

<b>SANYO</b>	No.693F	<b>2SC2814</b>
		NPN Epitaxial Planar Silicon Transistor <b>High-Frequency                  General-Purpose Amp Applications</b>

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

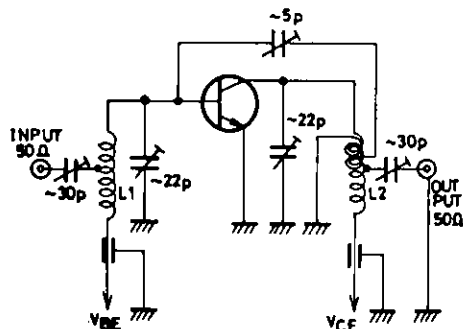
			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=10\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=6\text{V}, I_C=1\text{mA}$	40*		270*	
Gain-Bandwidth Product	$f_T$	$V_{CE}=6\text{V}, I_C=1\text{mA}$	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

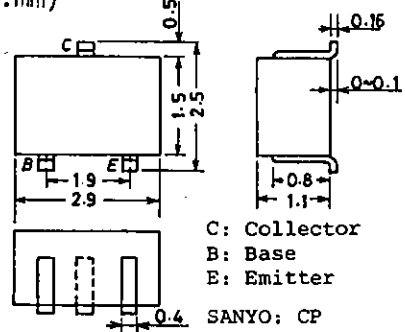
**NF, PG Test Circuit**



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

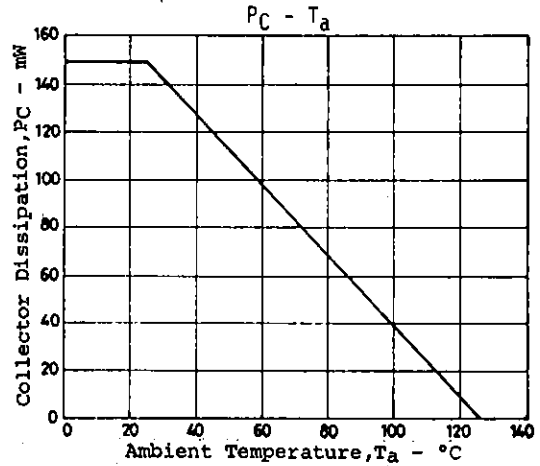
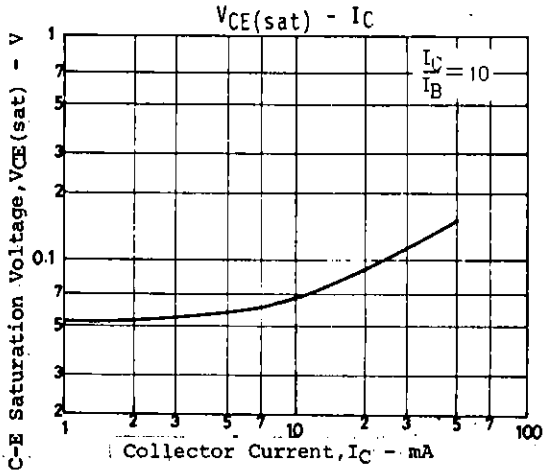
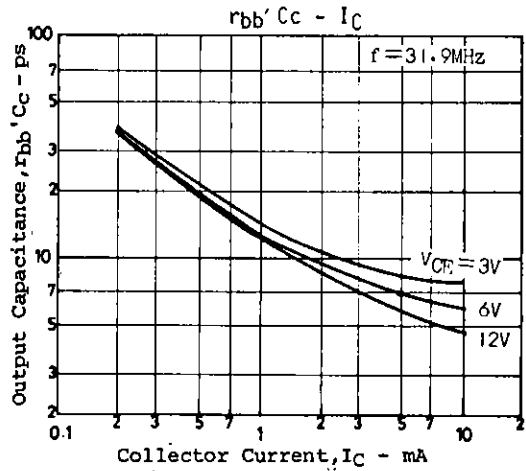
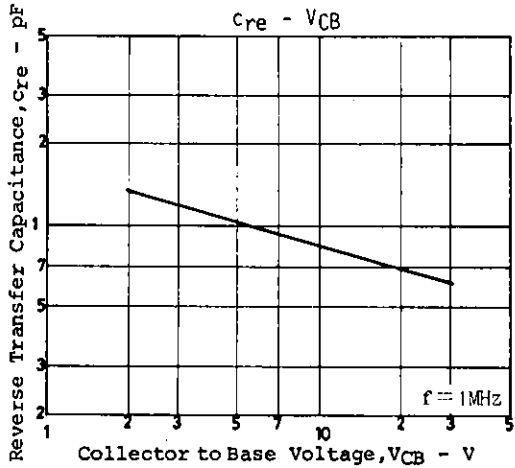
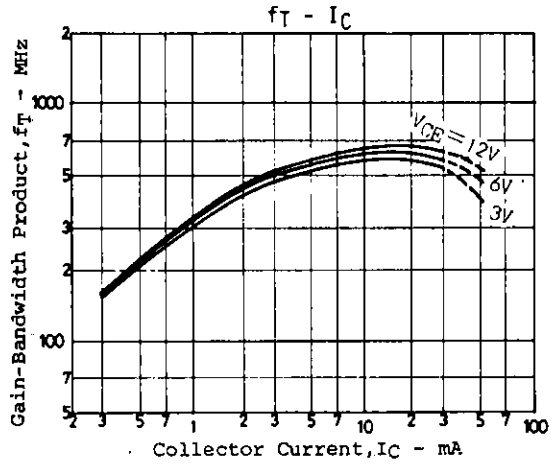
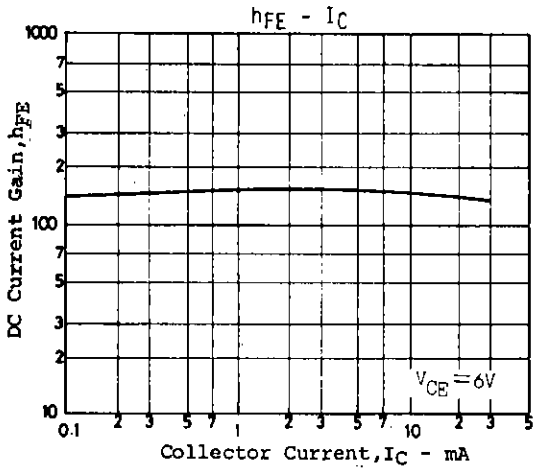
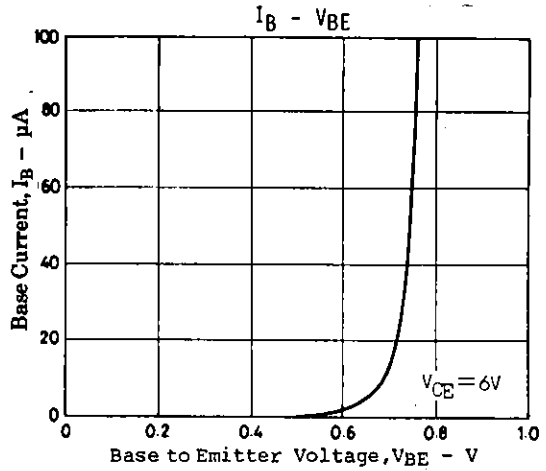
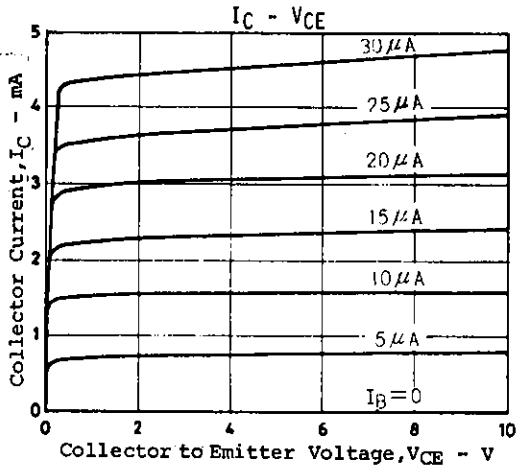
Unit (Capacitance : F)

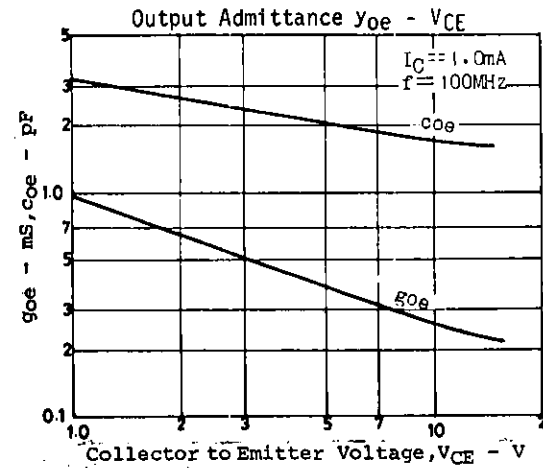
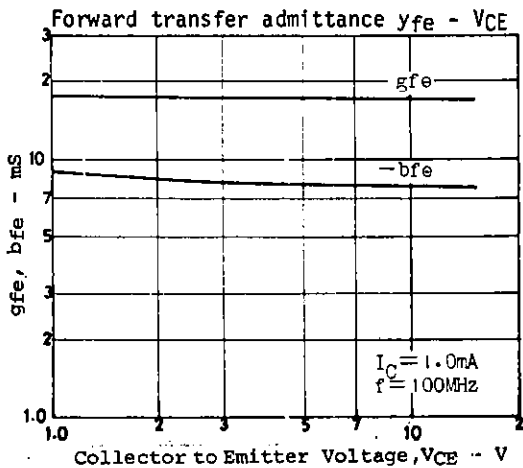
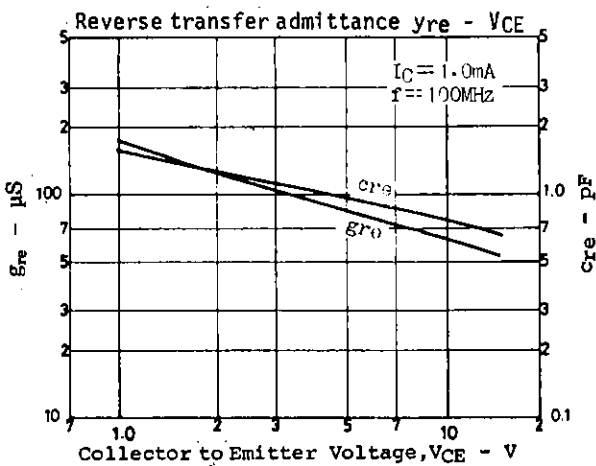
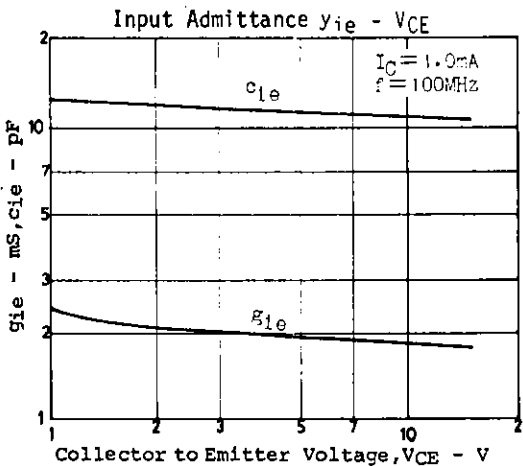
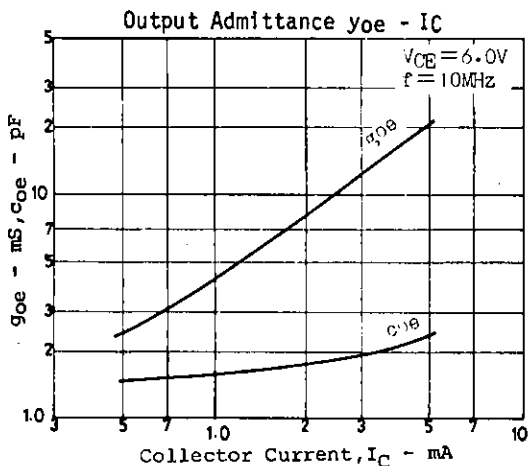
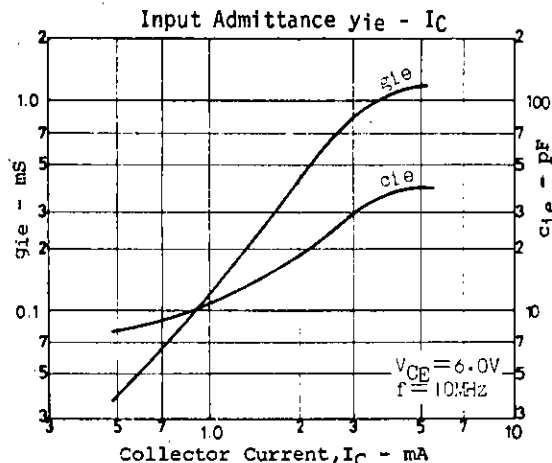
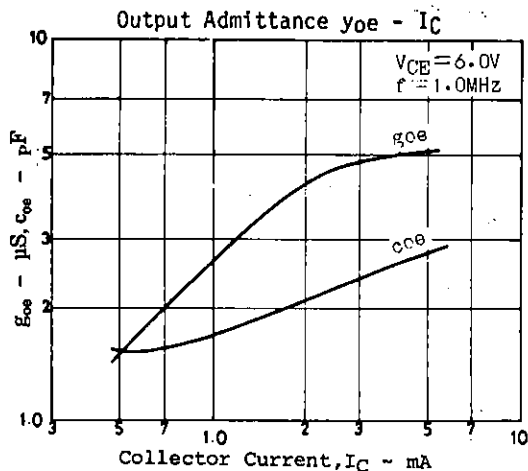
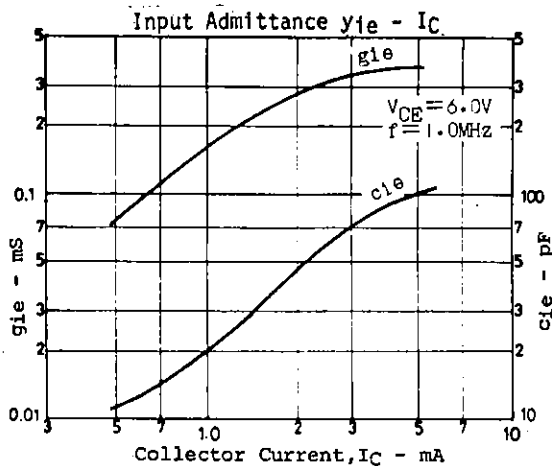
**Package Dimensions 2018A**  
 (unit:mm)

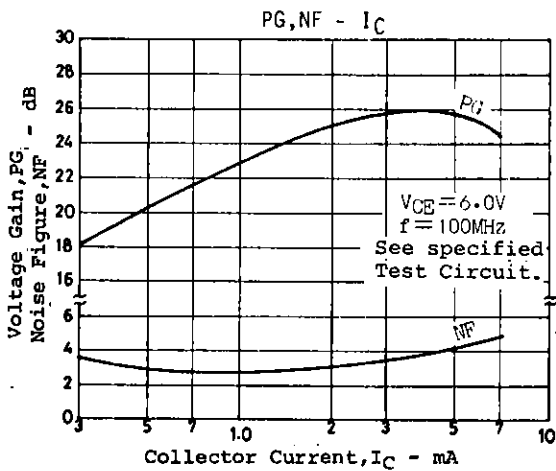
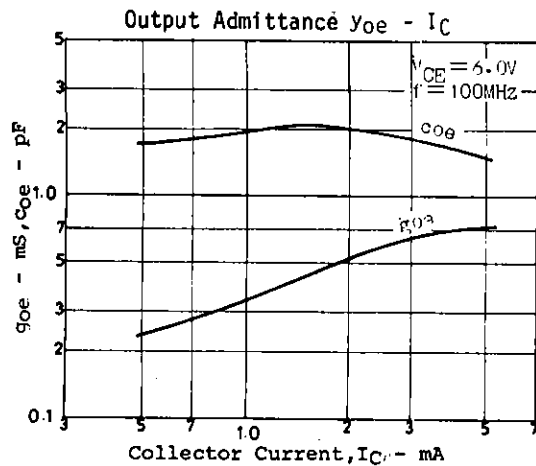
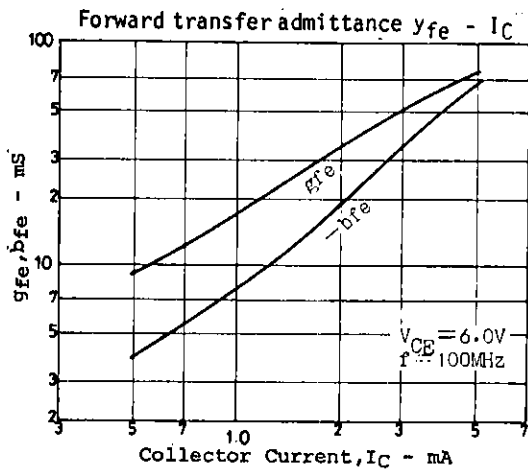
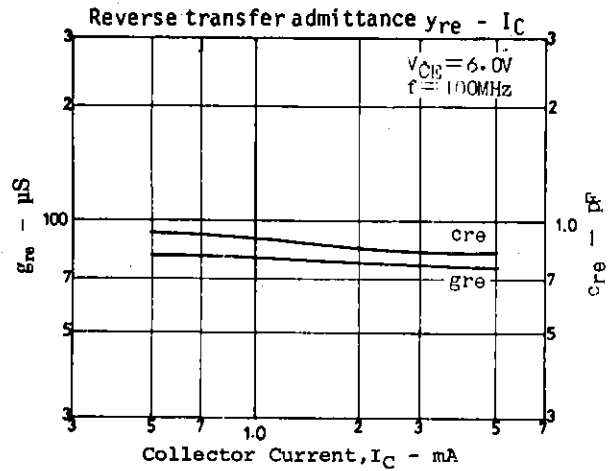
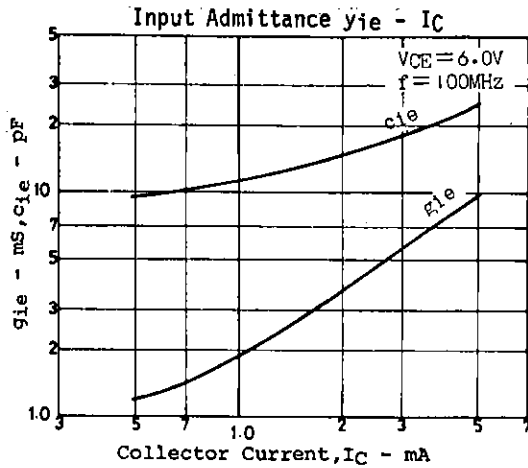


C: Collector  
 B: Base  
 E: Emitter

SANYO: CP







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