

NPN Epitaxial Planar Silicon Transistor

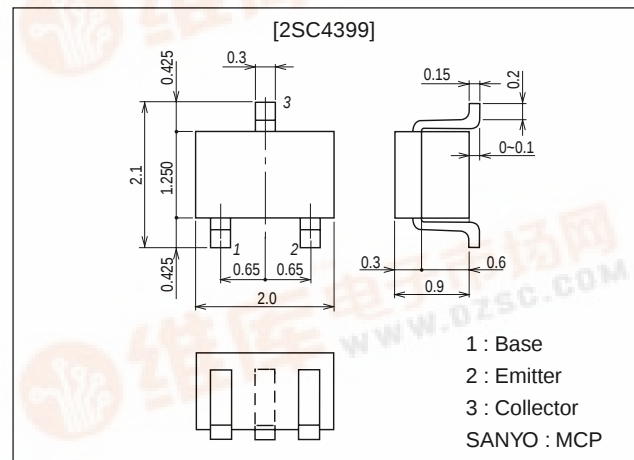
SANYO**2SC4399****High-Frequency
General-Purpose Amplifier Applications****Features**

- High power gain : PG=25dB typ (f=100MHz).
- Very small-sized package permitting the 2SC4399-applied sets to be made small and slim.

Package Dimensions

unit:mm

2059B

**Specifications****Absolute Maximum Ratings at Ta = 25°C**

Parameter	Symbol	Conditions	Ratings	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		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB}=10V, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=4V, I_C=0$			0.1	μA
DC Current Gain	h_{FE}	$V_{CE}=6V, I_C=1mA$	60*		270*	
Gain-Bandwidth Product	f_T	$V_{CE}=6V, I_C=1mA$	200	320		MHz
Reverse transfer Capacitance	C_{re}	$V_{CB}=6V, f=1MHz$		0.9	1.2	pF
Base-to-Collector Time Constant	$\tau_{bb'C_C}$	$V_{CB}=6V, I_C=1mA, f=31.9MHz$		12	20	ps
Power Gain	PG	$V_{CB}=6V, I_C=1mA, f=100MHz$		25		dB
Noise Figure	NF	$V_{CB}=6V, I_C=1mA, f=100MHz$		3.0		dB

* : The 2SC4399 is classified by 1mA h_{FE} as follows :

Marking : F

 h_{FE} rank : 3, 4, 5

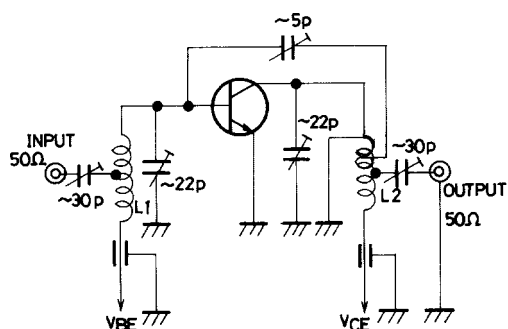
60	3	120	90	4	180	135	5	270
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NF, PG Test Circuit

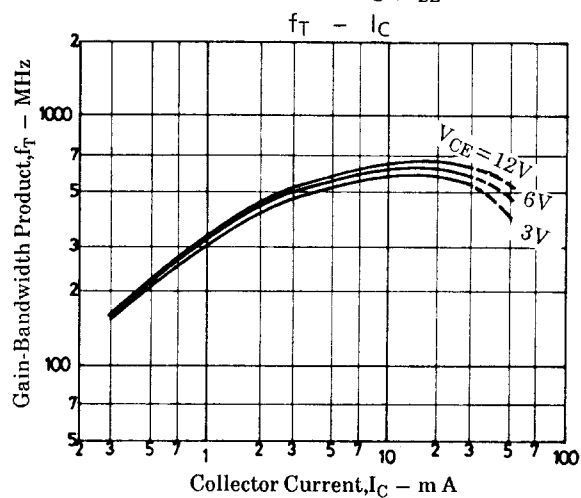
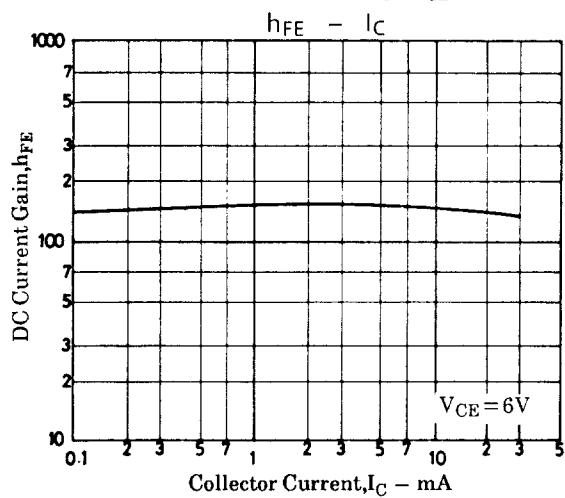
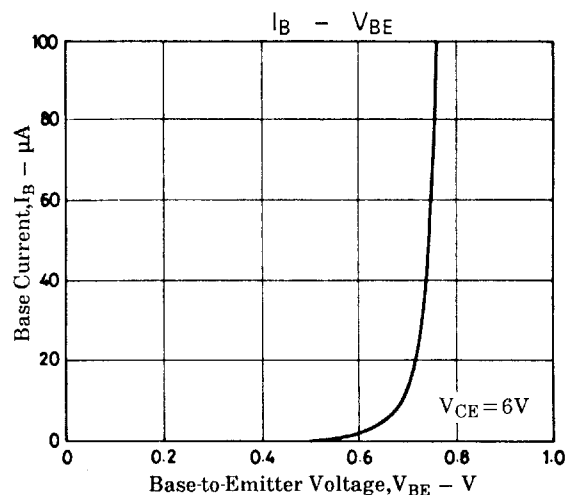
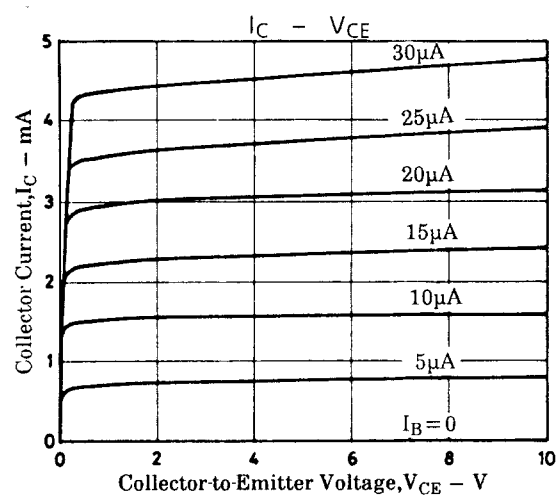


L1: 1mm $\varnothing$ plated wire 10mm $\varnothing$ 4T, tap: 2T from V_{BE} side

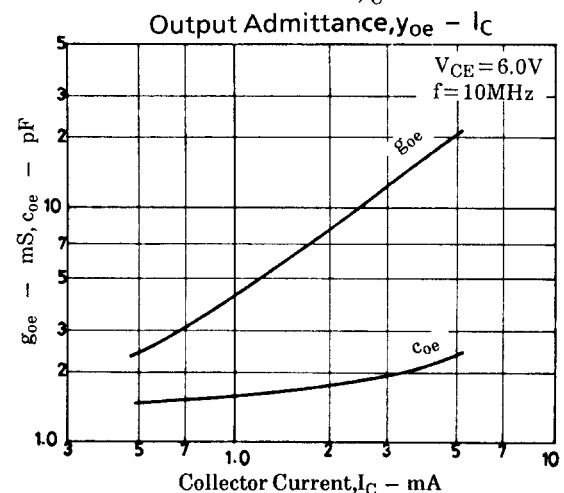
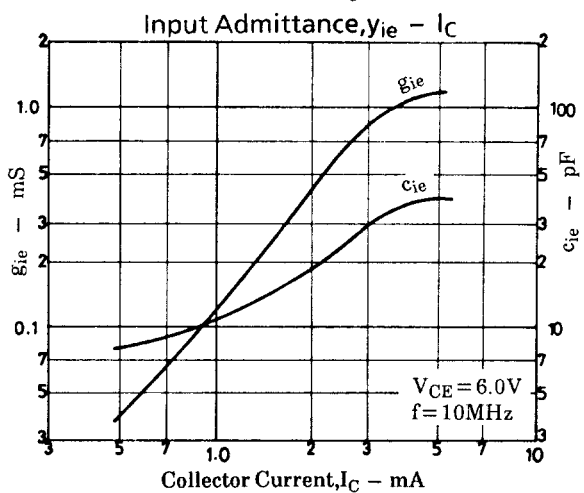
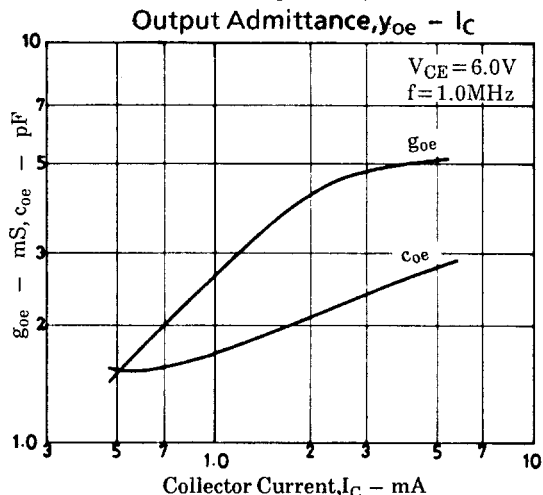
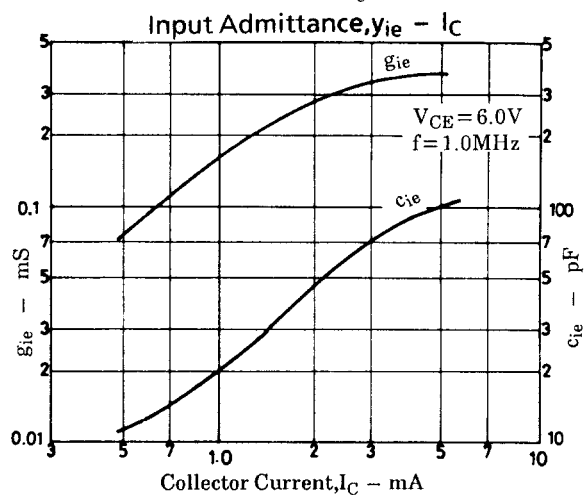
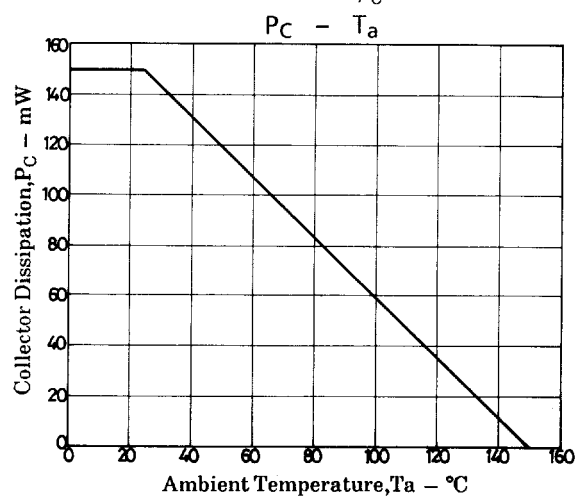
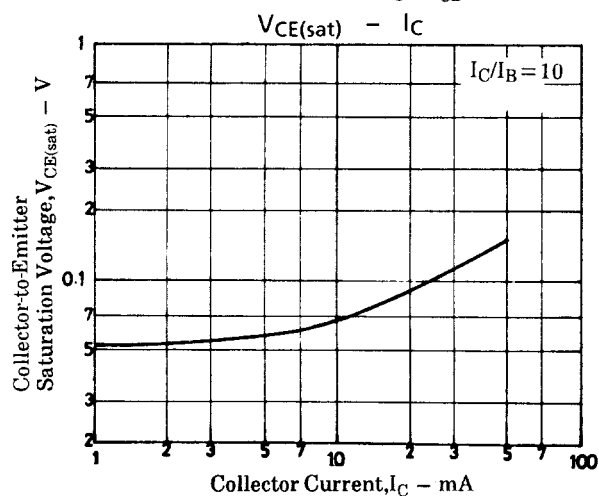
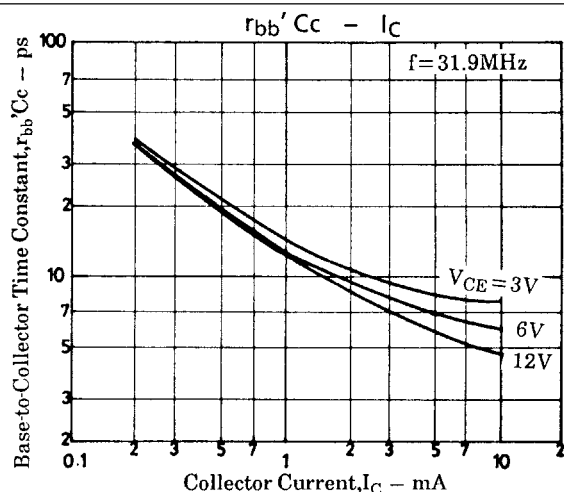
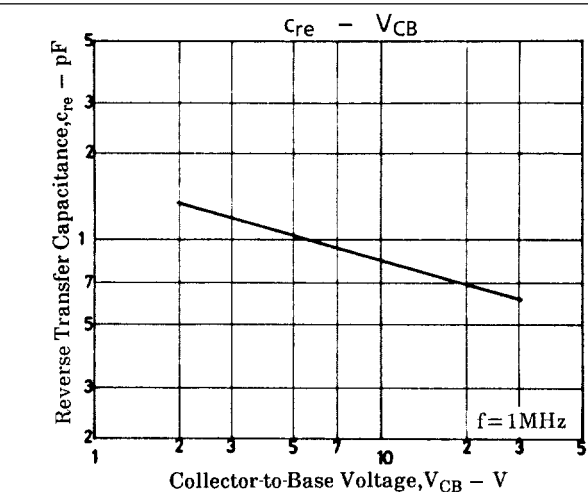
L2: 1mm $\varnothing$ plated wire 10mm $\varnothing$ 7T, tap: 1T from V_{CE} side

L3: 1mm $\varnothing$ enameled wire 10mm $\varnothing$ 3T

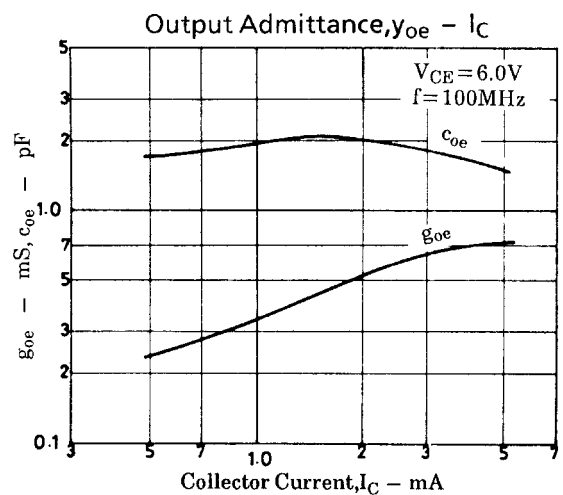
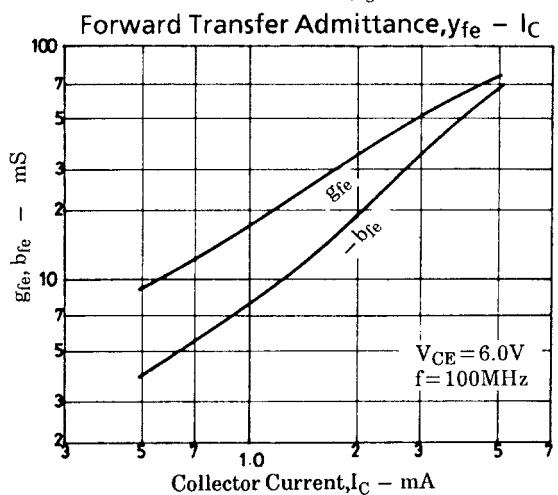
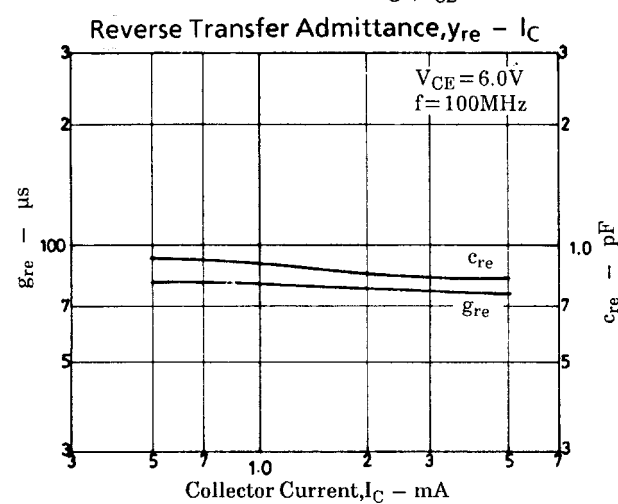
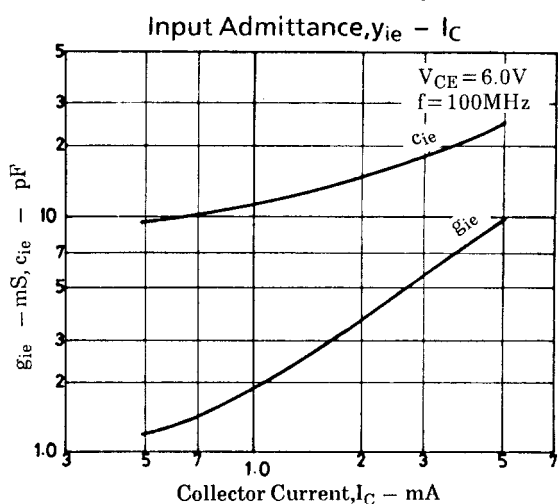
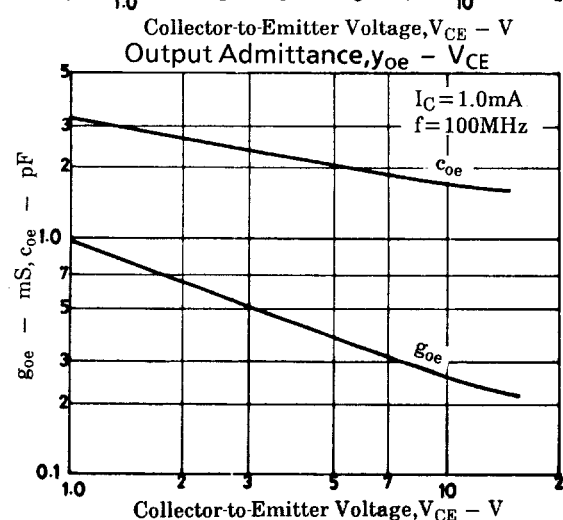
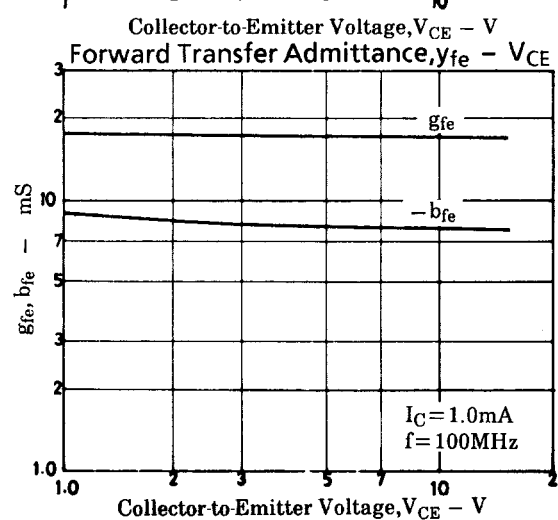
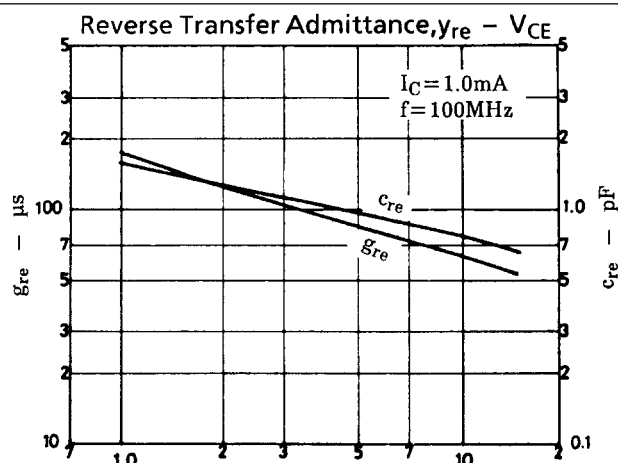
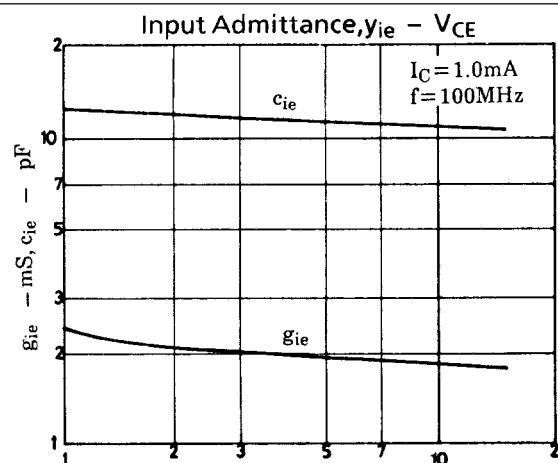
Unit (capacitance : F)



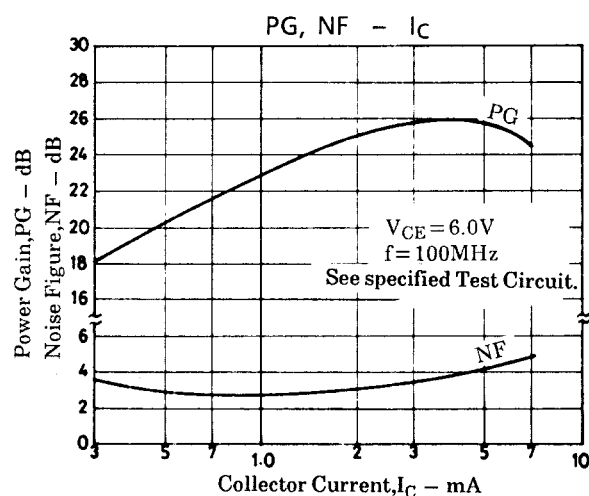
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