



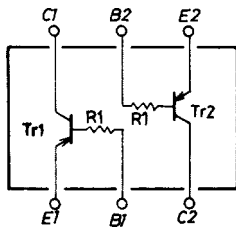
# FC135

## PNP Epitaxial Planar Silicon Composite Transistor Switching Applications (with Bias Resistance)

### Features

- On-chip bias resistance ( $R1=4.7k\Omega$ ).
- Composite type with 2 transistors contained in the CP package currently in use, improving the mounting efficiency greatly.
- The FC135 is formed with two chips, being equivalent to the 2SA1510, placed in one package.
- Excellent in thermal equilibrium and pair capability.

### Electrical Connection

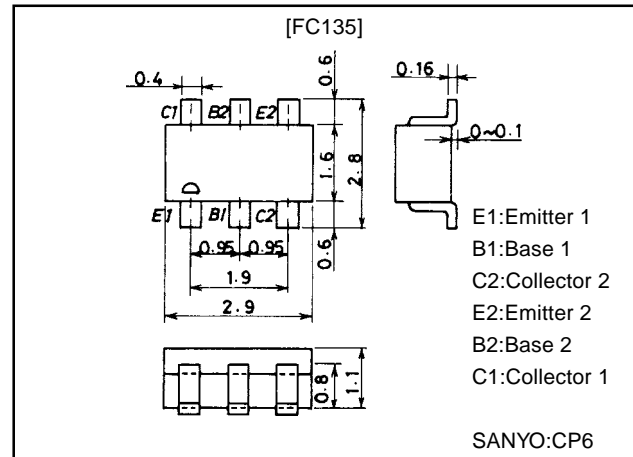


E1:Emitter 1  
B1:Base 1  
C2:Collector 2  
E2:Emitter 2  
B2:Base 2  
C1:Collector 1

### Package Dimensions

unit:mm

2067



### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CB0}$		-50	V
Collector-to-Emitter Voltage	$V_{CEO}$		-50	V
Emitter-to-Base Voltage	$V_{EBO}$		-5	V
Collector Current	$I_C$		-100	mA
Peak Collector Current	$I_{CP}$		-200	mA
Collector Dissipation	$P_C$	1 unit	200	mW
Total Power 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	$I_{CBO}$	$V_{CB}=-40\text{V}, I_E=0$			-0.1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=-5\text{V}, I_C=0$			-0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=-5\text{V}, I_C=-10\text{mA}$	100			
Gain-Bandwidth Product	$f_T$	$V_{CE}=-10\text{V}, I_C=-5\text{mA}$		200		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, f=1\text{MHz}$		5.1		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$		-0.1	-0.3	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0$	-50			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-100\mu\text{A}, R_{BE}=\infty$	-50			V
Input OFF-State Voltage	$V_{I(off)}$	$V_{CE}=-5\text{V}, I_C=-100\mu\text{A}$	-0.4	-0.55	-0.8	V
Input ON-State Voltage	$V_{I(on)}$	$V_{CE}=-0.2\text{V}, I_C=-10\text{mA}$	-0.6	-1.0	-2.0	V
Input Resistance	$R_1$		3.3	4.7	6.1	$k\Omega$

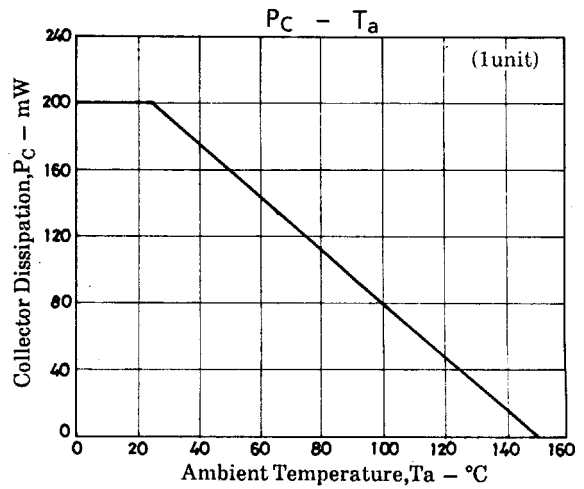
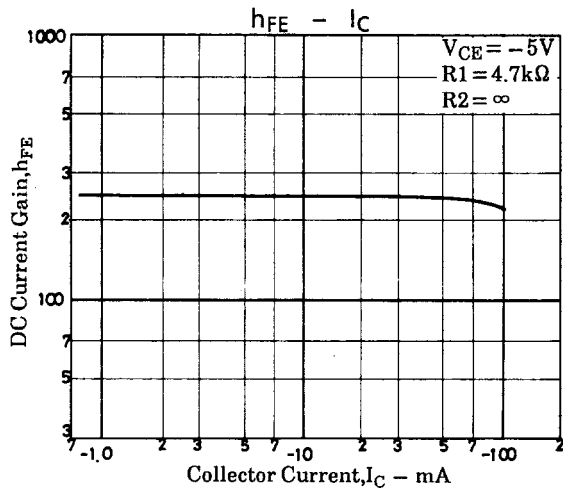
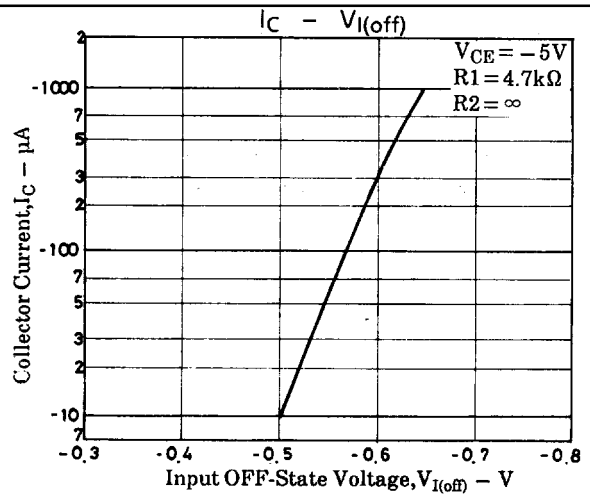
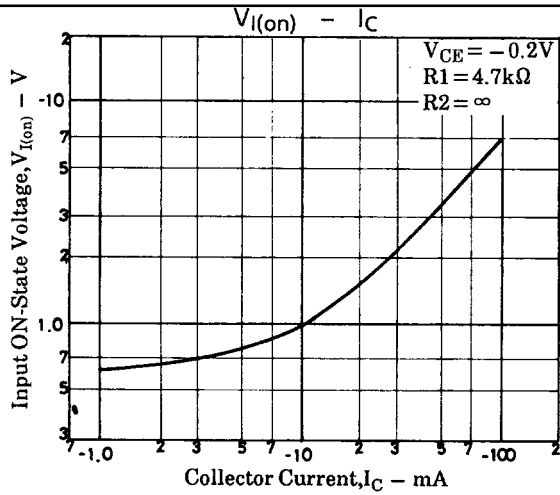
Note:The specifications shown above are for each individual transistor.

Marking:135

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# FC135



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