NPN Epitaxial Planar Silicon Transistor

2SC3142



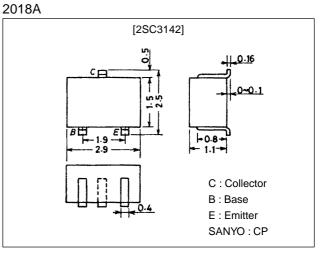
High-Frequency General-Purpose Amplifier Applications

Features

- · FBET series.
- \cdot Compact package enabling compactness of sets.
- · High f_T and small c_{re} (f_T =750MHz typ, c_{re} =0.6 typ).

Package Dimensions

unit:mm



Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		25	V
Collector-to-Emitter Voltage	VCEO		20	V
Emitter-to-Base Voltage	VEBO		3	V
Collector Current	ι _C		30	mA
Collector Dissipation	PC		150	mW
Junction Temperature	Tj		125	°C
Storage Temperature	Tstg		-40 to +125	°C

Electrical Characteristics at Ta = 25°C

Symbol	Conditions		Ratings		
		min	typ	max	Unit
ICBO	V _{CB} =10V, I _E =0			0.1	μA
IEBO	V _{EB} =3V, I _C =0			0.1	μA
h _{FE}	V _{CE} =6V, I _C =1mA	40*		180*	
fT	V _{CE} =6V, I _C =4mA	450	750		MHz
C _{re}	V _{CB} =6V, f=1MHz		0.6	0.9	pF
r _{bb} 'C _C	V _{CE} =6V, I _C =1mA, f=31.9MHz			19	ps
NF	V _{CE} =6V, I _C =1mA, f=100MHz		2.2		dB
PG	V _{CE} =6V, I _C =1mA, f=100MHz		28		dB
	ICBO IEBO hFE fT C _{re} r _{bb} 'CC NF	ICBO VCB=10V, IE=0 IEBO VEB=3V, IC=0 hFE VCE=6V, IC=1mA fT VCE=6V, IC=4mA Cre VCB=6V, f=1MHz rbb'CC VCE=6V, IC=1mA, f=31.9MHz NF VCE=6V, IC=1mA, f=100MHz	ICBO VCB=10V, IE=0 IEBO VEB=3V, IC=0 hFE VCE=6V, IC=1mA fT VCE=6V, IC=4mA Cre VCB=6V, f=1MHz rbb'CC VCE=6V, IC=1mA, f=31.9MHz NF VCE=6V, IC=1mA, f=100MHz	Symbol Conditions ICBO VCB=10V, IE=0 IEBO VEB=3V, IC=0 hFE VCE=6V, IC=1mA fT VCE=6V, IC=4mA Cre VCB=6V, f=1MHz 0.6 rbb°Cc VCE=6V, IC=1mA, f=31.9MHz NF VCE=6V, IC=1mA, f=2000000000000000000000000000000000000	Symbol Conditions min typ max ICBO VCB=10V, IE=0 0.1 0.1 IEBO VEB=3V, IC=0 0.1 0.1 hFE VCE=6V, IC=1mA 40* 180* fT VCE=6V, IC=4mA 450 750 Cre VCB=6V, f=1MHz 0.6 0.9 rbb [°] C VCE=6V, IC=1mA, f=31.9MHz 19 NF VCE=6V, IC=1mA, f=100MHz 2.2

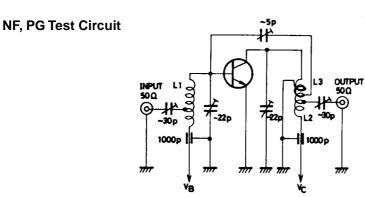
* : The 2SC3142 are classified as follows according to h_{FE} at 1mA : 40 2 80 60 3 120 90 4 180

(Note) Marking : J

h_{FE} rank : 2, 3, 4

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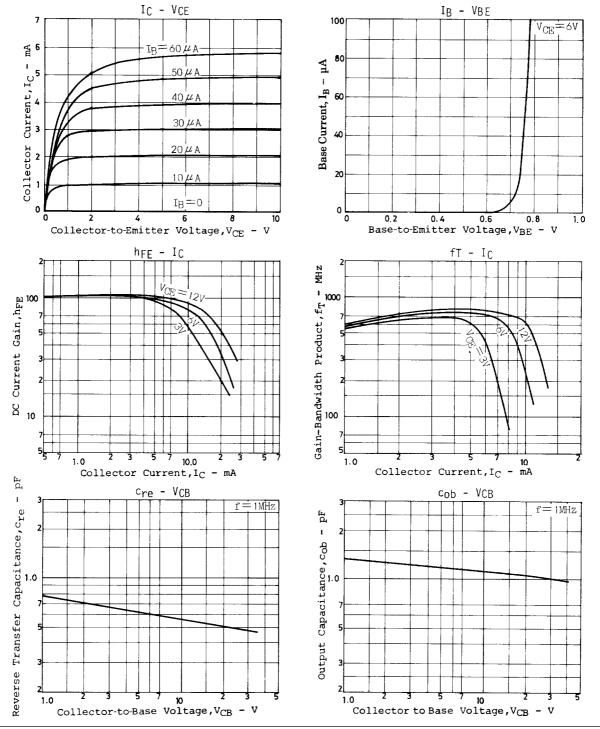


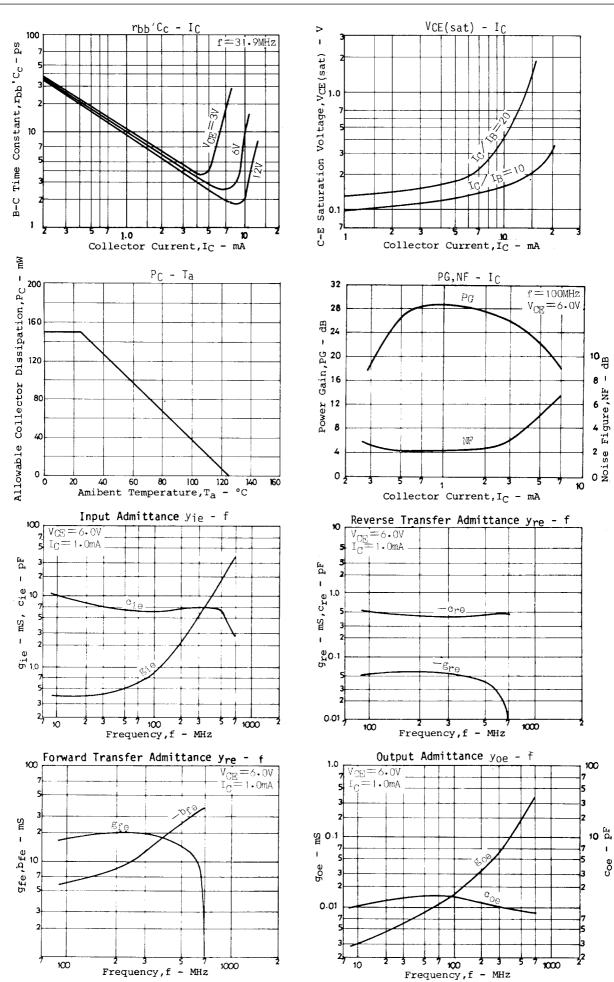
 $\texttt{Ll}:\texttt{Imm} \texttt{\textit{plated}} \texttt{ wire 10mm} \texttt{\textit{o}} \texttt{5T}, \texttt{pitch 15mm}, \texttt{tap}:\texttt{2T} \texttt{ from base}.$

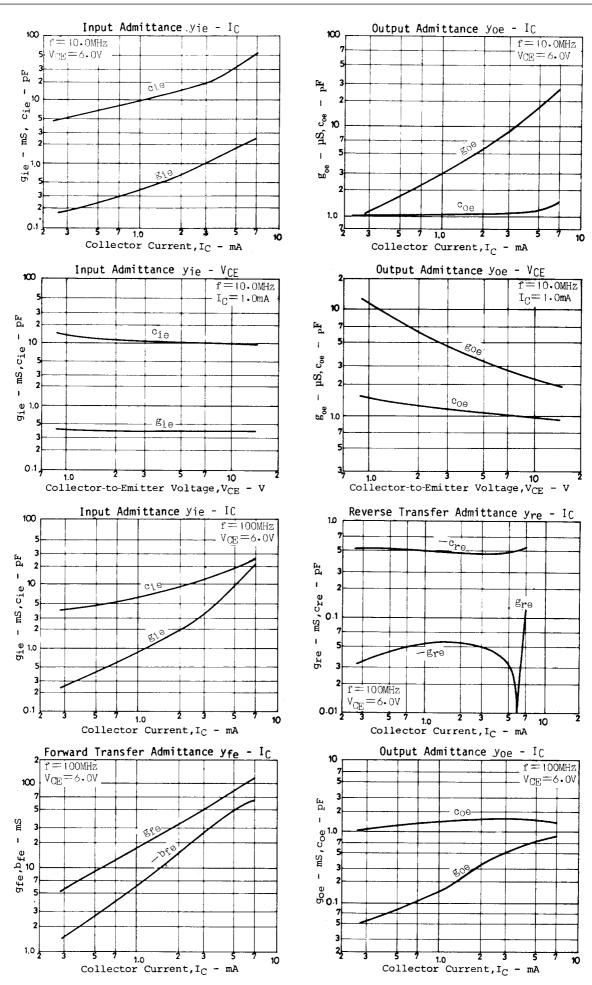
L2 : 1mmø plated wire 10mmø 7T, pitch 10mm, tap : 2T from V_C.

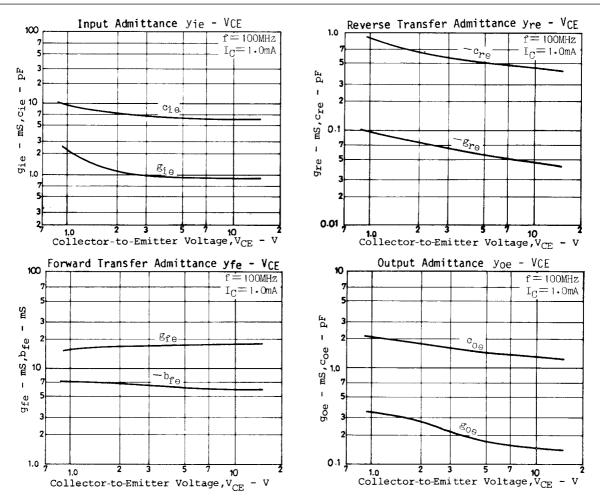
L3 : 1mmø enameled wire 10mmø 3T, pitch 10mm.

Unit (capacitance : F)









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