

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 $T_a=25^\circ\text{C}$

		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 $^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +125 $^\circ\text{C}$

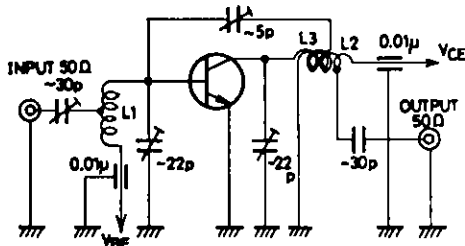
Electrical Characteristics at $T_a=25^\circ\text{C}$

			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}	$V_{EB}=4\text{V}, I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=6\text{V}, I_C=1\text{mA}$	60*		320*	
Gain Bandwidth Product	f_T	$V_{CE}=6\text{V}, I_C=1\text{mA}$	200	320		MHz
Reverse Transfer Capacitance	c_{re}	$V_{CB}=6\text{V}, f=1\text{MHz}$	0.7	1.1	1.4	pF
Base to Collector Time Constant	$r_{bb}'C_c$	$V_{CB}=6\text{V}, I_C=1\text{mA}, f=31.9\text{MHz}$		15	22	ps
Noise Figure	NF	$V_{CE}=6\text{V}, I_C=1\text{mA}, f=100\text{MHz}$		3.0		dB
Power Gain	PG	$V_{CE}=6\text{V}, I_C=1\text{mA}, f=100\text{MHz}$		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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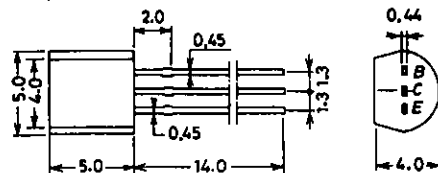
NF,PG Test Circuit



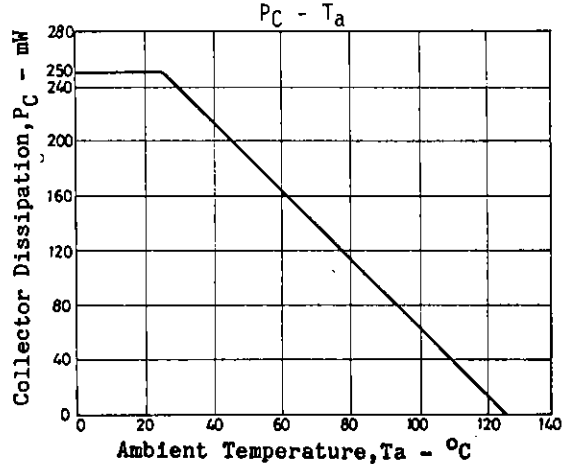
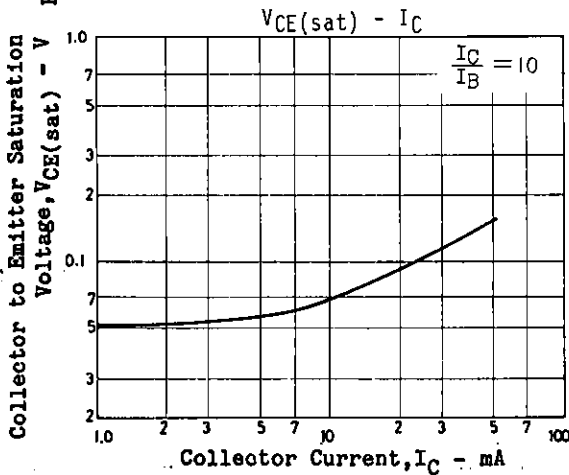
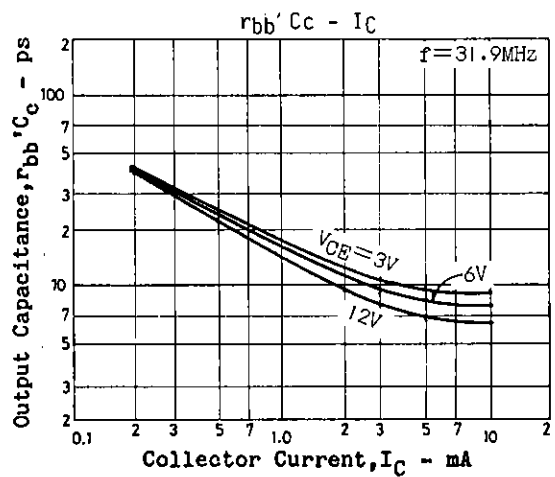
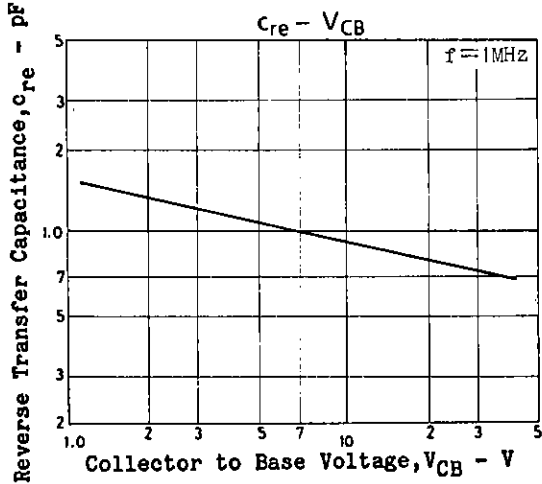
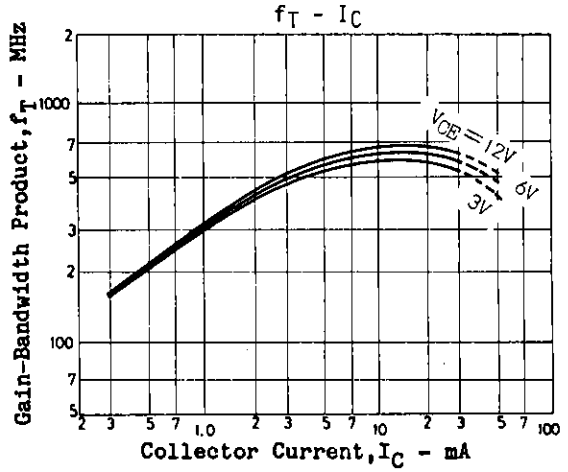
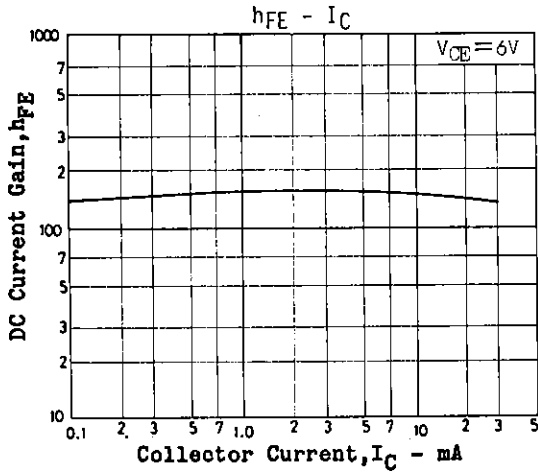
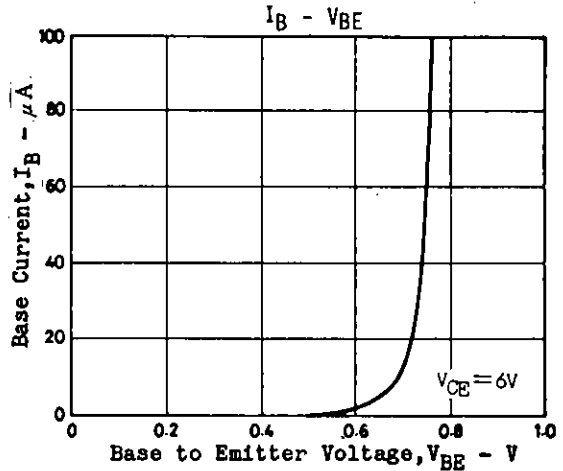
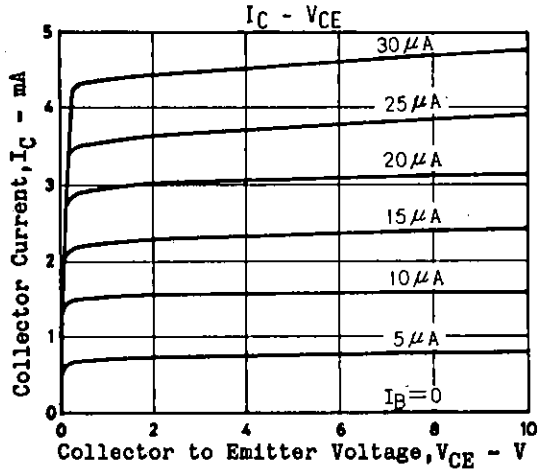
Unit(Capacitance : F)

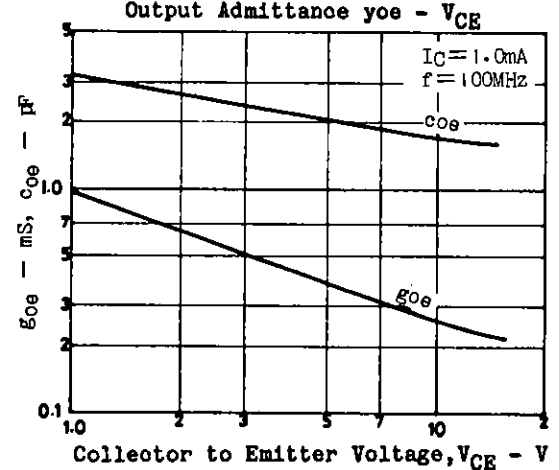
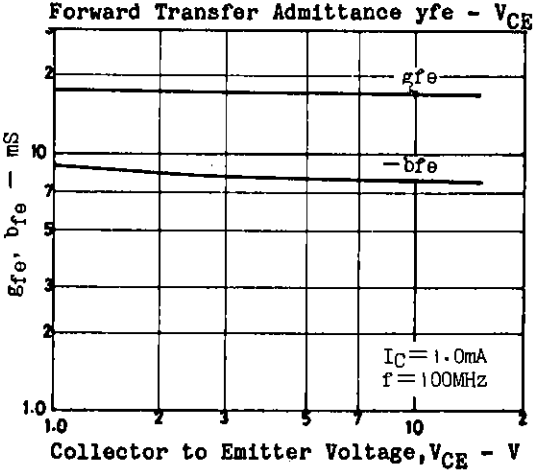
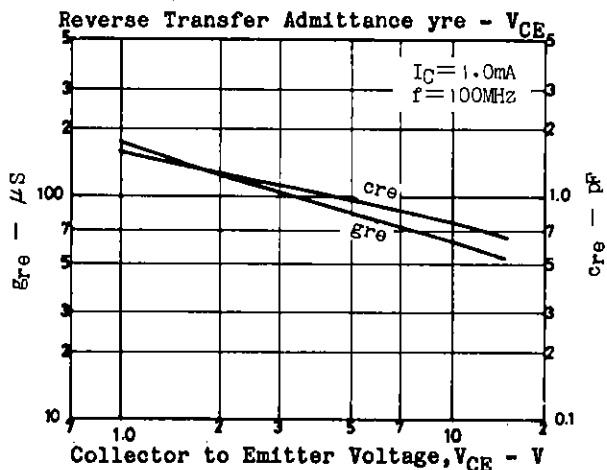
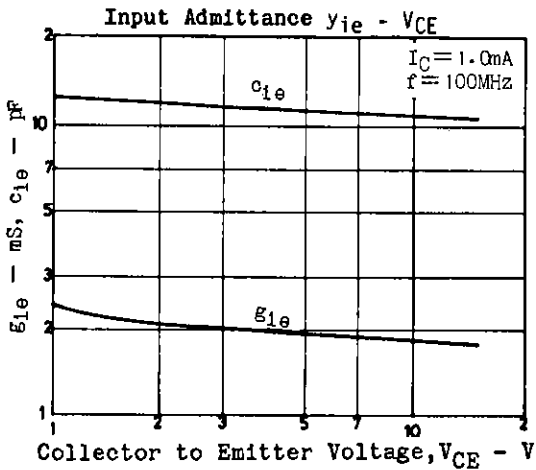
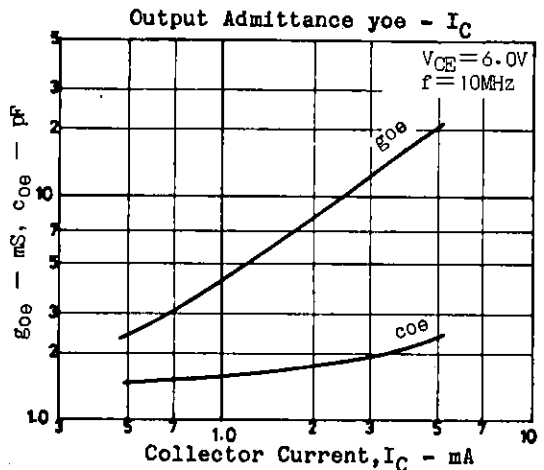
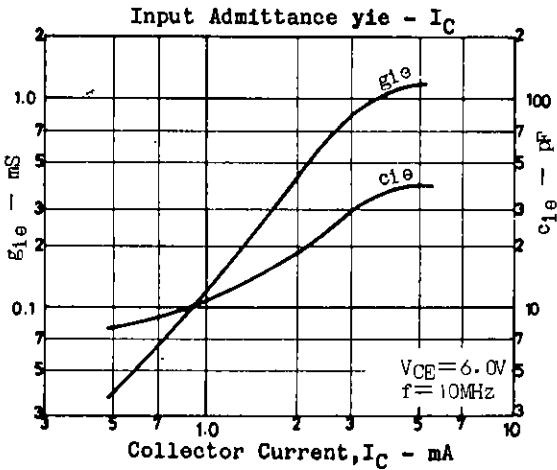
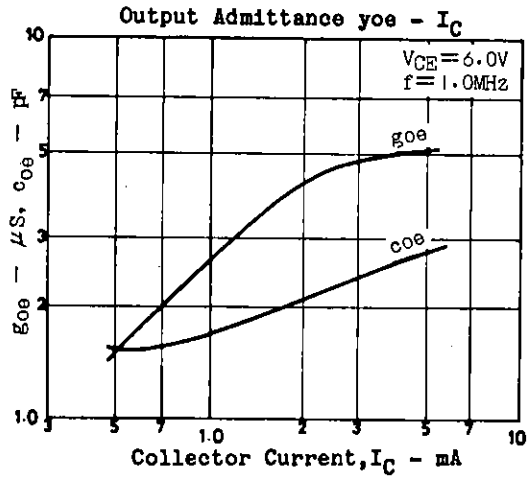
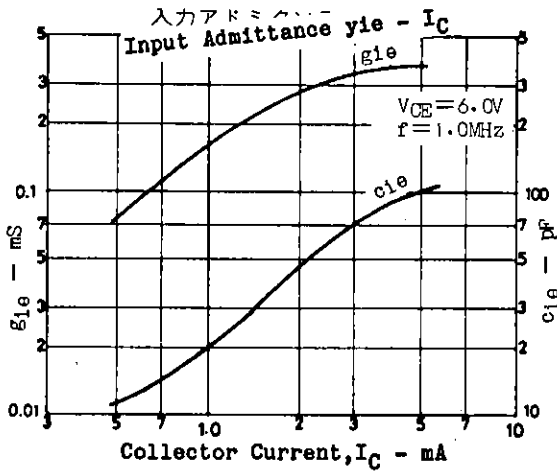
- L1: 1mm plated wire, 10mm 5T, tapped at 2T from V_{BE} .
- L2: 1mm plated wire, 10mm 7T, tapped at 1T from V_{CE} .
- L3: 1mm enameled wire, 10mm 3T.

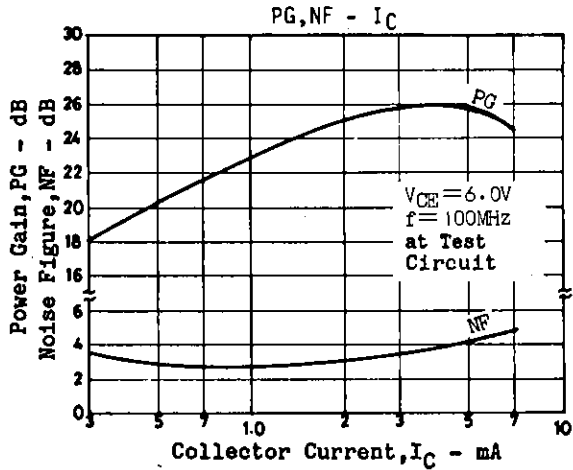
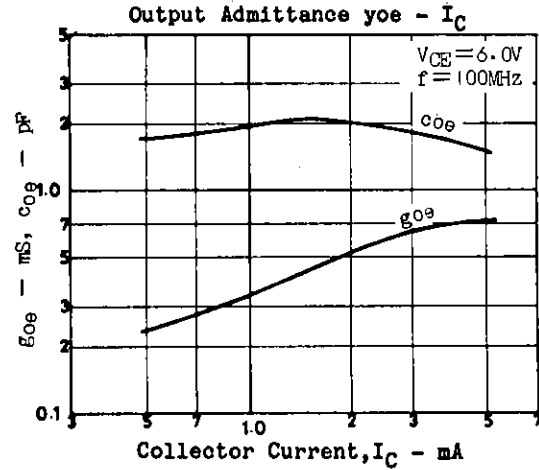
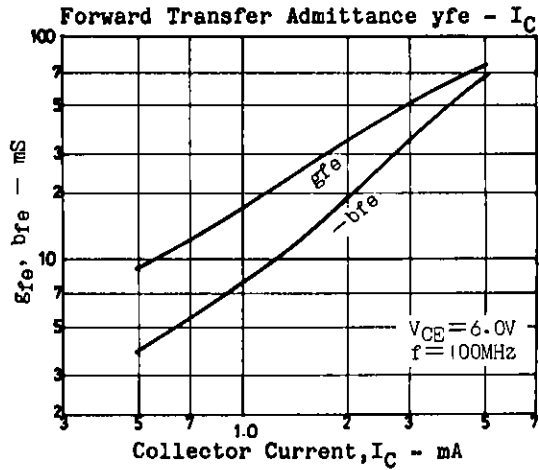
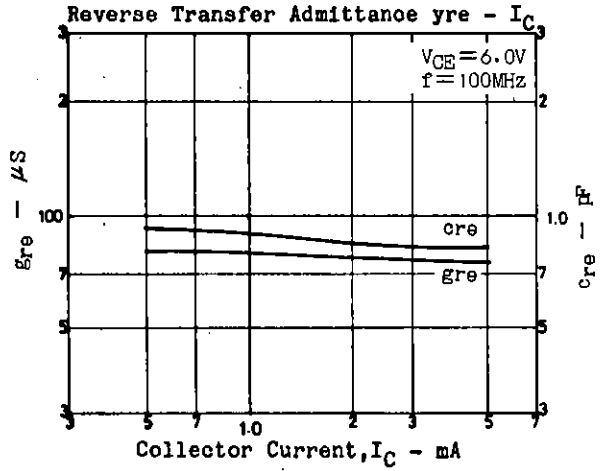
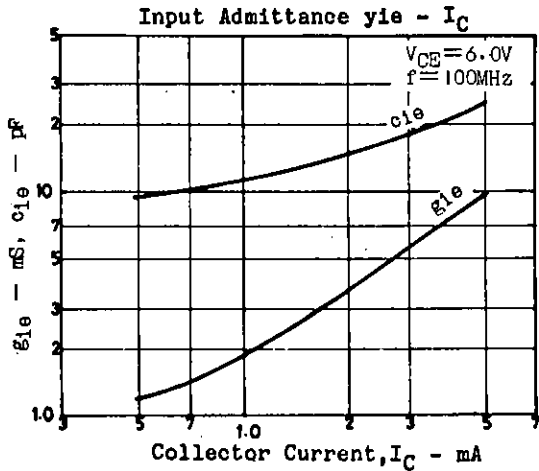
Package Dimensions 2003A
(unit: mm)



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







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