

SANYO

No.693F

2SC2814

NPN Epitaxial Planar Silicon Transistor

**High-Frequency
General-Purpose Amp Applications****Features**

- Very small package enabling compactness and slimness of sets.
- High f_T and small c_{re} . ($f_T=320\text{MHz}$ typ, $c_{re}=0.95\text{pF}$ typ)

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

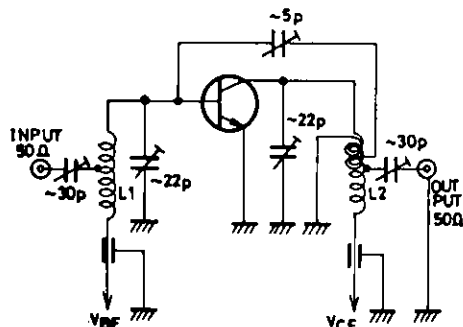
Electrical Characteristics at $T_a=25^\circ\text{C}$

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB}=10\text{V}, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=6\text{V}, I_C=1\text{mA}$	40*		270*	
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	0.95	1.2	pF
Base to Collector Time Constant	$r_{bb'}C_c$	$V_{CE}=6\text{V}, I_C=1\text{mA}, f=31.9\text{MHz}$		12	20	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 2SC2814 is classified as follows by h_{FE} at 1mA:

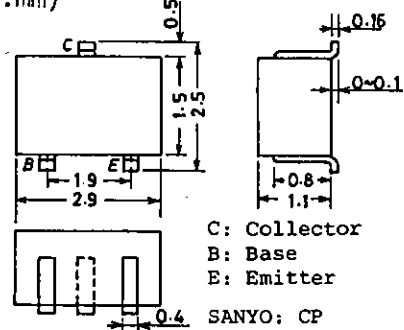
40	2	80	60	3	120	90	4	180	135	5	270
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(Note) Marking : F

 h_{FE} rank: 2, 3, 4, 5**NF, PG Test Circuit**

- L1: 1mm ϕ plated wire 10mm ϕ 4T, tap: 2T from V_{BE} side.
 L2: 1mm ϕ plated wire 10mm ϕ 7T, tap: 1T from V_{CE} side.
 L3: 1mm ϕ enameled wire 10mm ϕ 3T.

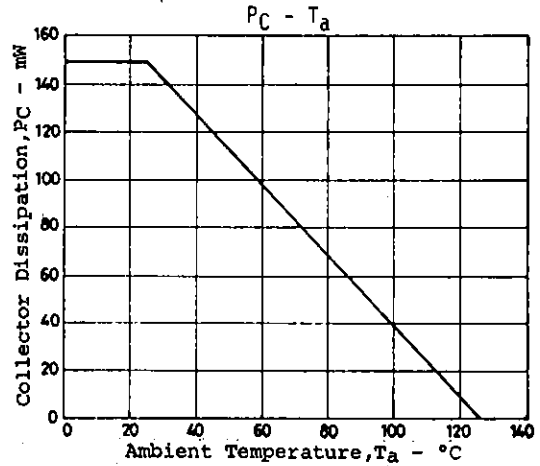
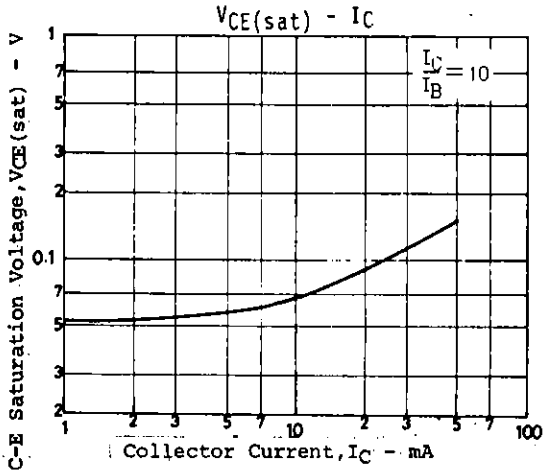
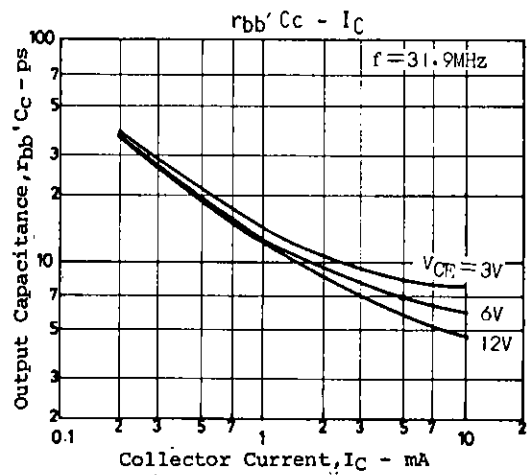
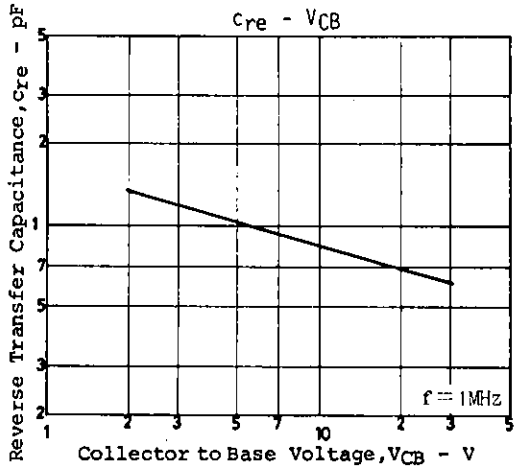
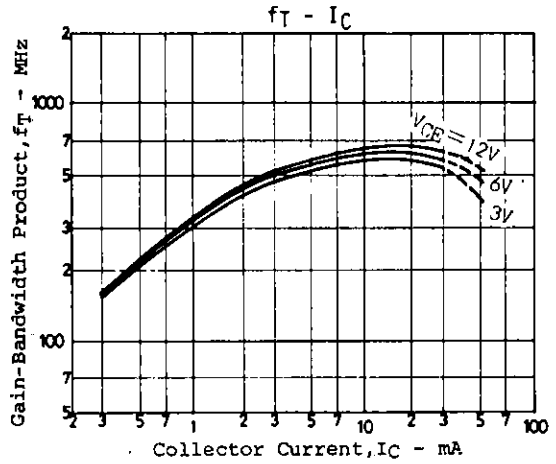
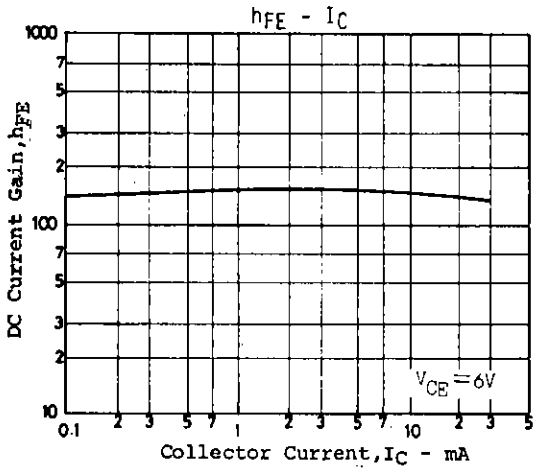
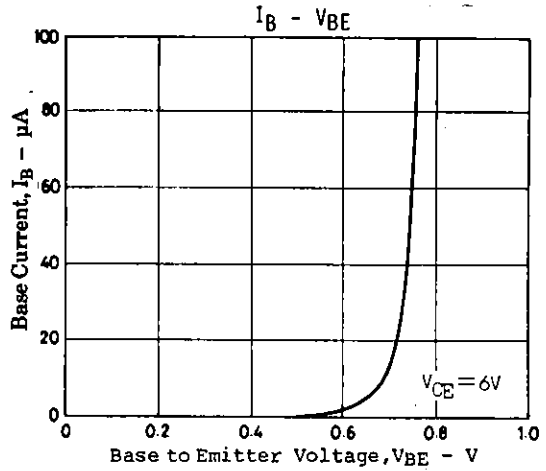
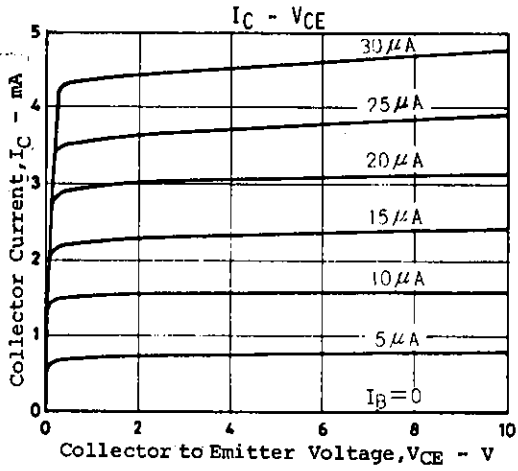
Unit (Capacitance : F)

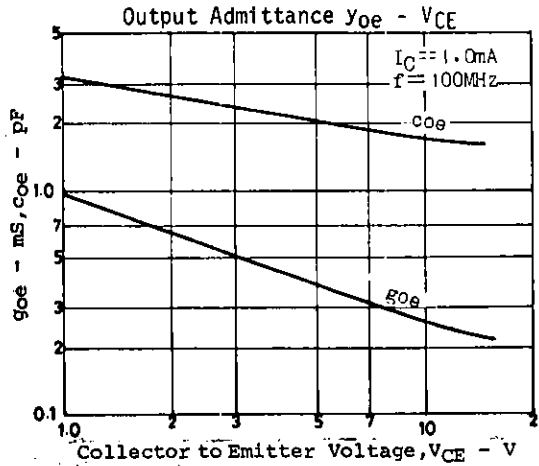
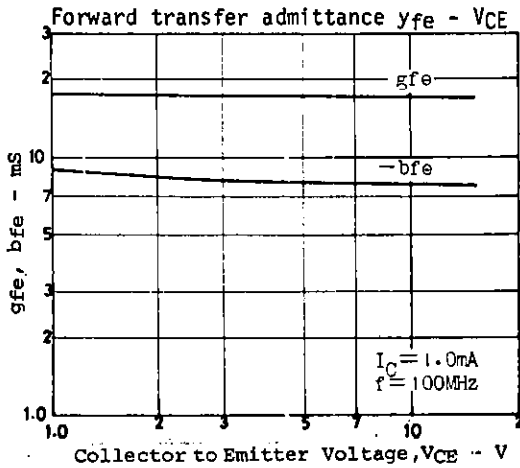
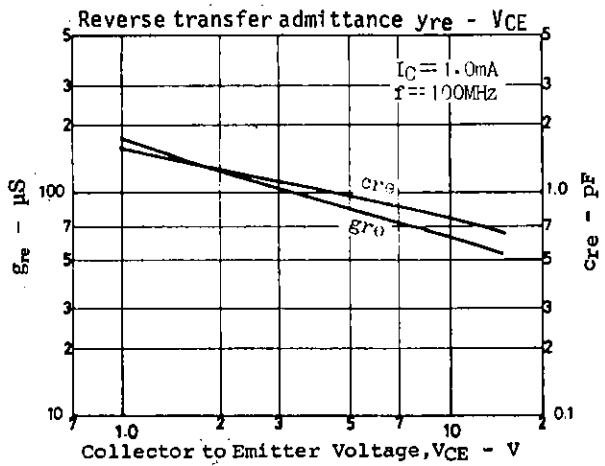
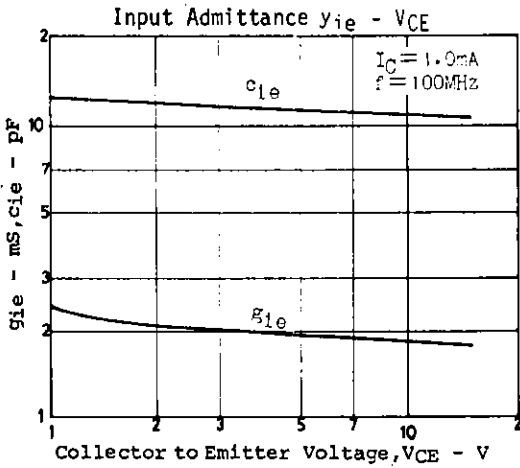
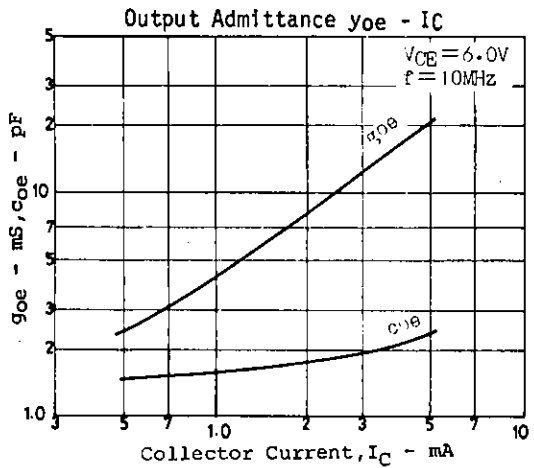
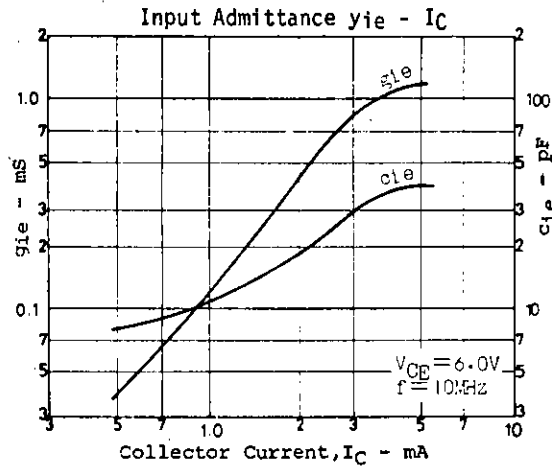
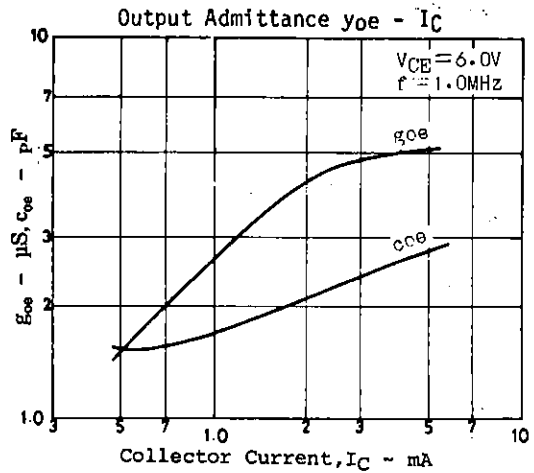
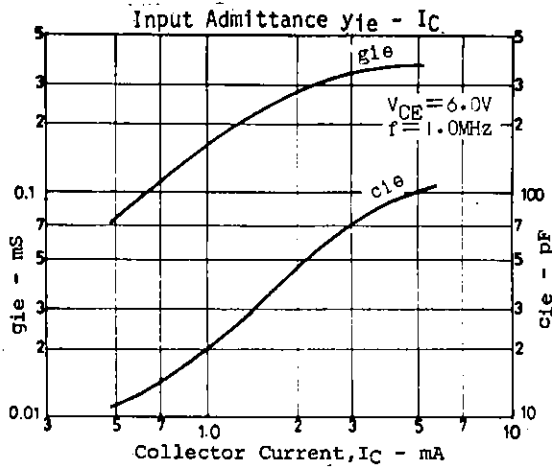
**Package Dimensions 2018A
(unit:mm)**C: Collector
B: Base
E: Emitter

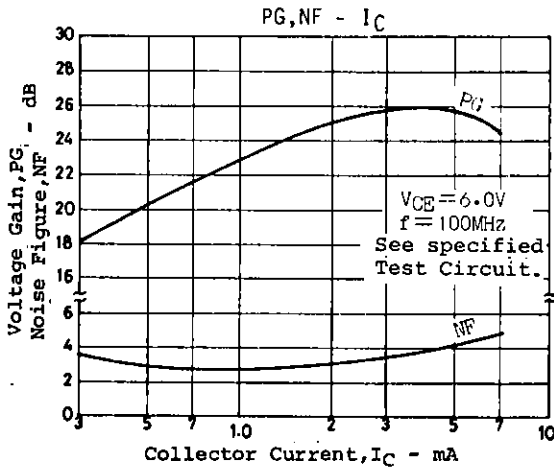
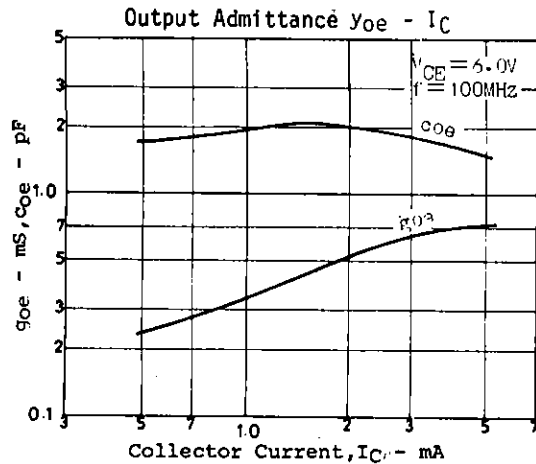
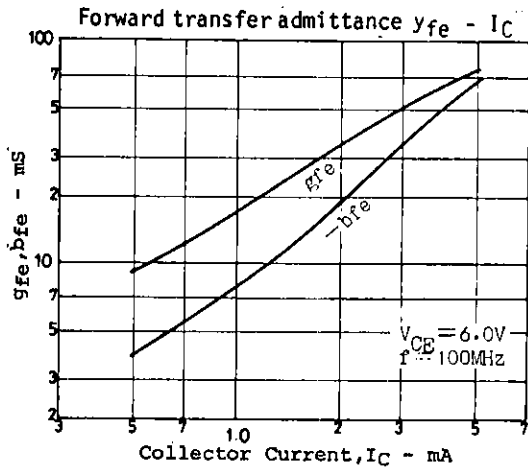
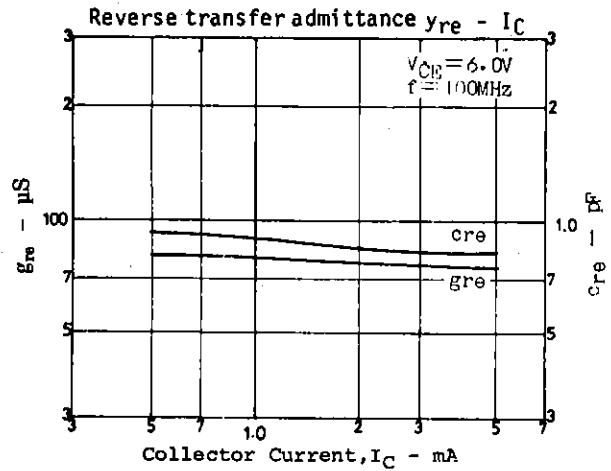
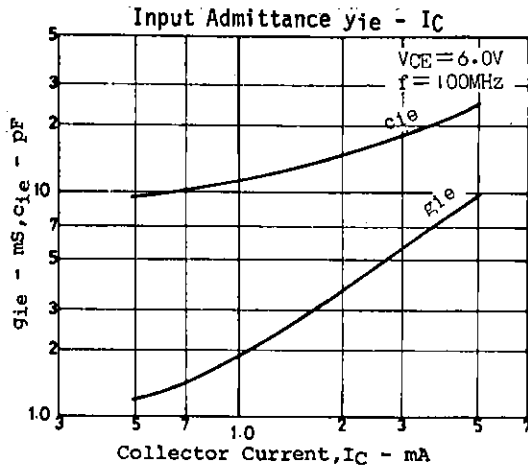
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4157KI/7263KI, TS No.693-1/4







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