



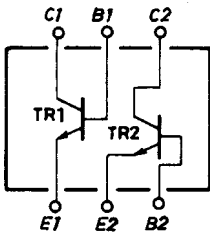
FC119

NPN Epitaxial Planar Silicon Transistor High-Frequency General-Purpose Amp, Differential Amp Applications

Features

- Composite type with 2 transistors contained in the CP package currently in use, improving the mounting efficiency greatly.
- The FC119 is formed with two chips, being equivalent to the 2SC2814, placed in one package.
- Excellent in thermal equilibrium and pair capability.

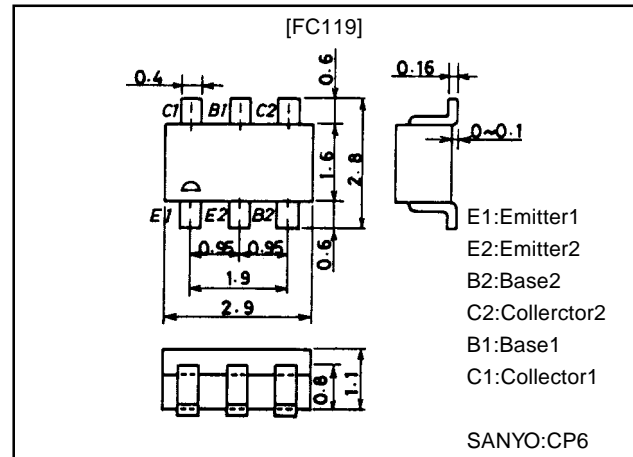
Electrical Connection



Package Dimensions

unit:mm

2068



Specifications

Absolute Maximum Ratings at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		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	1 unit	200	mW
Total Dissipation	P_T		300	mW
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to+150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
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}	$V_{CE}=6\text{V}, I_C=1\text{mA}$	80		200	
DC Current Gain Ratio	$h_{FE}(\text{small}/\text{large})$	$V_{CE}=6\text{V}, I_C=1\text{mA}$	0.8	0.98		
Base to Emitter Voltage Drop	$V_{BE}(\text{large}/\text{small})$	$V_{CE}=6\text{V}, I_C=1\text{mA}$		1.0	15	mV
Gain-Bandwidth Product	f_T	$V_{CE}=6\text{V}, I_C=1\text{mA}$	200	320		MHz
Reverse Transfer Capacitance	C_{re}	$V_{CE}=6\text{V}, f=1\text{MHz}$		0.95	1.2	pF
Base to Collector Time Constant	$\tau_{bb'C}$	$V_{CE}=6\text{V}, I_C=1\text{mA}, f=31.9\text{MHz}$			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

Note: The specifications shown above are for each individual transistor.

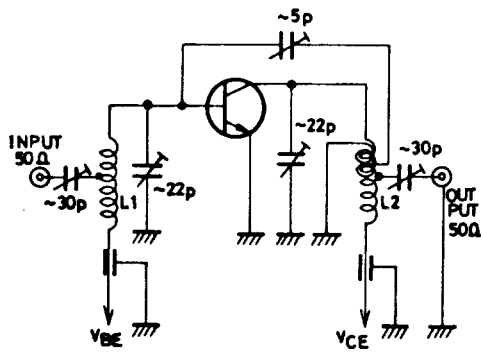
Marking:119

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52098HA (KT)/6169MO/5129MO, TS No.3061-1/5

NF, PG Test Circuit



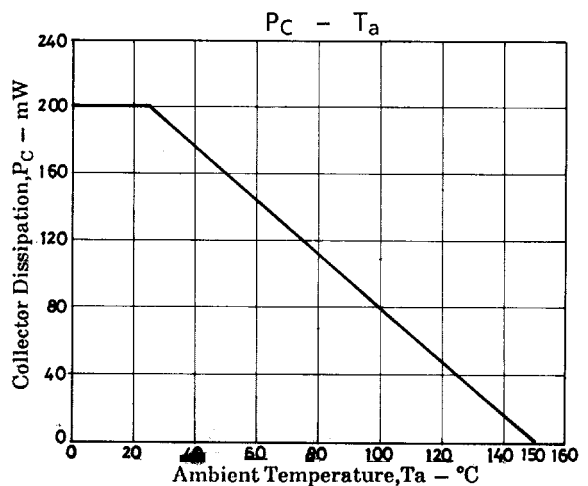
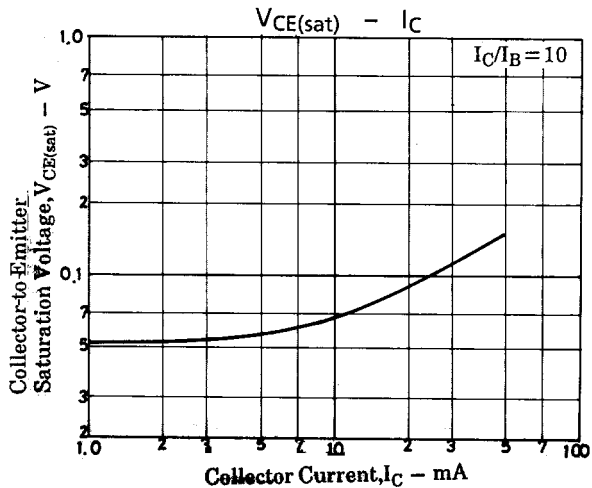
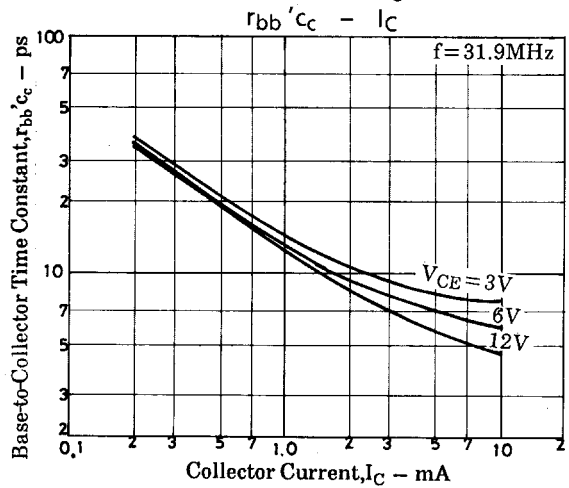
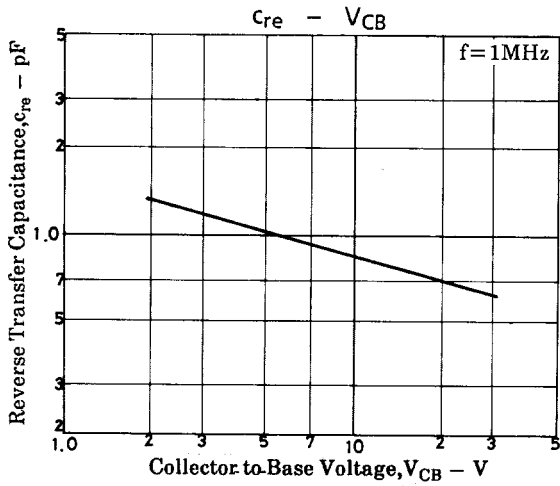
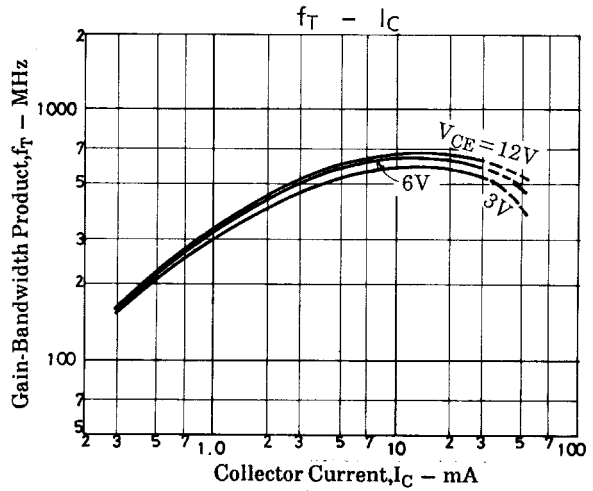
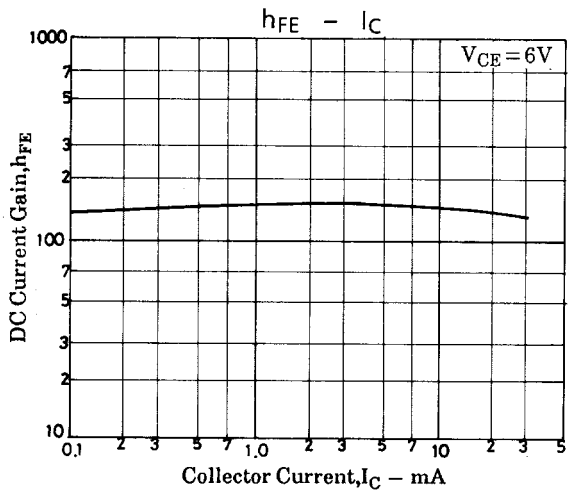
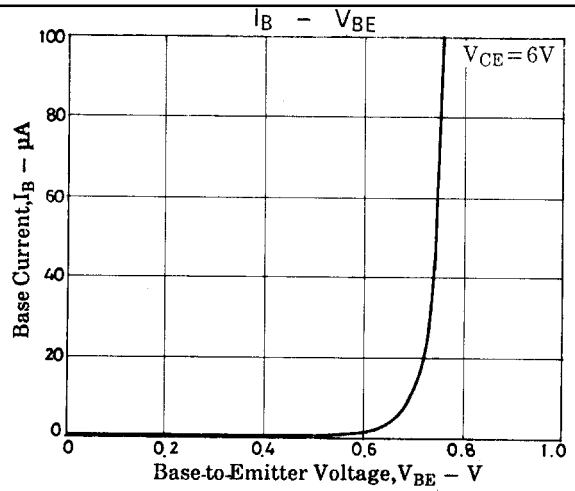
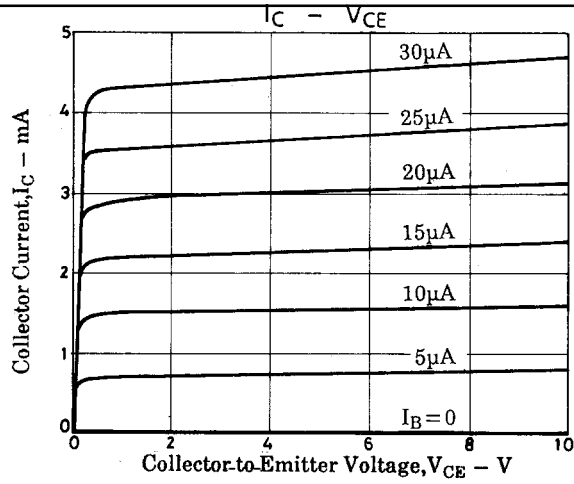
L₁:1mm \emptyset plated wire, 10mm \emptyset 4T, tap : 2T from V_{BE} side

L₂:1mm \emptyset plated wire, 10mm \emptyset 7T, tap : 2T from V_{CE} side

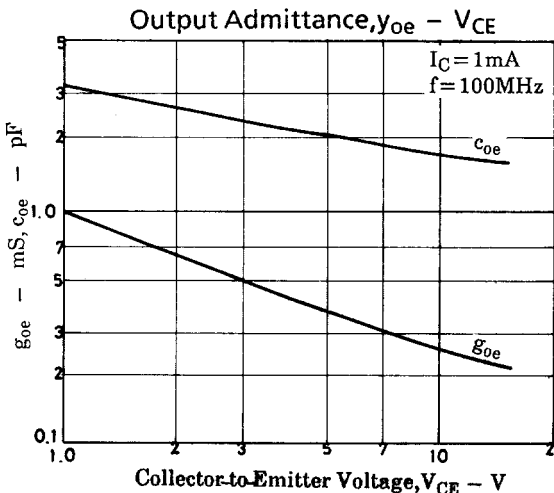
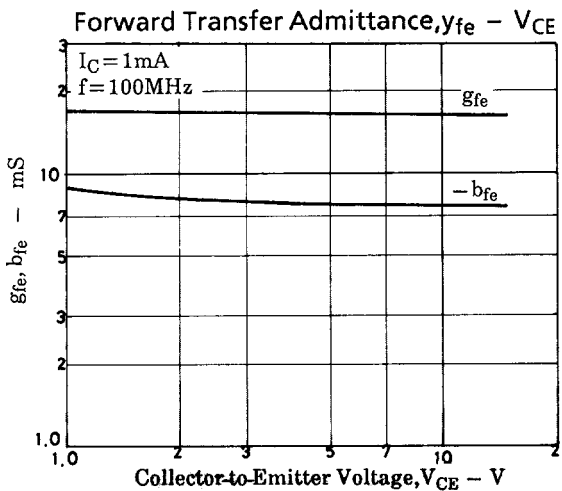
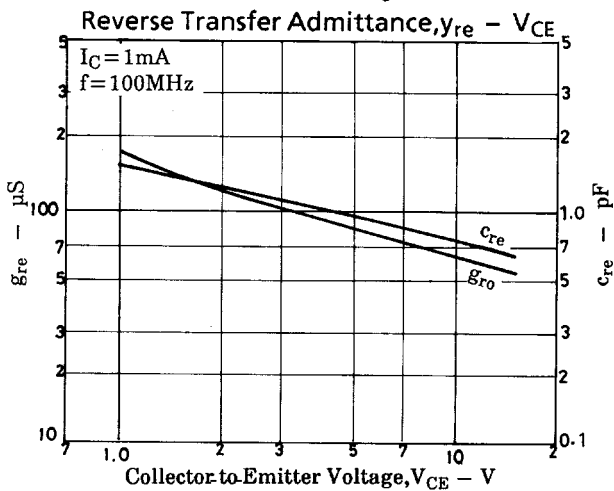
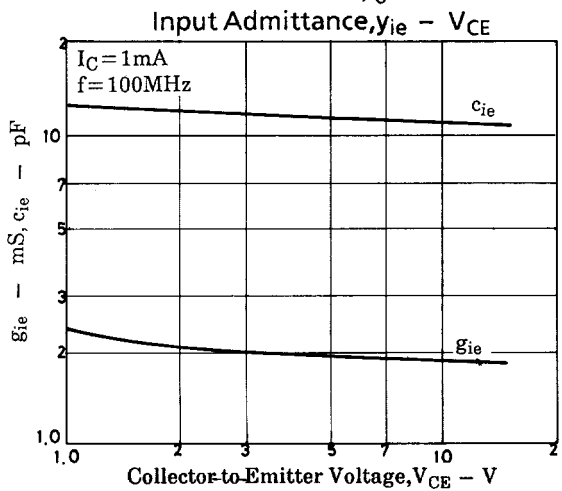
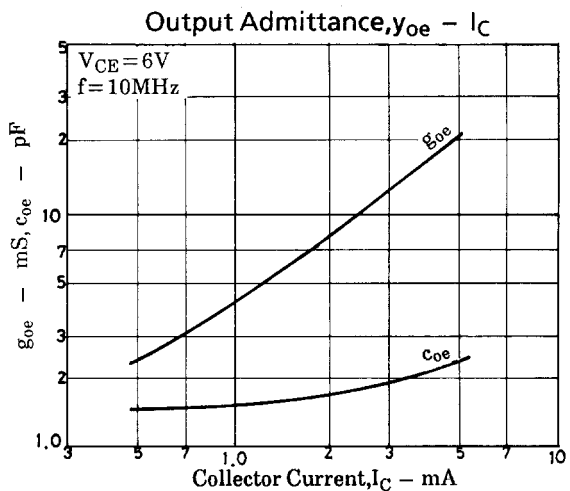
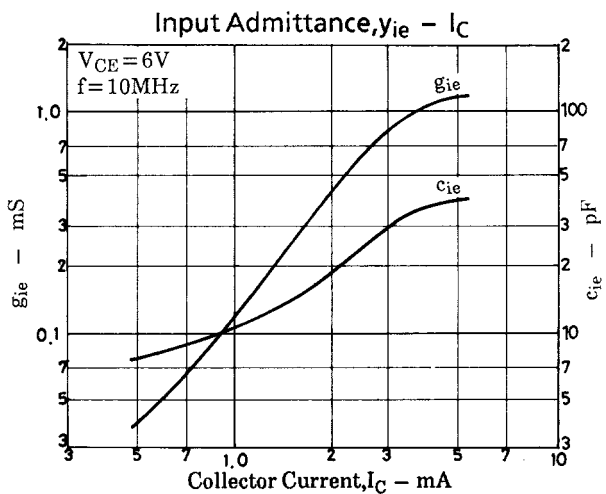
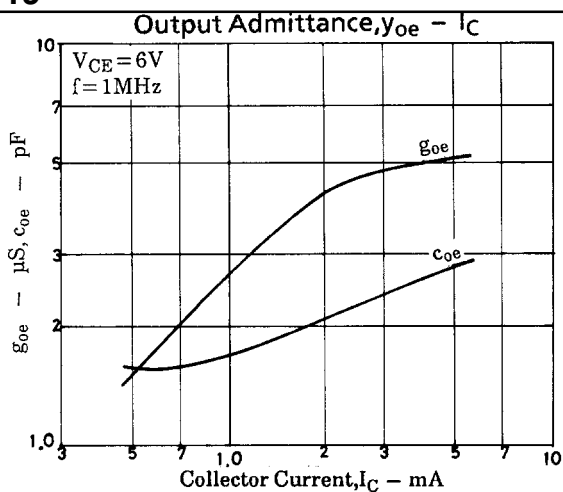
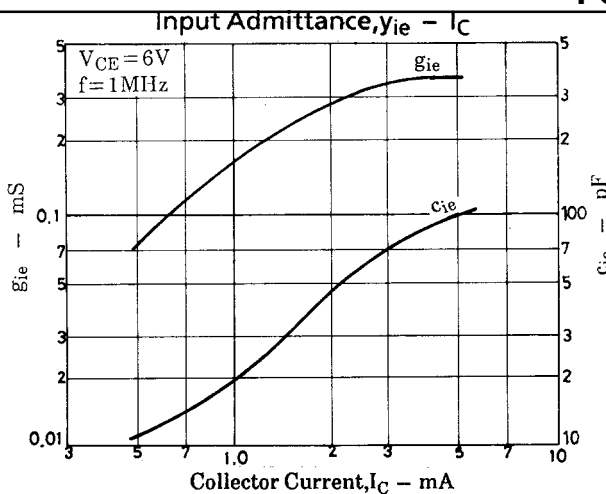
L₃:1mm \emptyset enamel wire, 10mm \emptyset 3T

Unit (Capacitance:F)

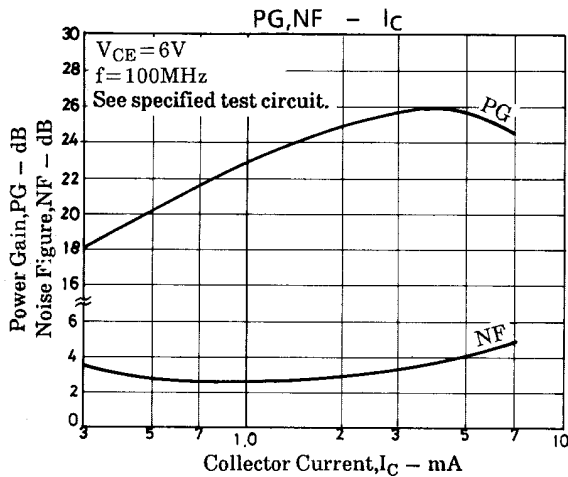
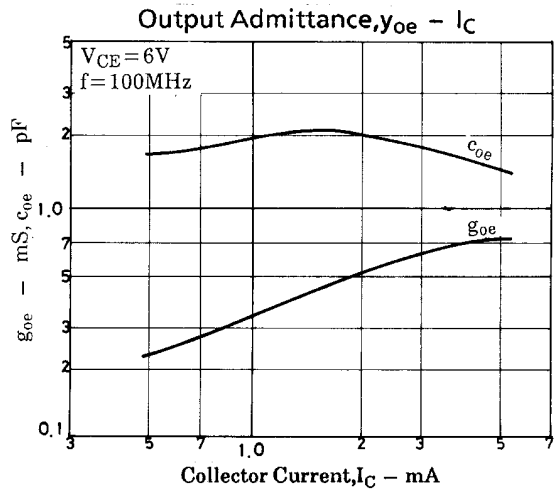
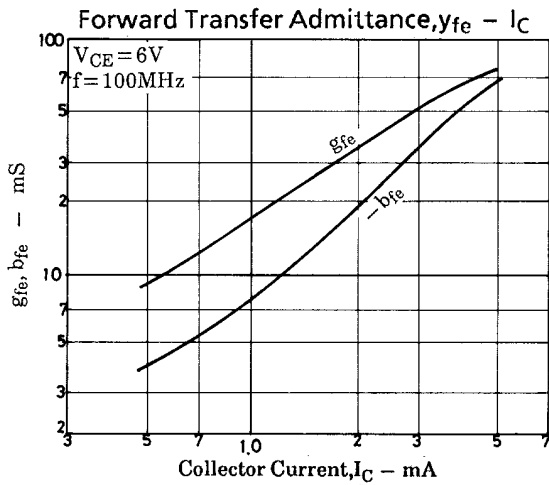
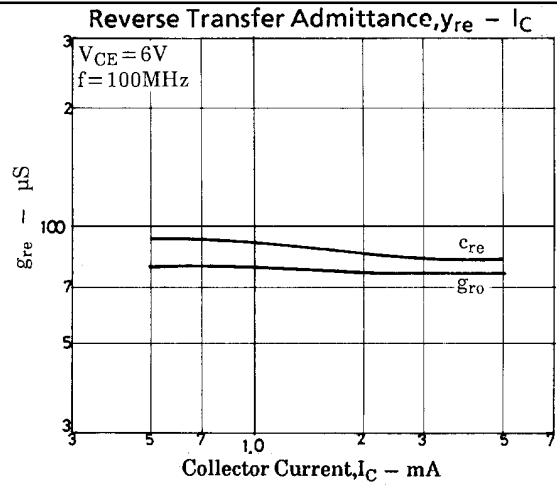
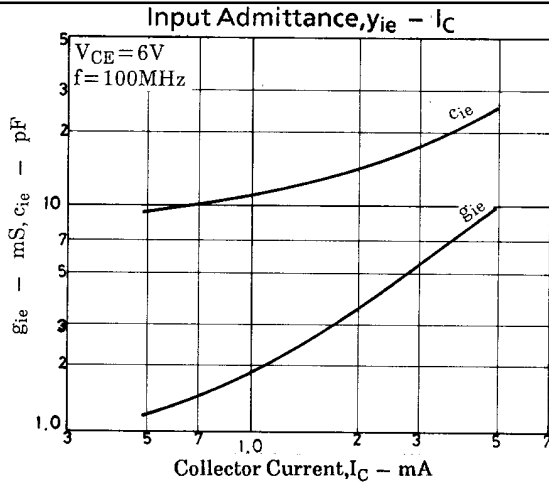
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