2SC2210

2003A

NPN Epitaxial Planar Silicon Transistor

AM RF Amp, Converter Applications

©374F

Features

- Highly resistant to dielectric breakdown and suited for car use.
- Good spurious characteristic due to low f_T.
- Small noise figure.

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	Tstg	-55 to +125	°C

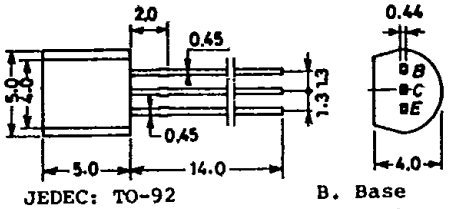
Electrical Characteristics at Ta=25°C

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	V_{CB}=10V, I_E=0			0.1	uA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0			0.1	uA
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=10uA, I_E=0	30			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, R_{BE}=∞	20			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=10uA, I_C=0	5			V
DC Current Gain	h_{FE}	V_{CE}=6V, I_C=1mA	40*		320*	
Gain Bandwidth Product	f_T	V_{CE}=6V, I_C=1mA	50	90	170	MHz
Reverse Transfer Capacitance	c_{re}	V_{CB}=6V, f=1MHz		3.5	4.5	pF
C-B Time Constant	$r_{bb'}C_c$	V_{CE}=6V, I_C=1mA, f=31.9MHz		25	50	ps
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=10mA, I_B=1mA			0.4	V
Noise Figure	NF	V_{CE}=10V, I_C=0.5mA, f=455kHz, Rg=1kohm		2.0		dB

*:The 2SC2210 is classifed by 1mA h_{FE} as follows:

40 C 80	60 D 120	100 E 200	160 F 320

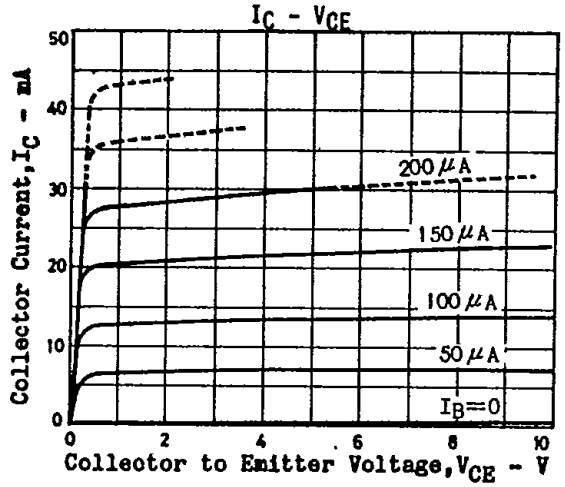
Case Outline 2003A
(unit:mm)



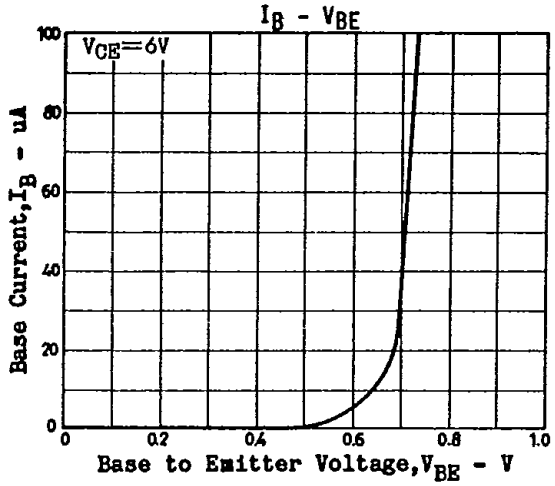
JEDEC: TO-92
EIAJ : SC-43
SANYO: NP

B. Base
C. Collector
E. Emitter

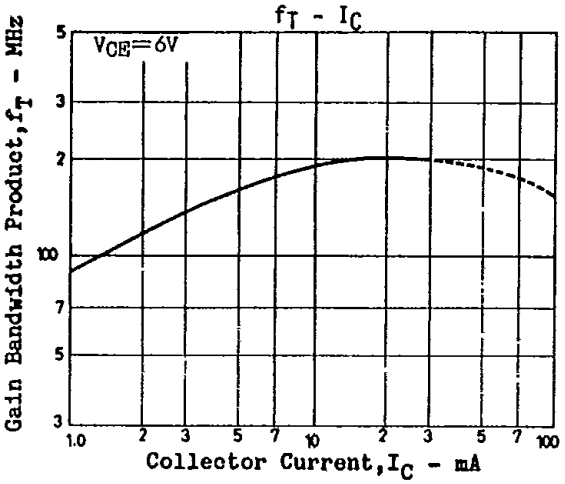
I_C - V_{CE}



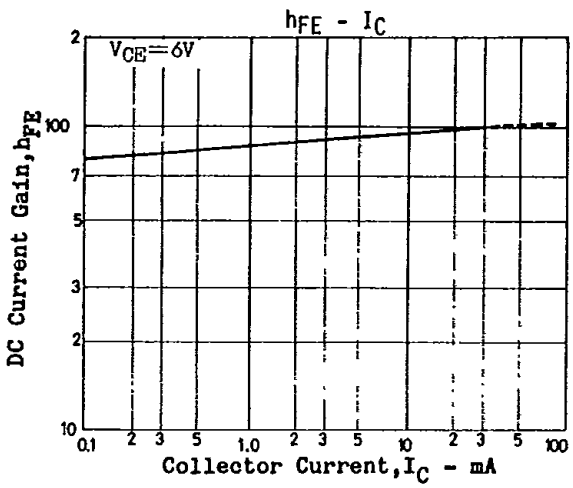
I_B - V_{BE}



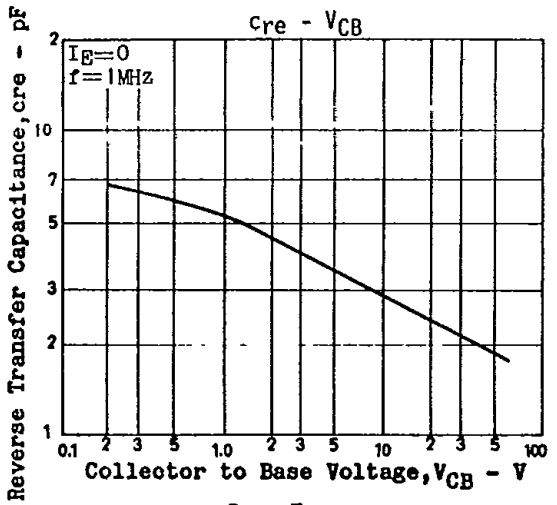
f_T - I_C



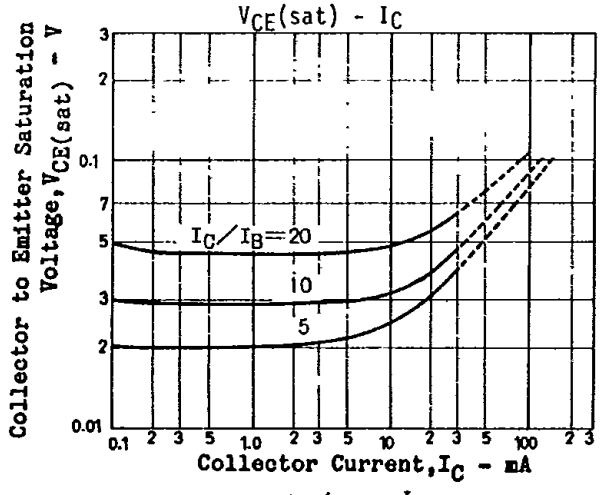
h_{FE} - I_C



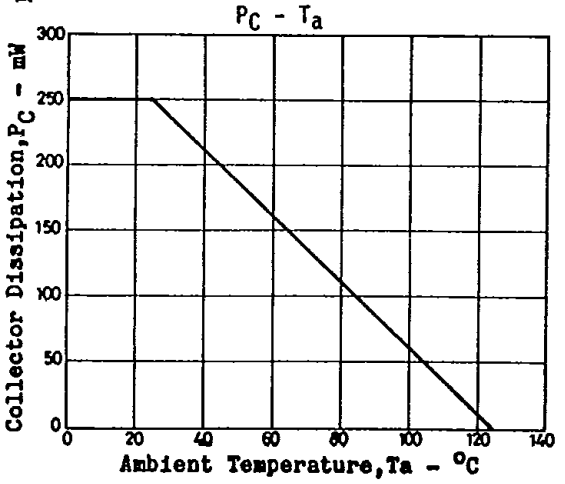
Cre - V_{CB}



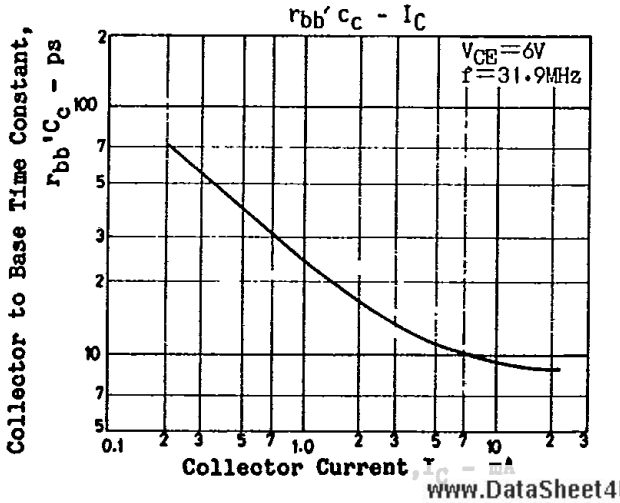
V_{CE}(sat) - I_C



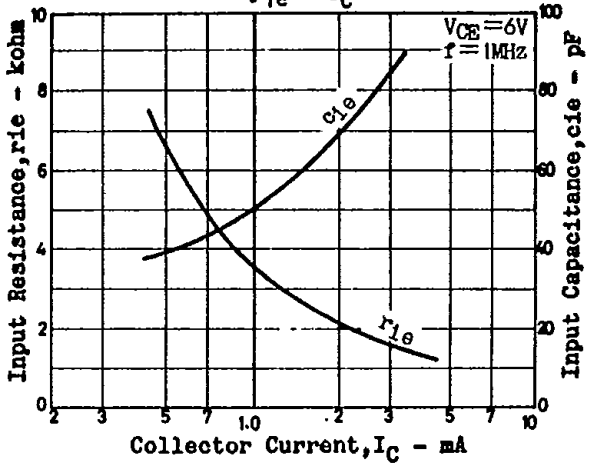
P_C - T_a



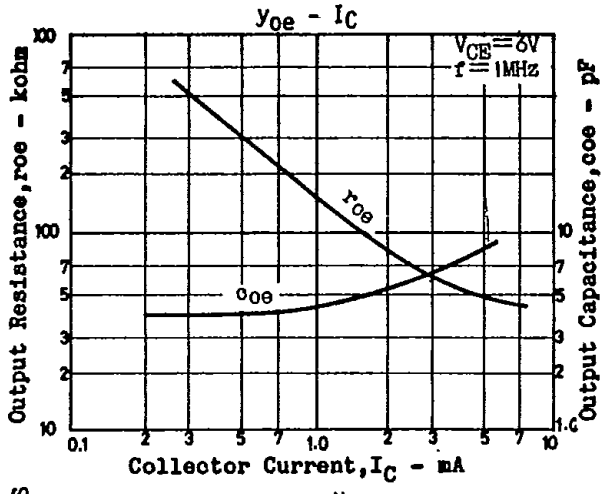
$r_{bb'}C_c$ - I_C



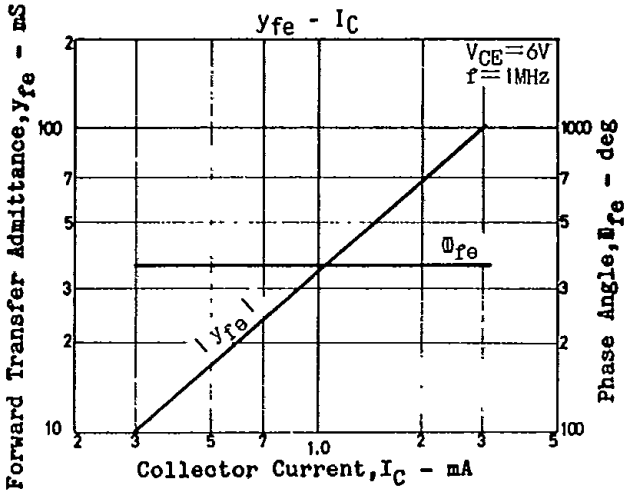
y_{ie} - I_C



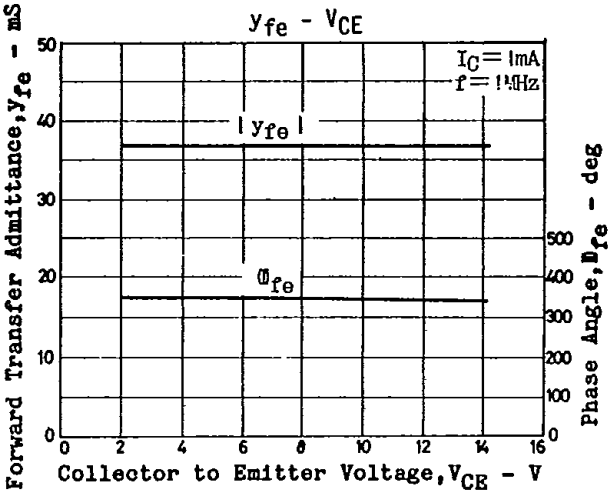
y_{oe} - I_C



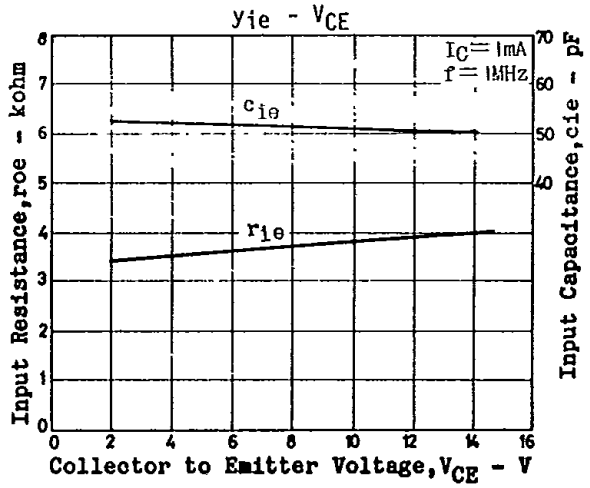
y_{fe} - I_C



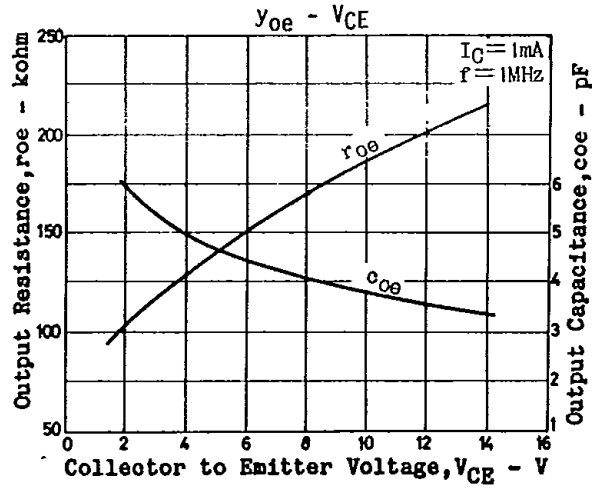
y_{fe} - V_{CE}



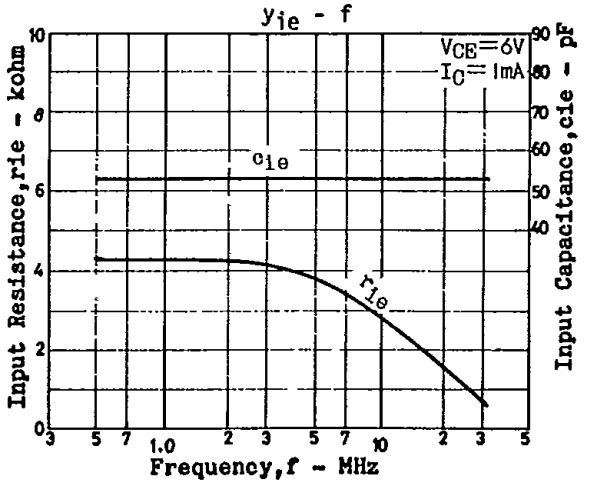
y_{ie} - V_{CE}



y_{oe} - V_{CE}



y_{ie} - f



y_{oe} - f