Ordering number:EN4698

FP215

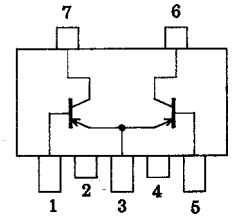
PNP Epitaxial Planar Silicon Composite Transistors

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 FP215 is formed with two chips, being equivalent to the 2SA1724, placed in one package.
- Excellent in thermal equilibrium and pair capability.

Electrical Connection



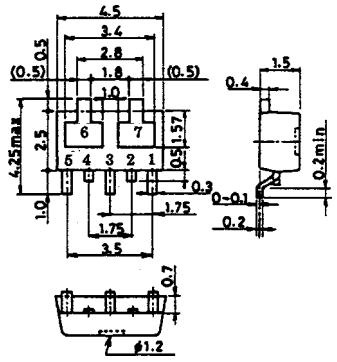
1:Base (PNP TR)
2:Collector (PNP TR)
3:Emitter Common
4:Collector (PNP TR)
5:Base (PNP TR)
6:Collector (PNP TR)
7:Collector (PNP TR)
(Top view)

Package Dimensions

unit:mm

2108A

[FP215]



1:Base (PNP TR)
2:Collector (PNP TR)
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4:Collector (PNP TR)
5:Base (PNP TR)
6:Collector (PNP TR)
7:Collector (PNP TR)

SANYO:PCP5
(Bottom view)

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		–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 (250mm²×0.8mm) 1 unit	0.75	W
Total Dissipation	P_T	Mounted on ceramic board (250mm²×0.8mm)	1.0	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

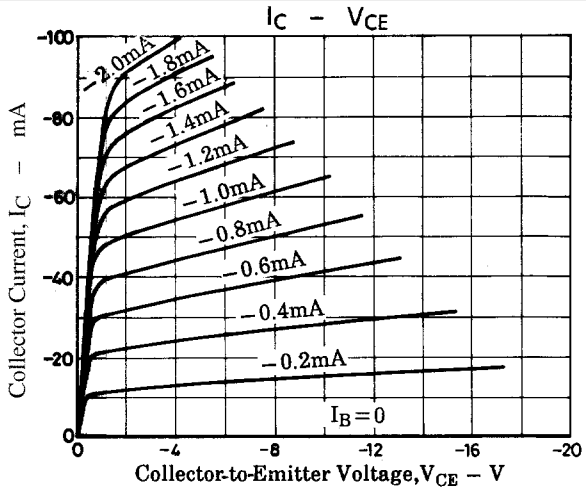
Electrical Characteristics at Ta=25˚C

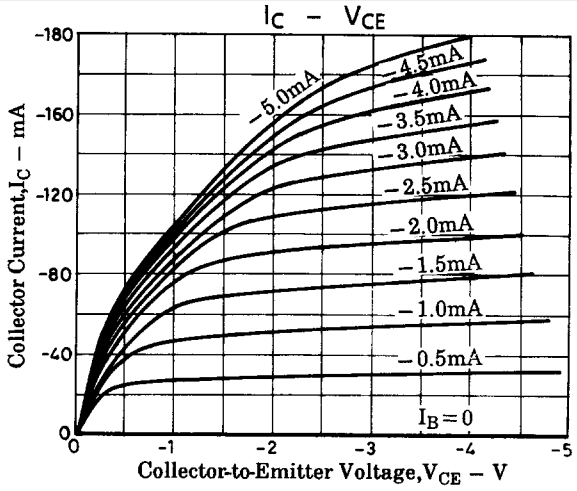
Parameter	Symbol	Conditons	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=–20V, I_E=0			–0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=–2V, I_C=0			–1.0	μA
DC Current Gain	$h_{FE}1$	V_{CE}=–5V, I_C=–50mA	15		100	
	$h_{FE}2$	V_{CE}=–5V, I_C=–3000mA	5			
DC Current Gain Ratio	$h_{FE}1$ (small-large)	V_{CE}=–5V, I_C=–50mA	0.6	0.93		
Base-to-Emitter Voltage Difference	V_{BE} (large-small)	V_{CE}=–5V, I_C=–100mA		3.0	25	mV
Gain-Bandwidth Product	f_T	V_{CE}=–5V, I_C=–50mA		1.5		GHz
Output Capacitance	Cob	V_{CB}=–10V, f=1MHz		4.9		pF
Reverse Transfer Capacitance	Cre	V_{CB}=–10V, f=1MHz		4.4		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=–100mA, I_B=–10mA		–0.4	–1.0	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=–100mA, I_B=–10mA		–0.9	–1.2	V

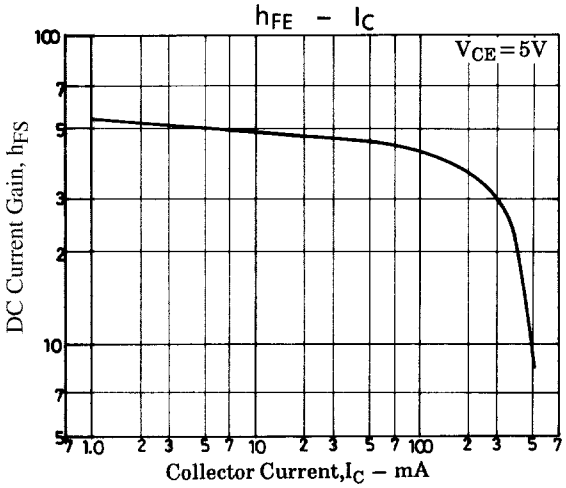
Note:The specifications shown above are for individual transistor.

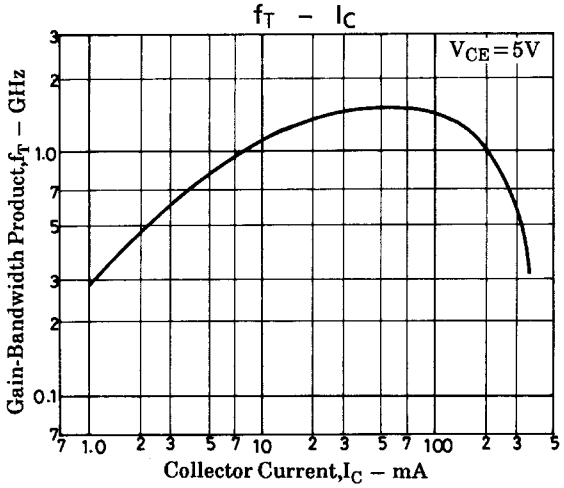
However, the DC Current Gain Ratio and Base-to-Emitter Voltage Difference are for the paired transistors.

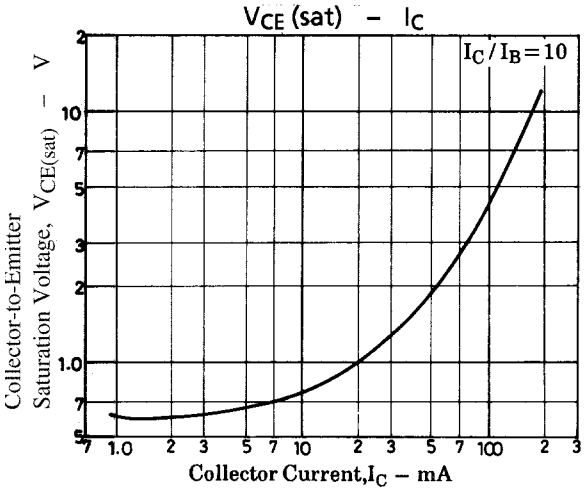
Marking:215

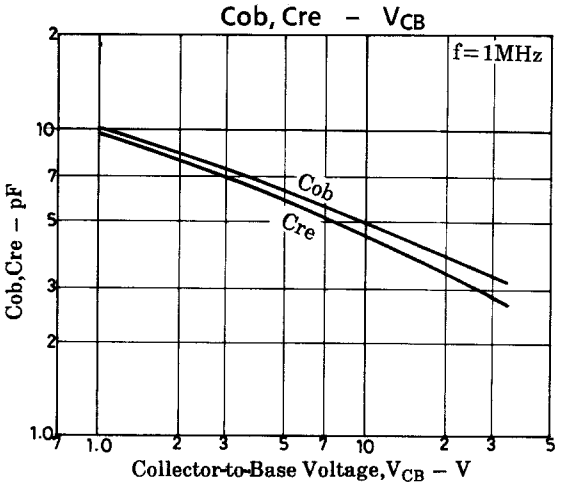

IC – VCE
Collector Current, IC – mA
Collector-to-Emitter Voltage, VCE – V
–2.0mA
–1.8mA
–1.6mA
–1.4mA
–1.2mA
–1.0mA
–0.8mA
–0.6mA
–0.4mA
–0.2mA
IB=0

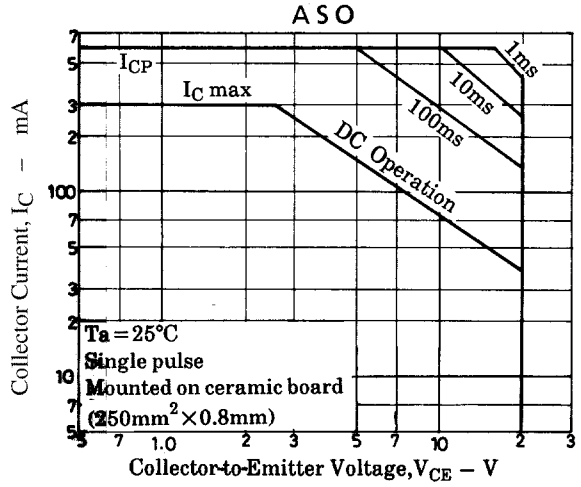

IC – VCE
Collector Current, IC – mA
Collector-to-Emitter Voltage, VCE – V
–5.0mA
–4.5mA
–4.0mA
–3.5mA
–3.0mA
–2.5mA
–2.0mA
–1.5mA
–1.0mA
–0.5mA
IB=0

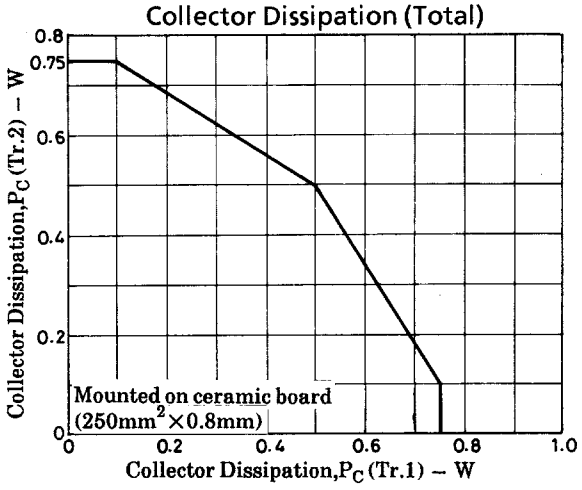

hFE – IC
DC Current Gain, hFE
Collector Current, IC – mA
VCE=5V


fT – IC
Gain-Bandwidth Product, fT – GHz
Collector Current, IC – mA
VCE=5V


VCE (sat) – IC
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – mA
IC / IB=10


Cob, Cre – VCB
Cob, Cre – pF
Collector-to-Base Voltage, VCB – V
f=1MHz
Cob
Cre


ASO
Collector Current, IC – mA
Collector-to-Emitter Voltage, VCE – V
ICP
IC max
1ms
10ms
100ms
DC Operation
Ta=25°C
Single pulse
Mounted on ceramic board
(250mm2×0.8mm)


Collector Dissipation (Total)
Collector Dissipation, PC (Tr.2) – W
Collector Dissipation, PC (Tr.1) – W
Mounted on ceramic board
(250mm2×0.8mm)