Ordering number: EN 866C

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_{CBO}	30	V
Collector to Emitter Voltage	V_{CEO}	20	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current	I_C	30	mA
Collector Dissipation	P_C	250	mW
Junction Temperature	Tj	125	°C
Storage Temperature	T_{stg}	-55 to +125	°C

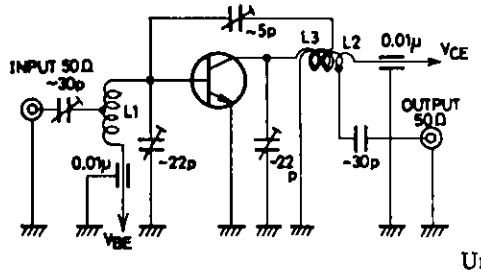
Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=10V, I_E=0			0.1	μA
Emitter Cutoff Current	I_{EBO}	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

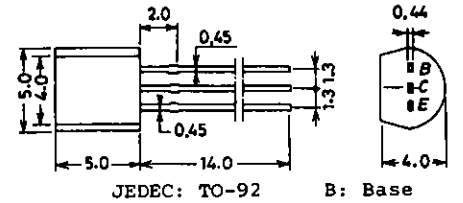
NF,PG Test Circuit



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.

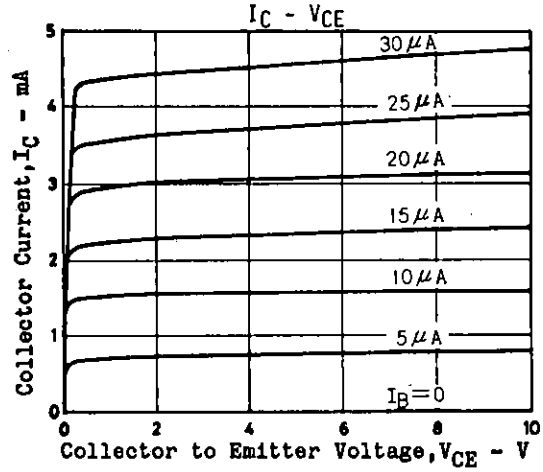
Package Dimensions 2003A
(unit: mm)



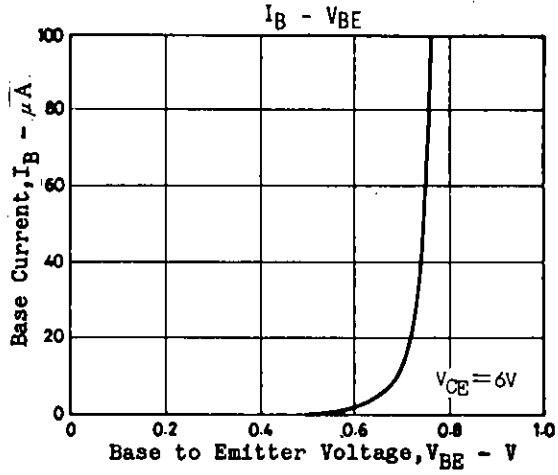
JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

B: Base
C: Collector
E: Emitter

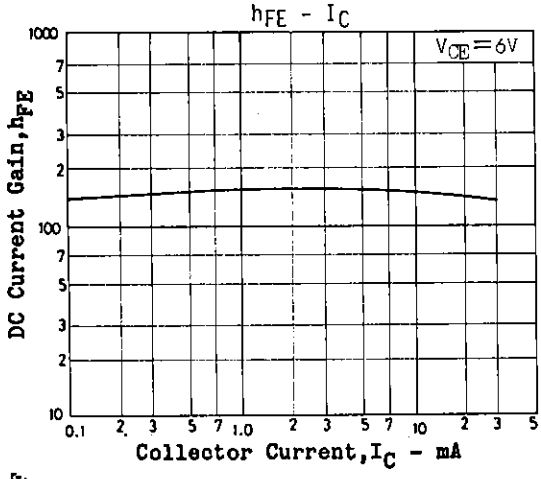
I_C - V_{CE}



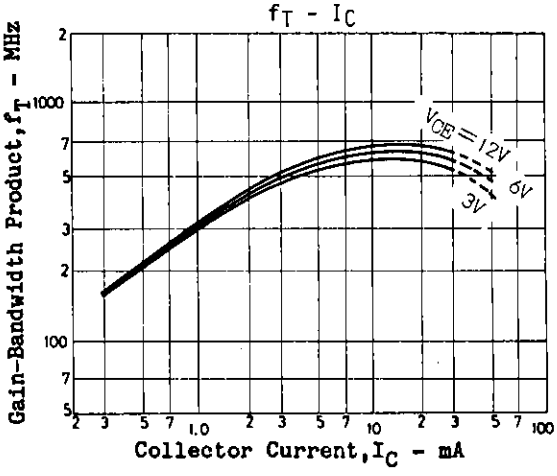
I_B - V_{BE}



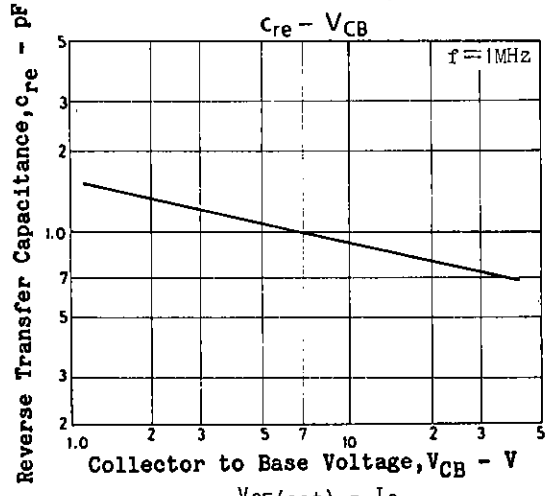
h_{FE} - I_C



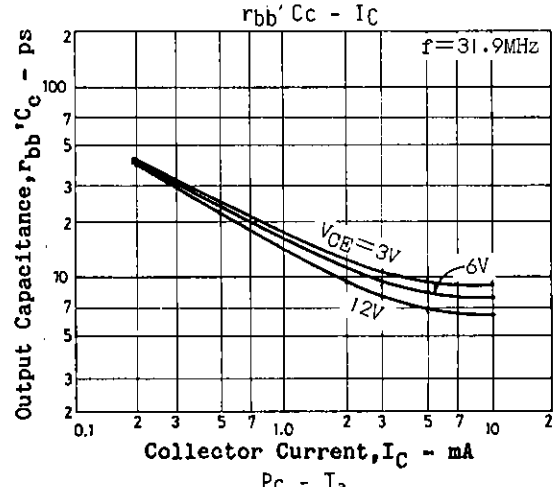
f_T - I_C



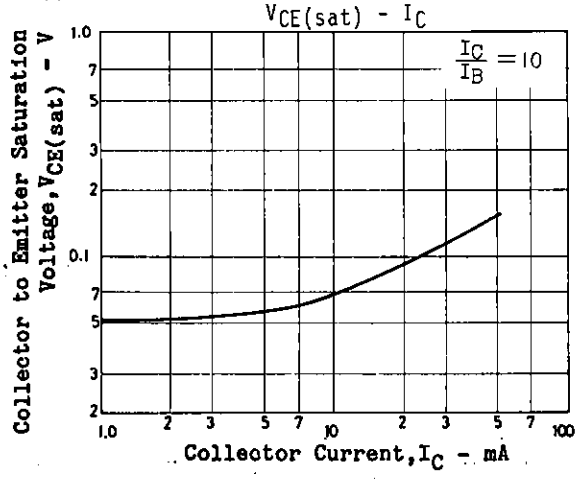
C_{re} - V_{CB}



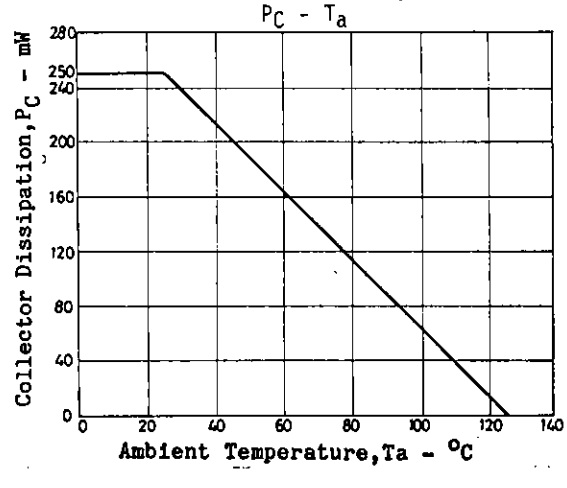
$r_{bb'}C_c$ - I_C



$V_{CE(sat)}$ - I_C

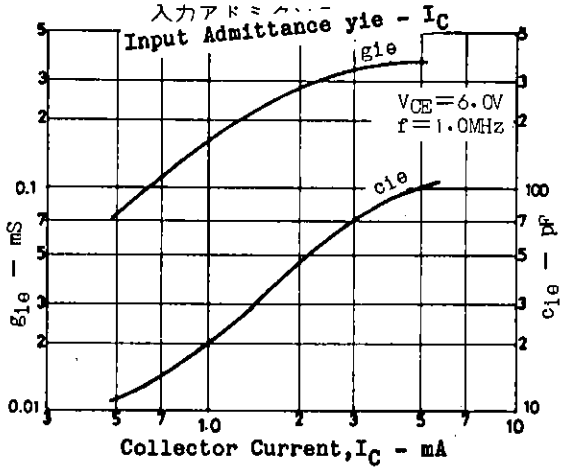


P_C - T_a

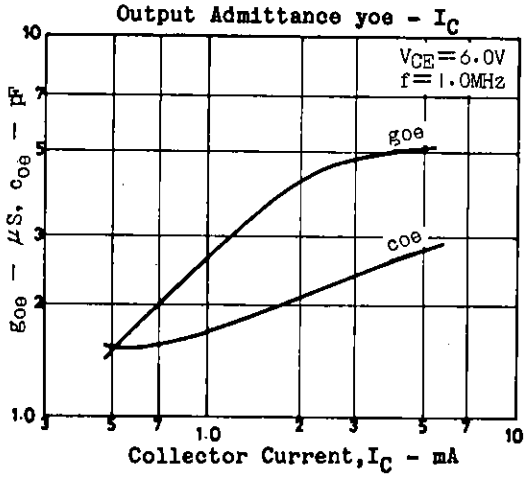


入力アドミタンス yie - I_C

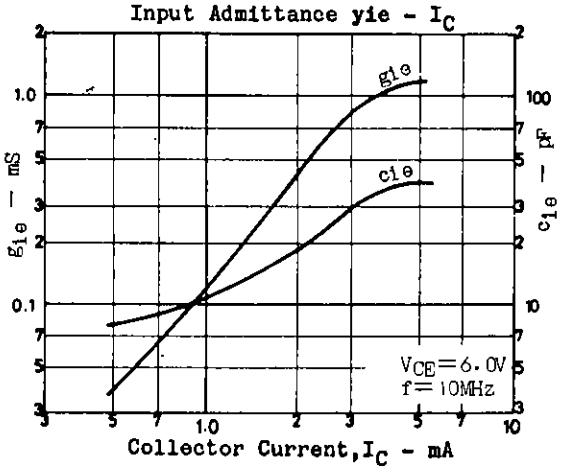
Input Admittance yie - I_C



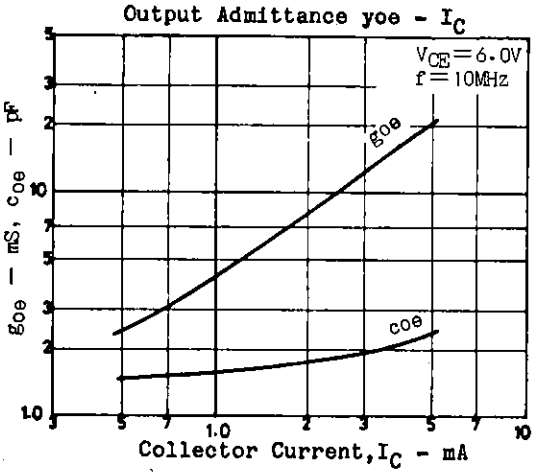
Output Admittance yoe - I_C



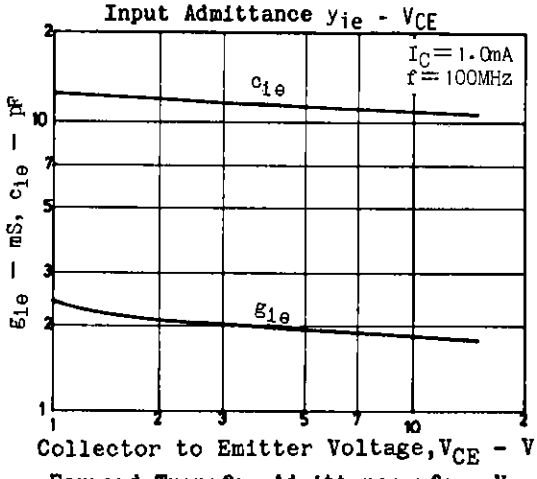
Input Admittance yie - I_C



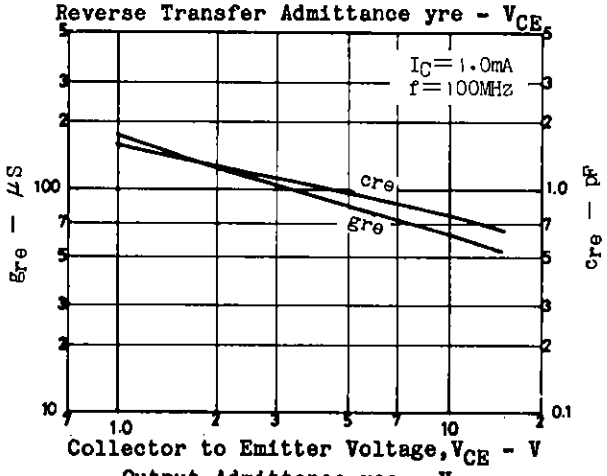
Output Admittance yoe - I_C



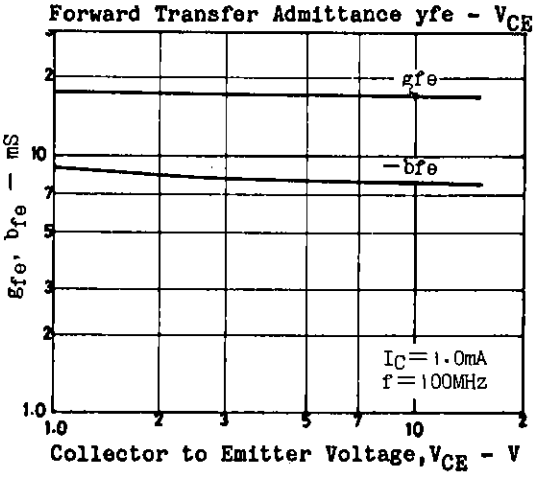
Input Admittance y_{ie} - V_{CE}



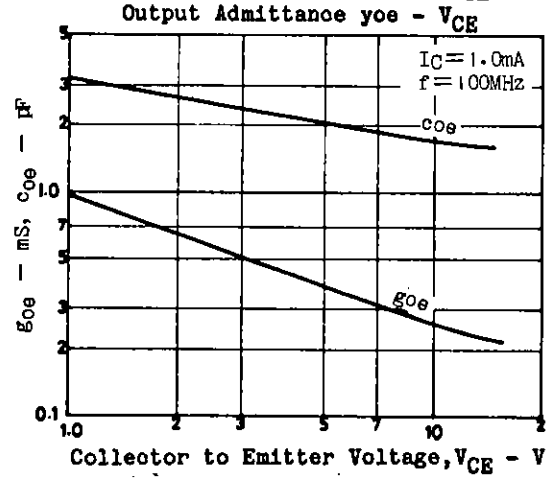
Reverse Transfer Admittance yre - V_{CE}



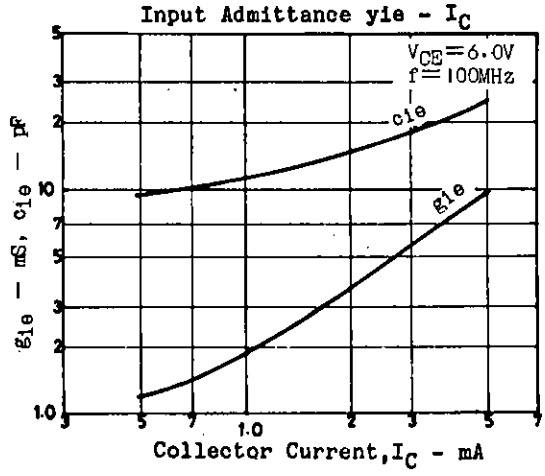
Forward Transfer Admittance yfe - V_{CE}



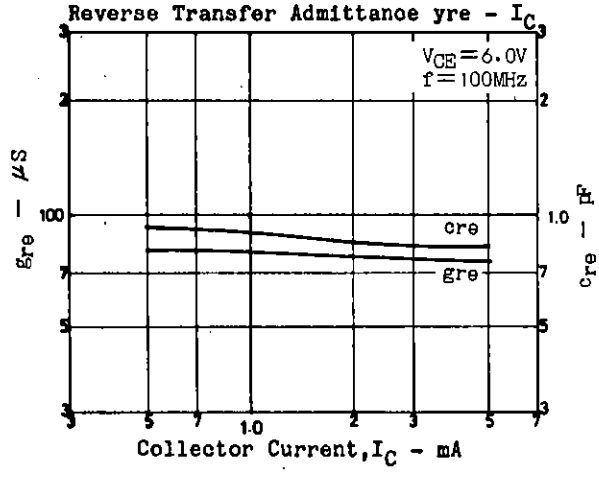
Output Admittance yoe - V_{CE}



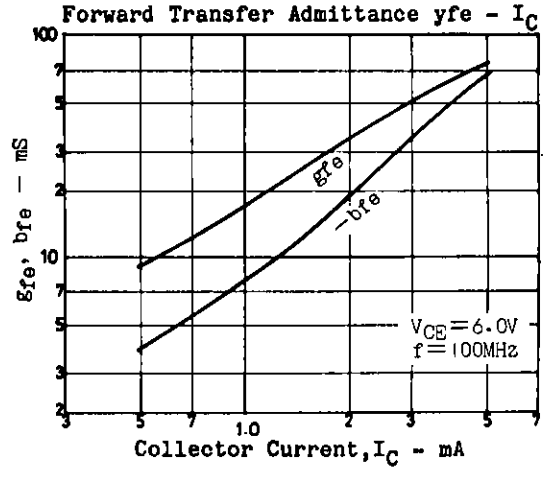
Input Admittance yie - I_C



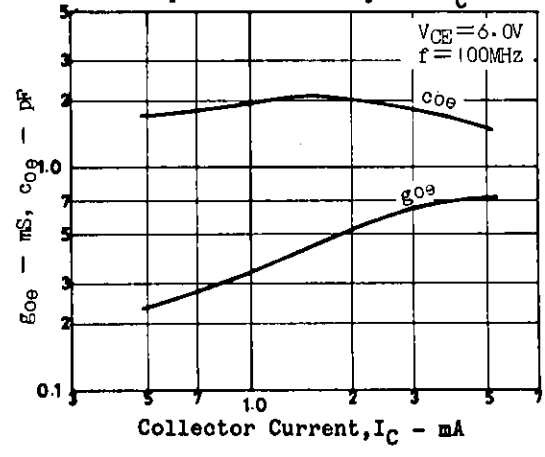
Reverse Transfer Admittance yre - I_C



Forward Transfer Admittance yfe - I_C



Output Admittance yoe - I_C



PG, NF - I_C