time Constant	$r_{bb}'C_c$	$V_{CB}=6V, I_C=1mA, f=31.9MHz$		15	22	ps
Noise Figure	NF	$V_{CE}=6V, I_C=1mA, f=100MHz$		3.0		dB
Power Gain	PG	$V_{CE}=6V, I_C=1mA, f=100MHz$		25		dB

*:The 2SC3000 is classified by 1mA h_{FE} as follows :

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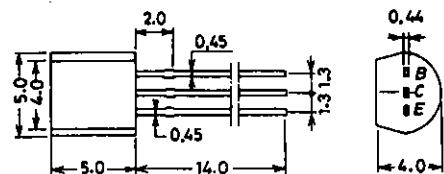
NF,PG Test Circuit



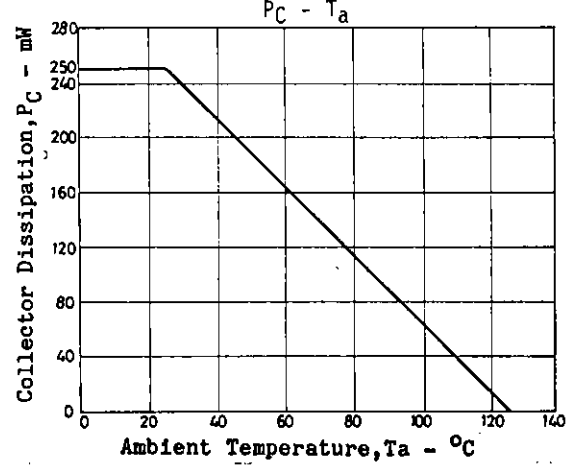
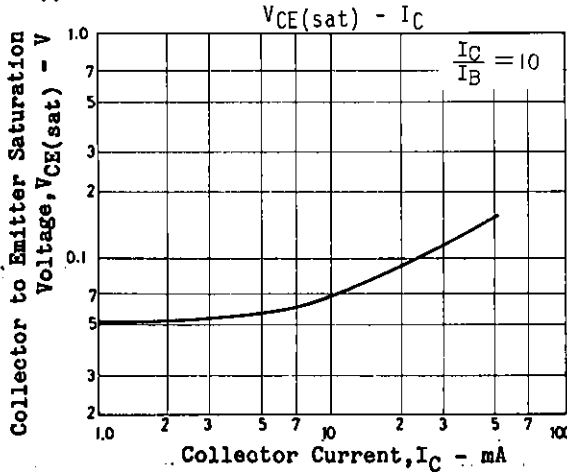
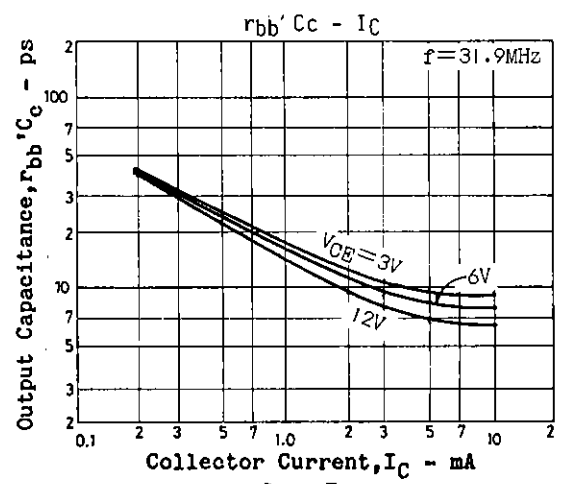
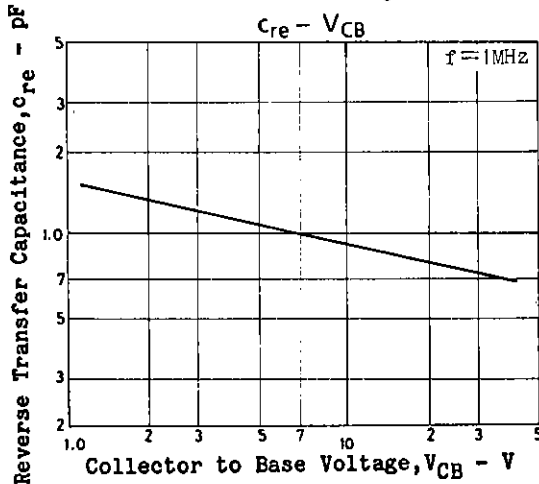
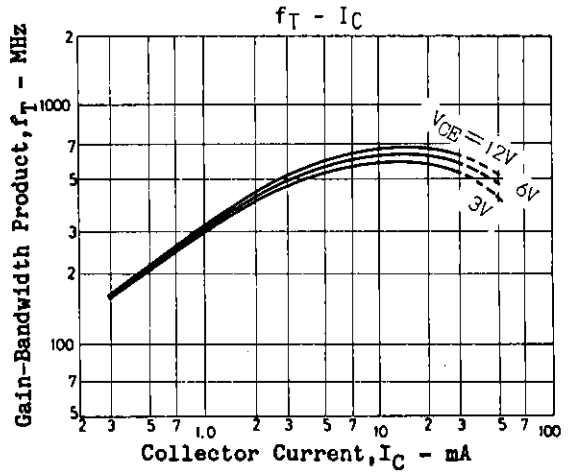
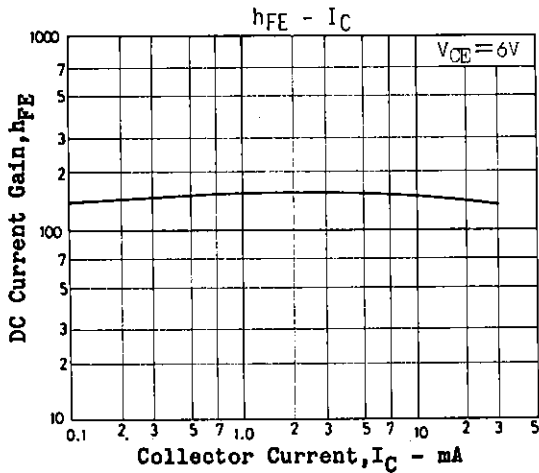
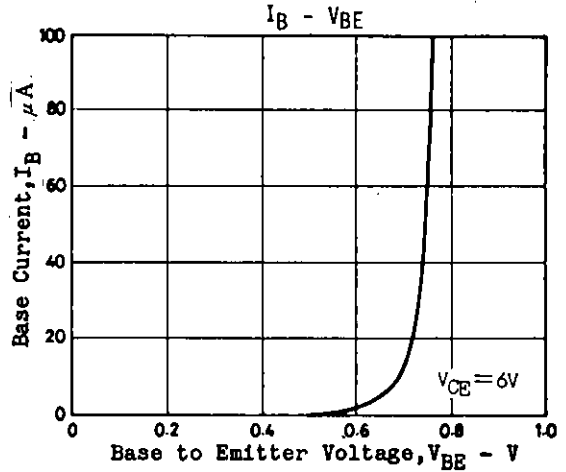
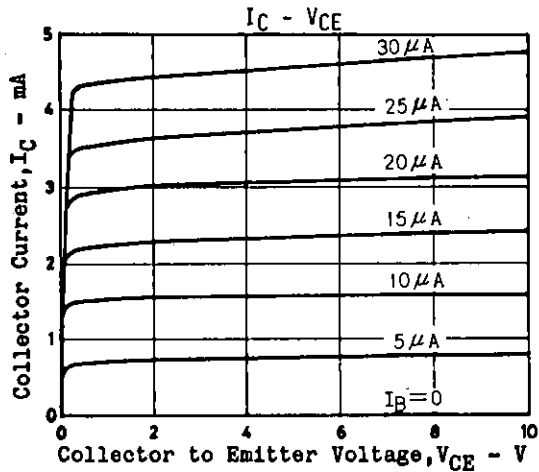
Unit(Capacitance : F)

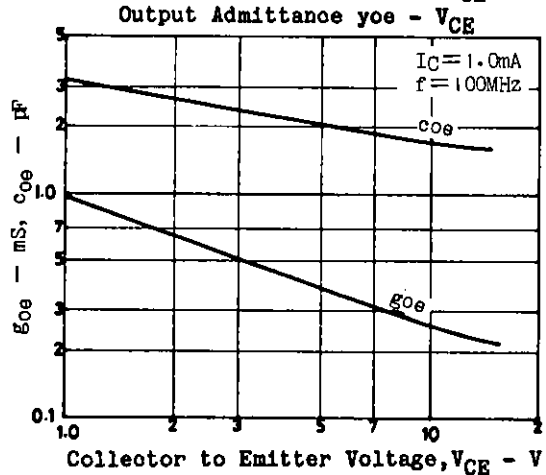
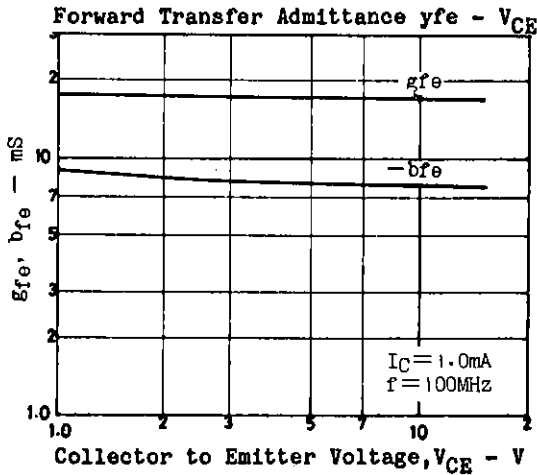
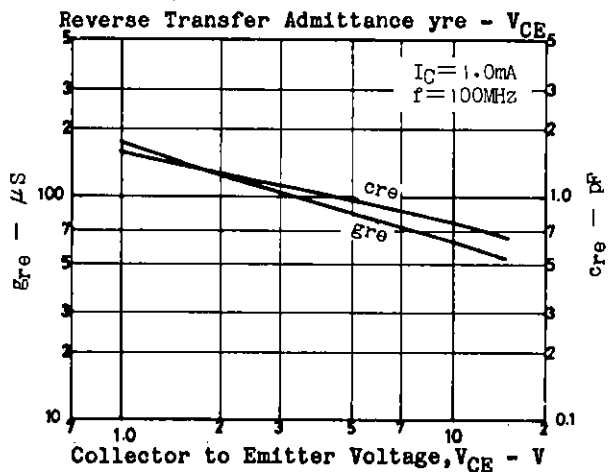
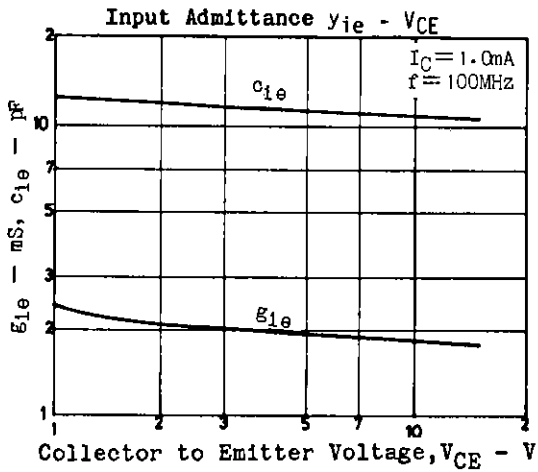
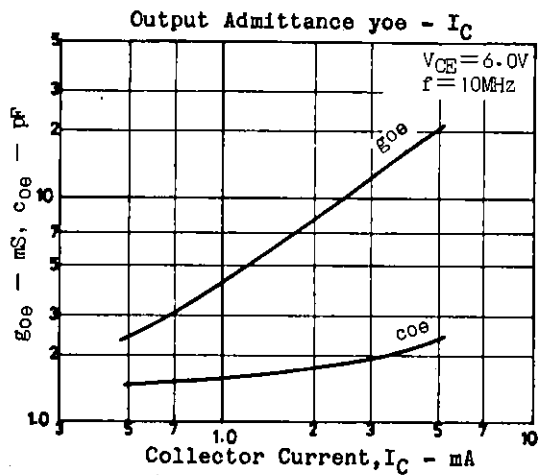
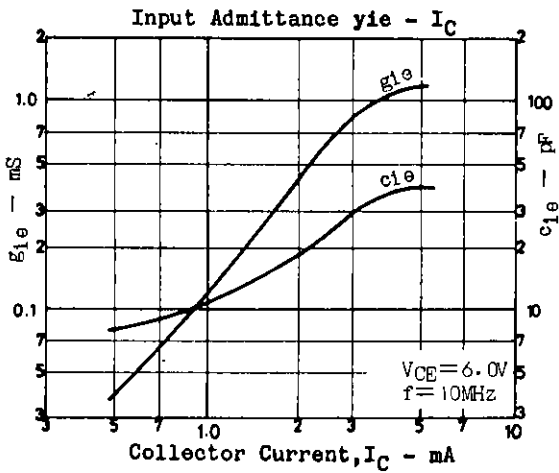
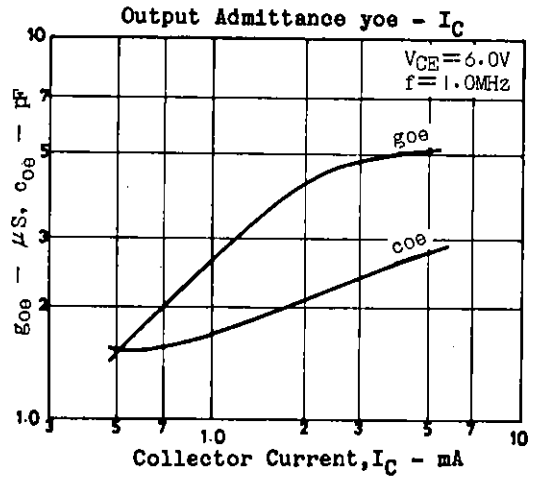
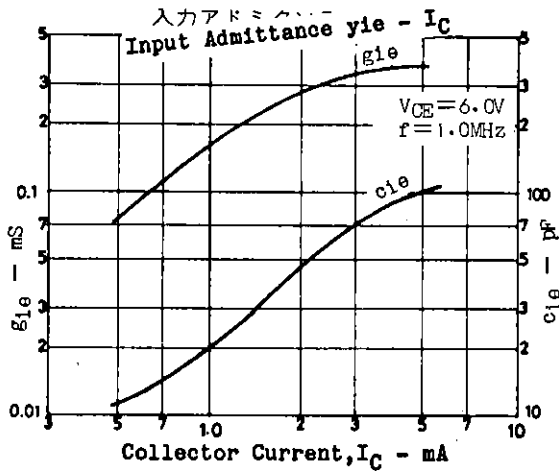
- L1: 1mmϕ plated wire, 10mmϕ 5T, tapped at 2T from V_{BE} .
- L2: 1mmϕ plated wire, 10mmϕ 7T, tapped at 1T from V_{CE} .
- L3: 1mmϕ enameled wire, 10mmϕ 3T.

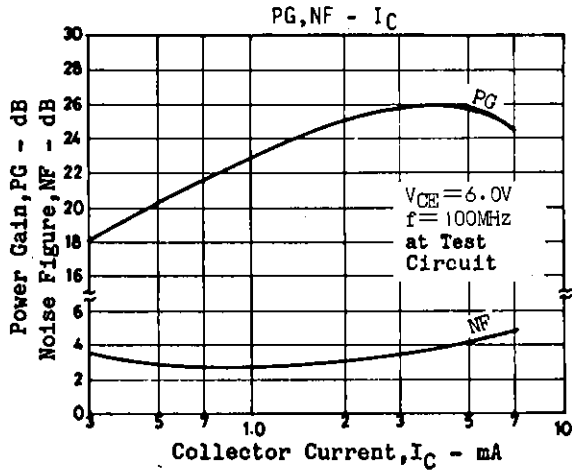
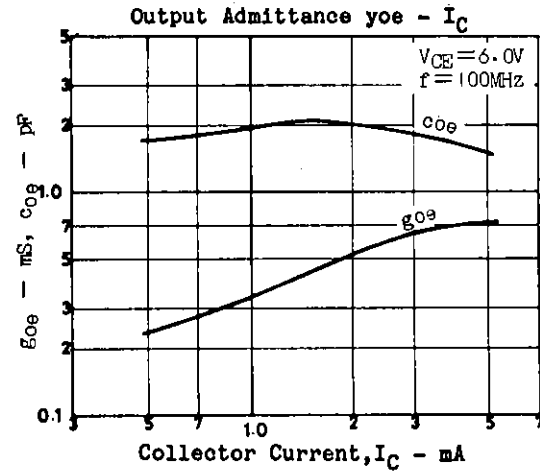
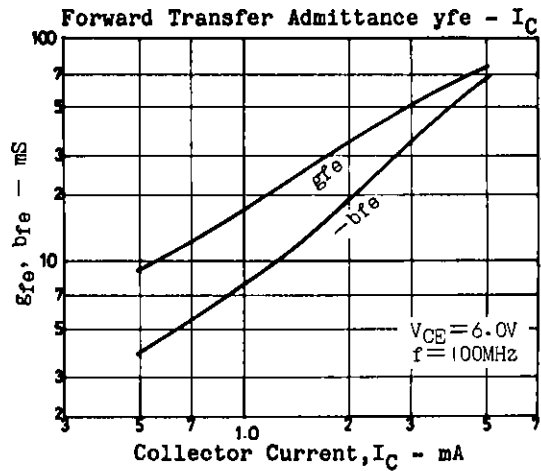
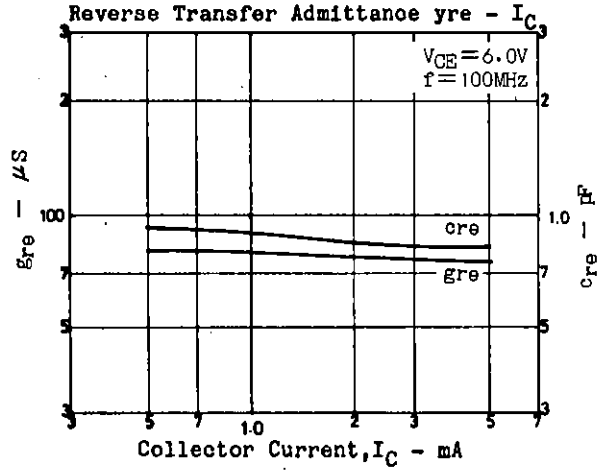
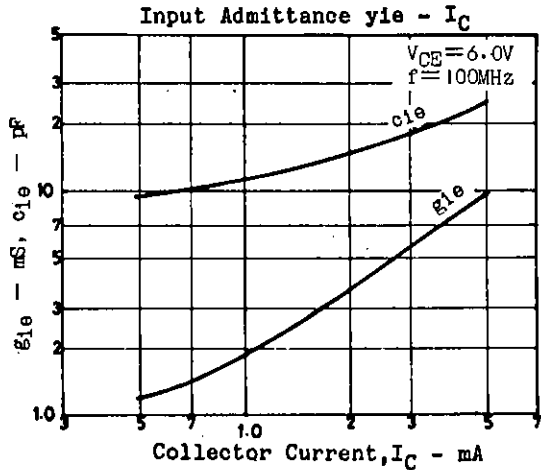
Package Dimensions 2003A
(unit: mm)



JEDEC: TO-92 B: Base
 EIAJ : SC-43 C: Collector
 SANYO: NP E: Emitter







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