

<b>SANYO</b>	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  $T_a=25^\circ\text{C}$**

Collector to Base Voltage	$V_{CB0}$	30	V	unit
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	$^\circ\text{C}$	

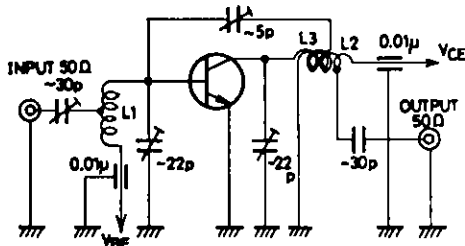
**Electrical Characteristics at  $T_a=25^\circ\text{C}$**

			min	typ	max	unit
Collector Cutoff Current	$I_{CB0}$	$V_{CB}=10\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EB0}$	$V_{EB}=4\text{V}, I_C=0$			0.1	$\mu\text{A}$
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
----	---	-----	-----	---	-----	-----	---	-----

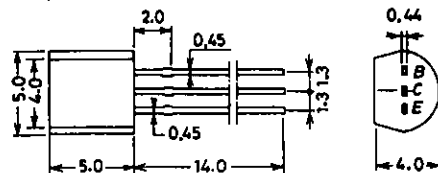
**NF,PG Test Circuit**



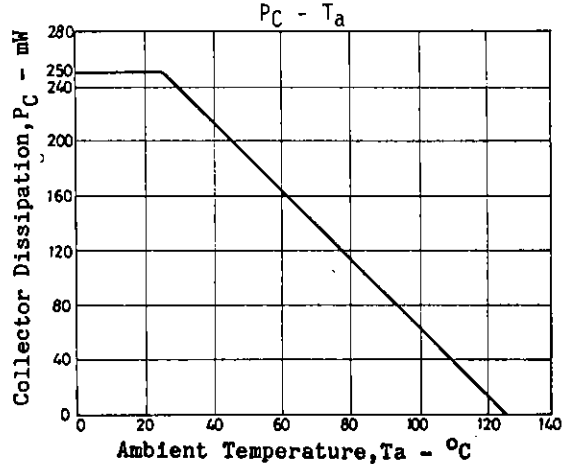
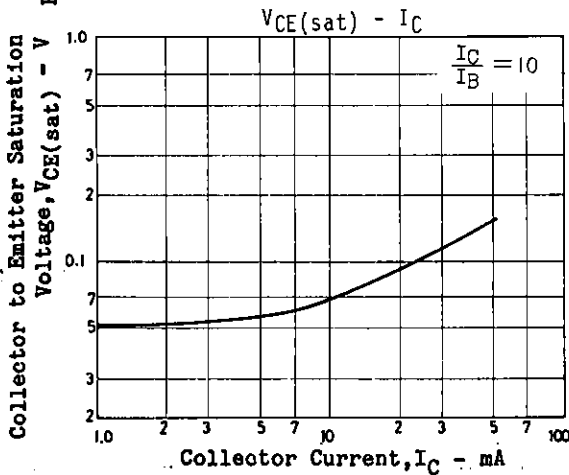
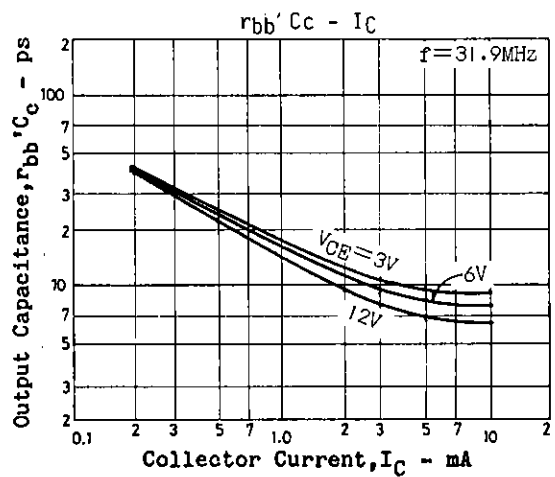
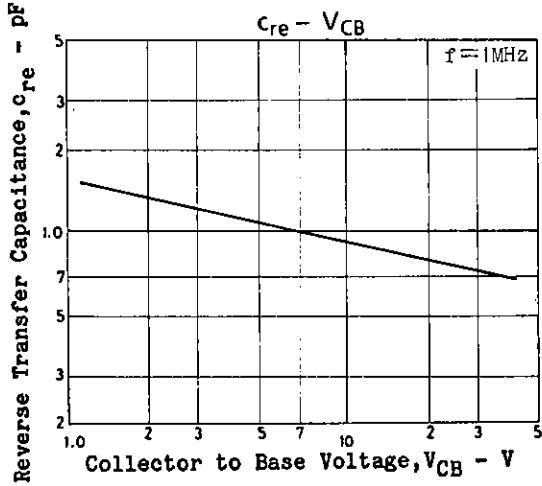
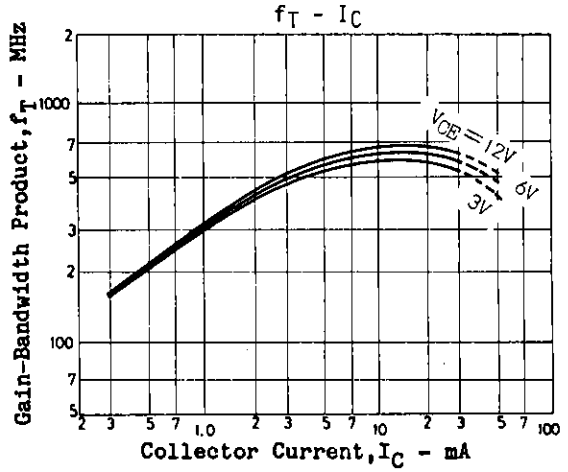
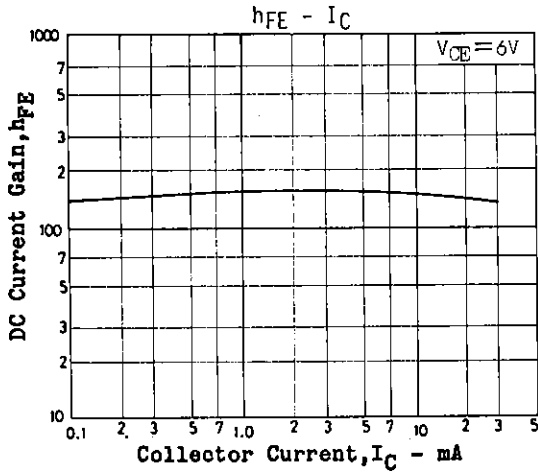
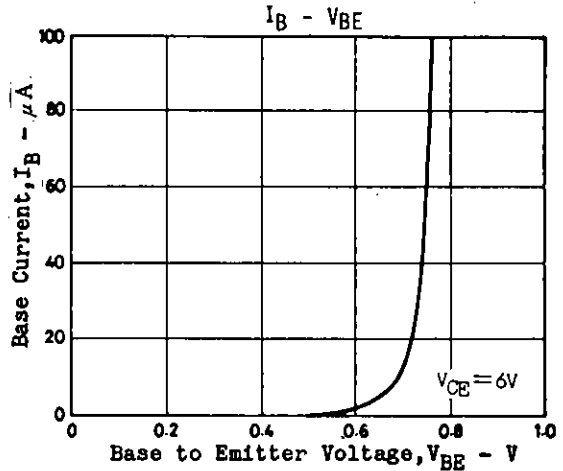
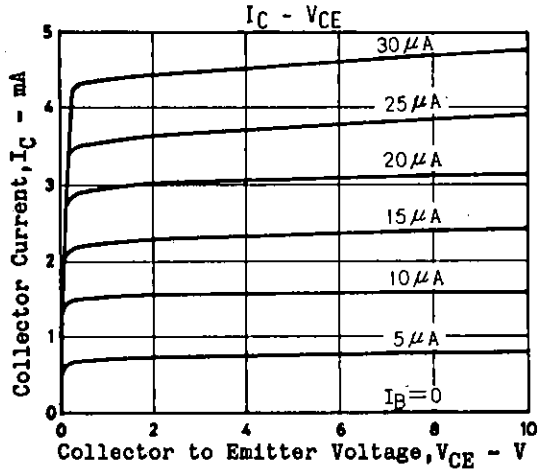
Unit(Capacitance : F)

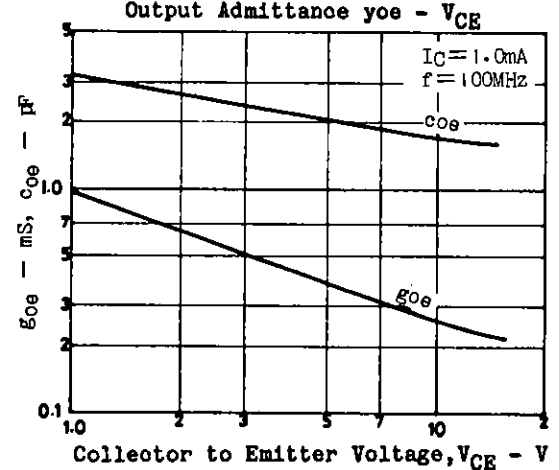
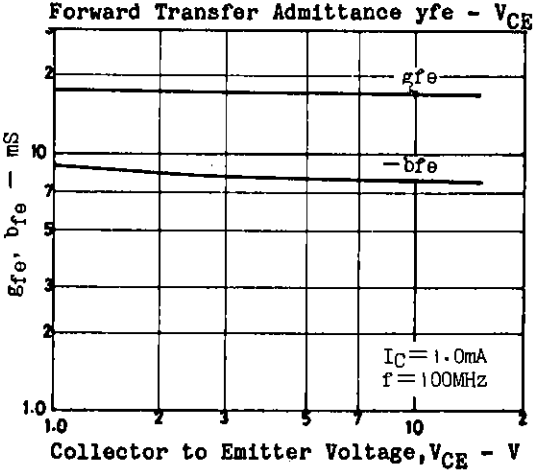
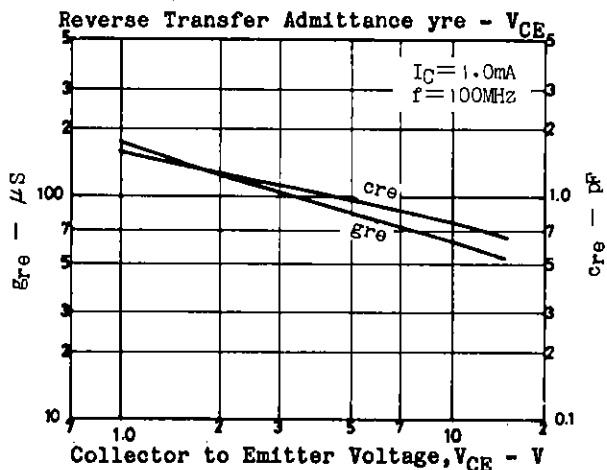
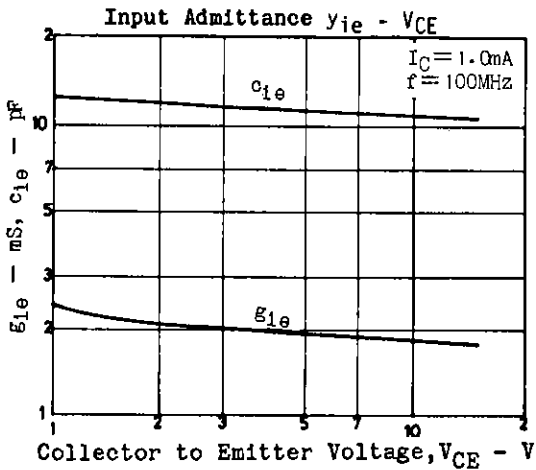
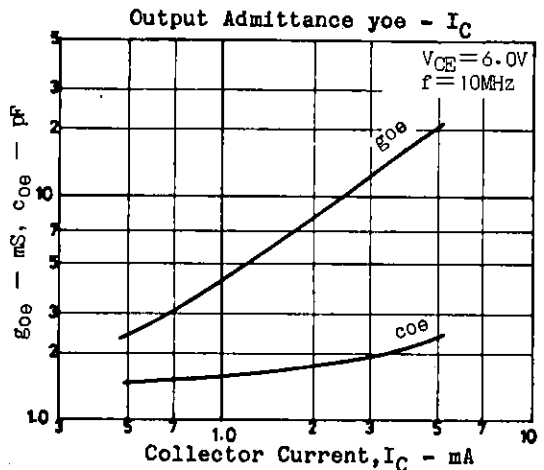
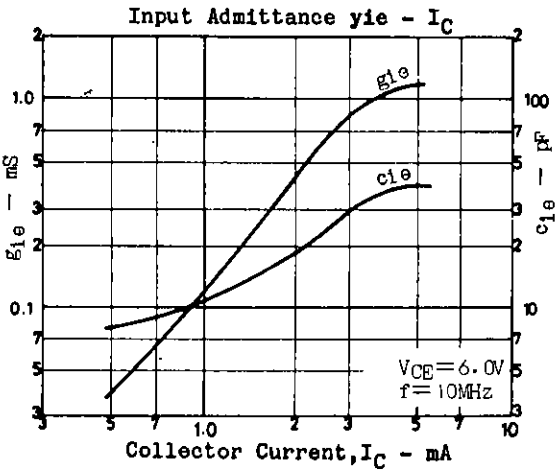
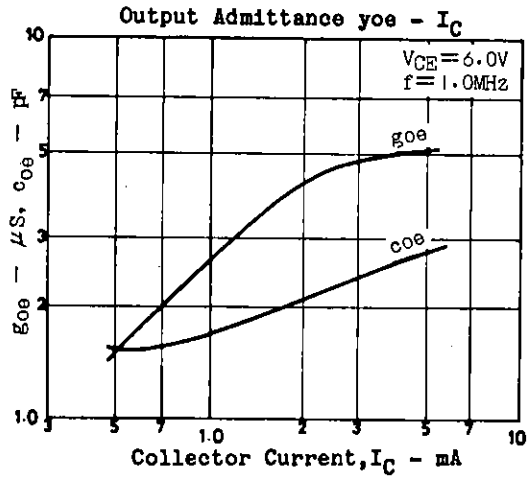
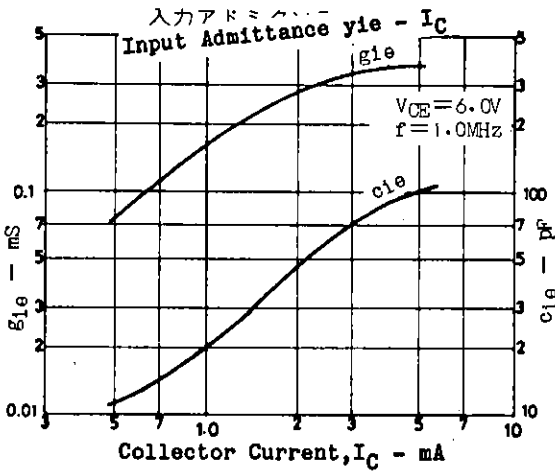
- L1: 1mmϕ plated wire, 10mmϕ 5T, tapped at 2T from  $V_{BE}$ .
- L2: 1mmϕ plated wire, 10mmϕ 7T, tapped at 1T from  $V_{CE}$ .
- L3: 1mmϕ enameled wire, 10mmϕ 3T.

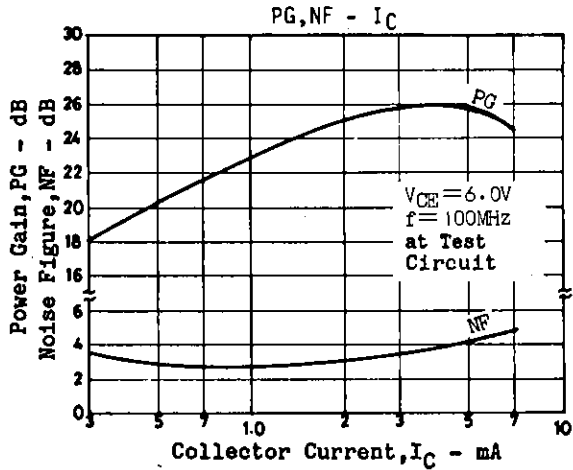
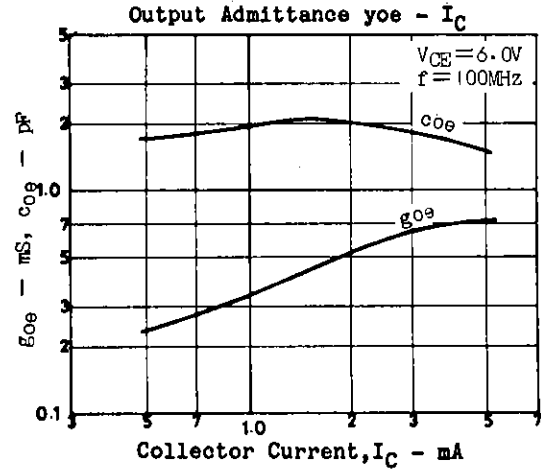
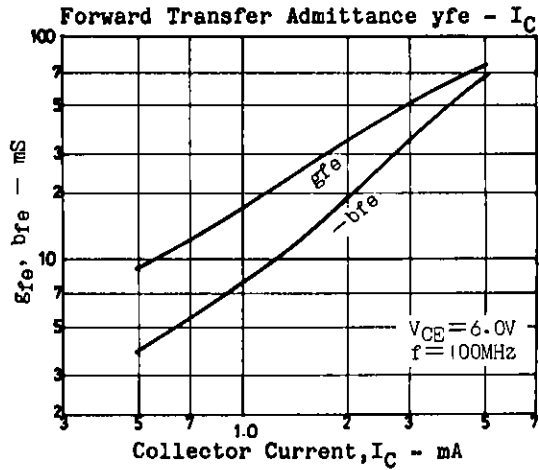
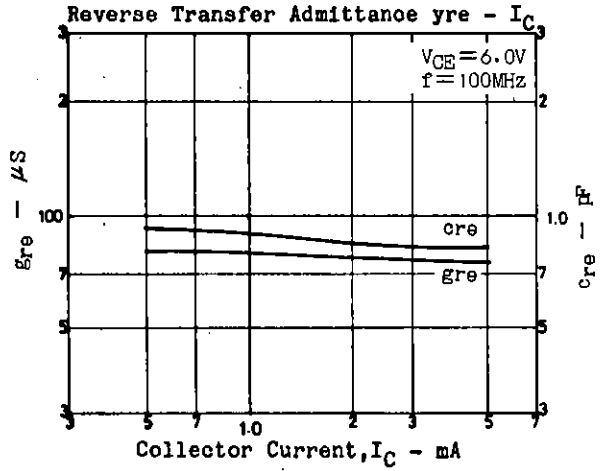
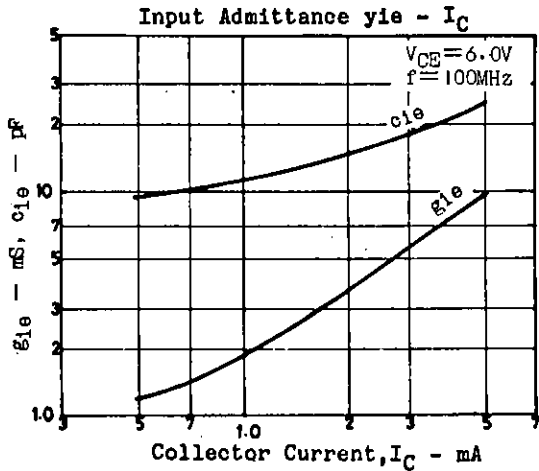
**Package Dimensions 2003A**  
(unit: mm)



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







■ 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.