



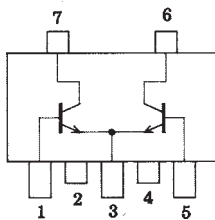
# FP201

## NPN Epitaxial Planar Silicon Composite Transistors High-Frequency Amp, Differential Amp Applications

### Features

- Composite type with 2 transistors contained in the PCP package currently in use, improving the mounting efficiency greatly.
- The FP201 is formed with two chips, being equivalent to the 2SC4504, placed in one package.
- Excellent in thermal equilibrium and pair capability.

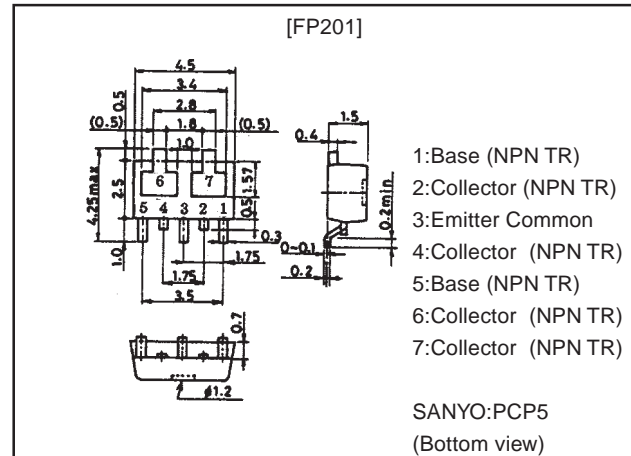
### Electrical Connection



- 1:Base (NPN TR)
  - 2:Collector (NPN TR)
  - 3:Emitter Common
  - 4:Collector (NPN TR)
  - 5:Base (NPN TR)
  - 6:Collector (NPN TR)
  - 7:Collector (NPN TR)
- (Top view)

### Package Dimensions

unit:mm  
2107A



### 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	$V_{CEO}$		20	V
Emitter-to-Base Voltage	$V_{EBO}$		3	V
Collector Current	$I_C$		300	mA
Collector Current (Pulse)	$I_{CP}$		600	mA
Collector Dissipation	$P_C$	Mounted on ceramic board (250mm <sup>2</sup> ×0.8mm) 1unit	0.75	W
Total Dissipation	$P_T$	Mounted on ceramic board (250mm <sup>2</sup> ×0.8mm)	1.0	W
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	$I_{CBO}$	$V_{CB}=20V, I_E=0$			1.0	μA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=2V, I_C=0$			5.0	μA
DC Current Gain	$h_{FE1}$	$V_{CE}=5V, I_C=50mA$	60		200	
	$h_{FE2}$	$V_{CE}=5V, I_C=300mA$	20			
DC Current Gain Ratio	$h_{FE1}(\text{small}/\text{large})$	$V_{CE}=5V, I_C=50mA$	0.7	0.95		
Base-to-Emitter Voltage Difference	$V_{BE}(\text{large-small})$	$V_{CE}=5V, I_C=100mA$	3.0		15	mV
Gain-Bandwidth Product	$f_T$	$V_{CE}=5V, I_C=50mA$		2.2		GHz
Output Capacitance	$C_{ob}$	$V_{CB}=10V, f=1MHz$		2.9		pF
Reverse Transfer Capacitance	$C_{re}$	$V_{CB}=10V, f=1MHz$		2.6		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=200mA, I_B=20mA$	0.2		0.5	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=200mA, I_B=20mA$		0.9	1.2	V

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

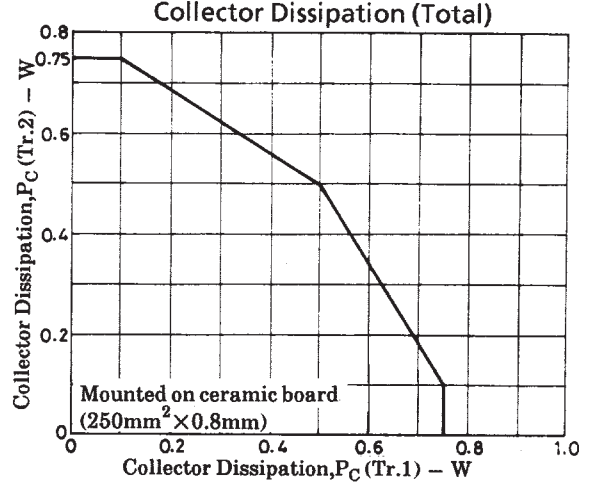
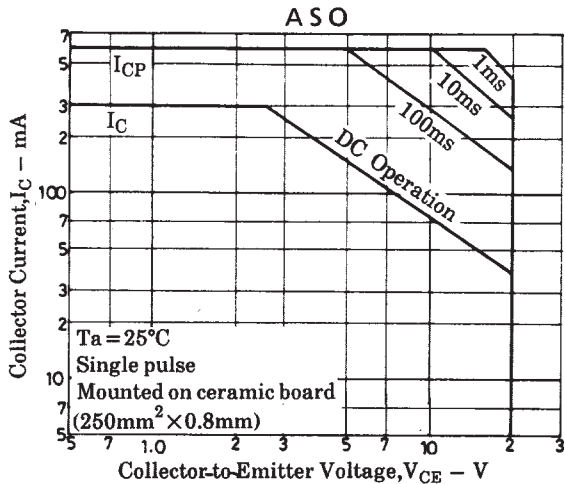
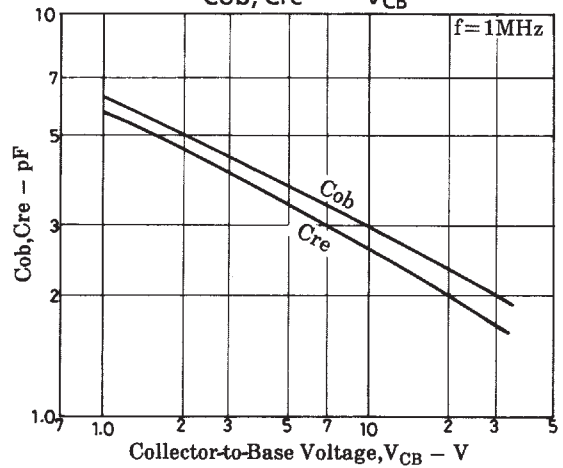
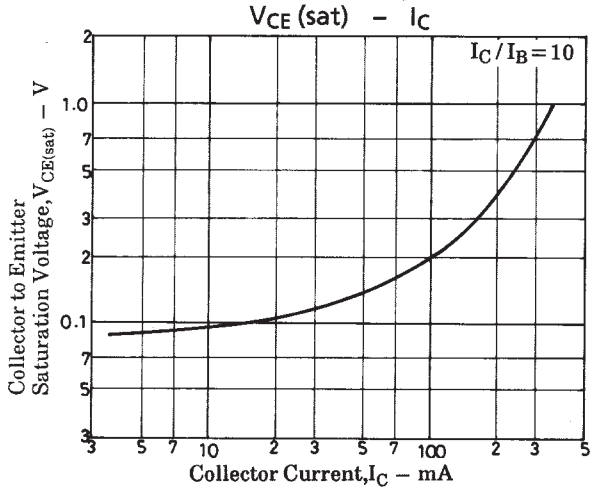
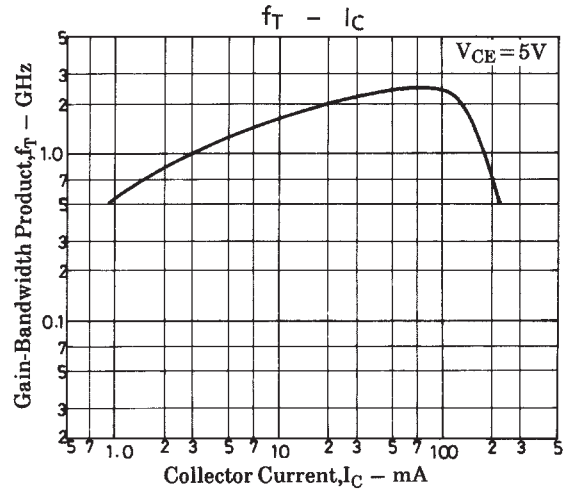
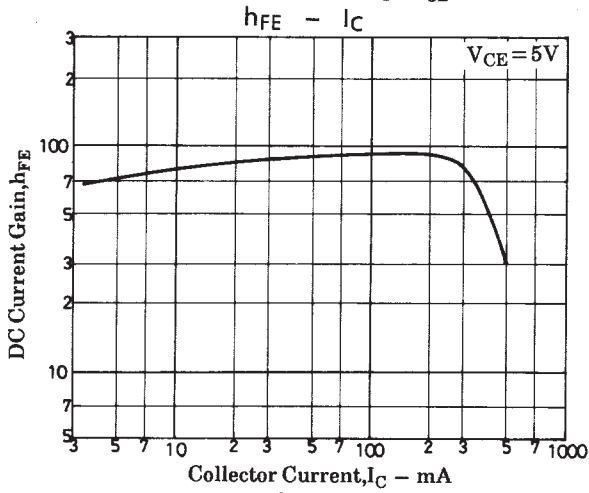
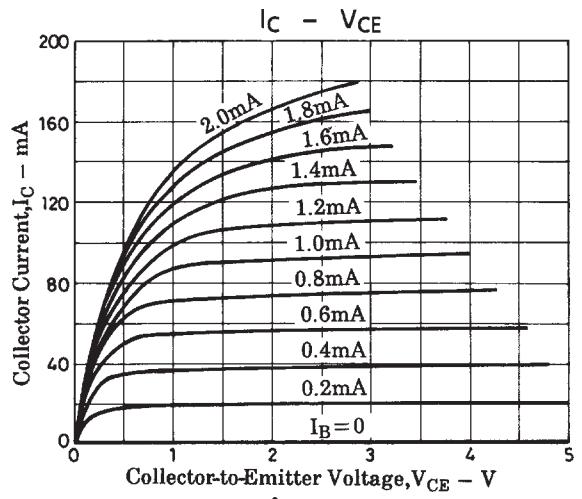
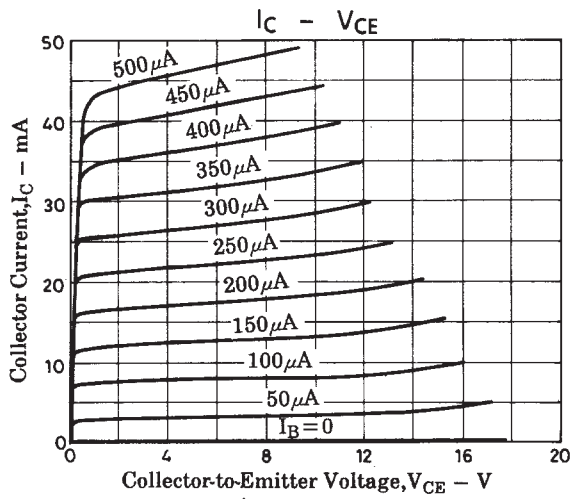
However, the DC Current Gain Ratio and Base Emitter to Voltage Difference are for the paired transistors.

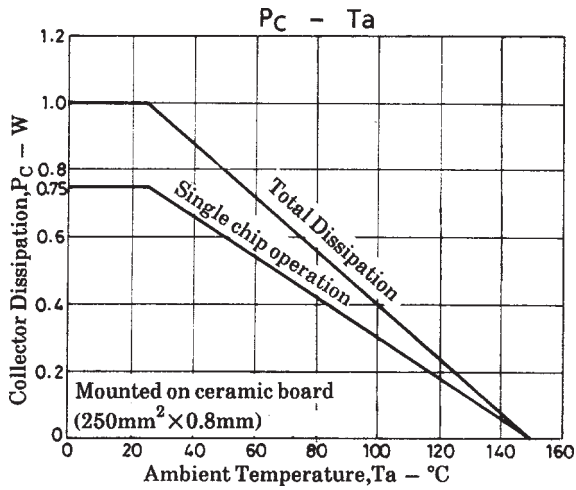
Marking:201

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