Ordering number:EN3115

FC117

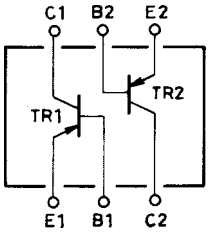
PNP Epitaxial Planar Silicon Composite Transistor

Low-Frequency General-Purpose Amp Applications

Features

- Composite type with 2 transistors contained in the CP package currently in use, improving the mounting efficiency greatly.
- The FC117 is formed with two chips, being equivalent to the 2SA1753, placed in one package.
- Low collector to emitter saturation voltage.
- Excellent in thermal equilibrium and pair capability.

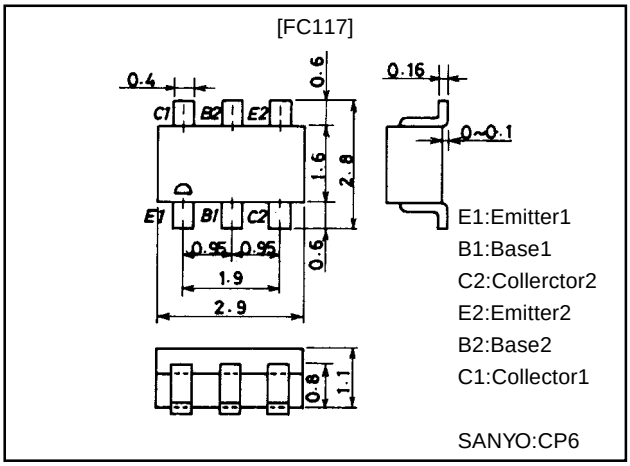
Electrical Connection



Package Dimensions

unit:mm

2067



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		–20	V
Collector-to-Emitter Voltage	V_{CEO}		–15	V
Emitter-to-Base Voltage	V_{EBO}		–5	V
Collector Current	I_C		–500	mA
Collector Current (Pulse)	I_{CP}		–1	A
Base Current	I_B		–100	mA
Collector Dissipation	P_C	1 unit	200	mW
Total Power Dissipation	P_T		300	mW
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to+150	˚C

Electrical Characteristics at Ta = 25˚C

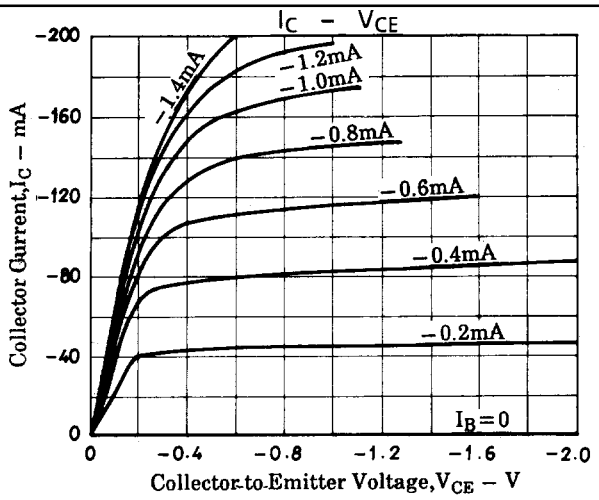
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=–15V, I_E=0			–0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=–4V, I_C=0			–0.1	μA
DC Current Gain	$h_{FE}(1)$	V_{CE}=–2V, I_C=–10mA	160		560	
	$h_{FE}(2)$	V_{CE}=–2V, I_C=–400mA	70			
DC Current Gain Ratio	h_{FE}(small/large)	V_{CE}=–2V, I_C=–10mA	0.8	0.98		
Gain-Bandwidth Product	f_T	V_{CE}=–2V, I_C=–50mA		400		MHz
Output Capacitance	Cob	V_{CE}=–10V, f=1MHz		6.5		pF
C-E Saturation Voltage	$V_{CE(sat)}1$	I_C=–5mA. I_B=–0.5mA		–15	–35	mV
	$V_{CE(sat)}2$	I_C=–200mA. I_B=–10mA		–200	–360	mV
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=–200mA. I_B=–10mA		–0.95	–1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=–10μA, I_E=0	–20			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=–1mA, R_{BE}=∞	–15			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=–10μA, I_C=0	–5			V

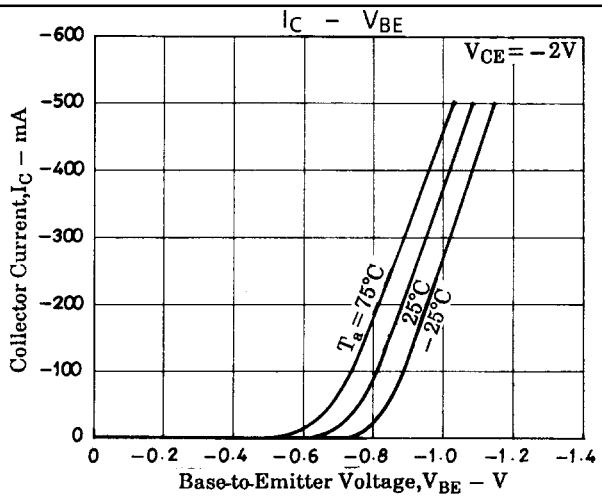
Note: The specifications shown above are for each individual transistor.

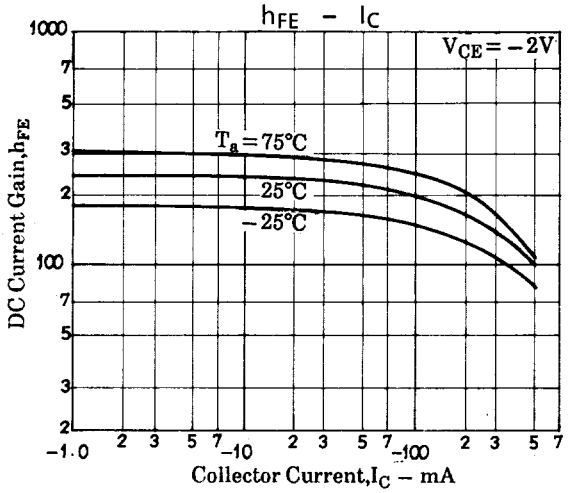
Marking:117

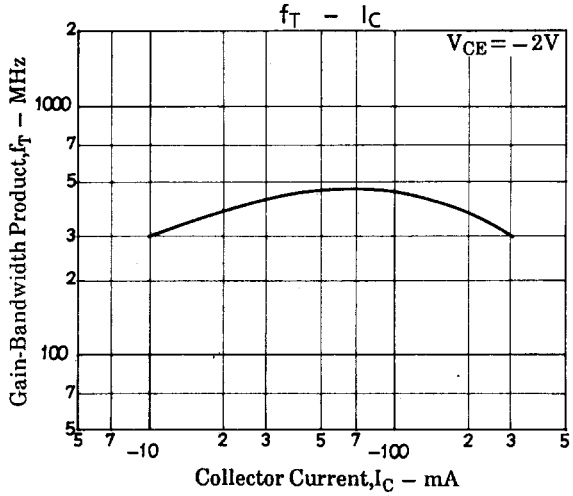
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters

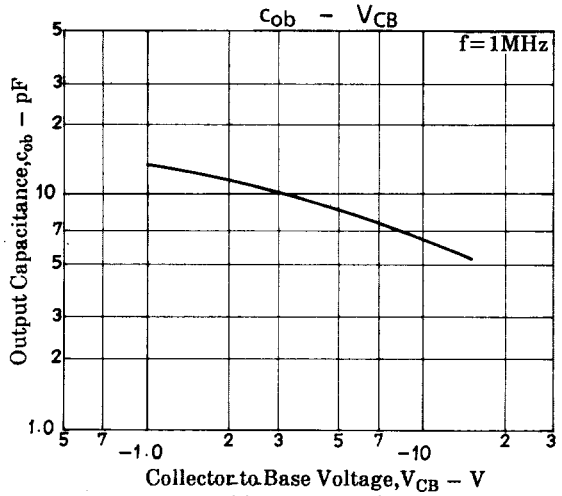
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

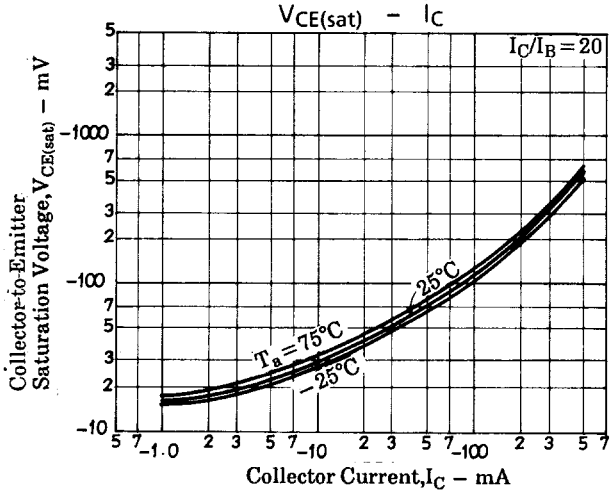

I_C – V_{CE}
Collector Current, I_C – mA
Collector-to-Emitter Voltage, V_{CE} – V
–1.4mA
–1.2mA
–1.0mA
–0.8mA
–0.6mA
–0.4mA
–0.2mA
I_B=0

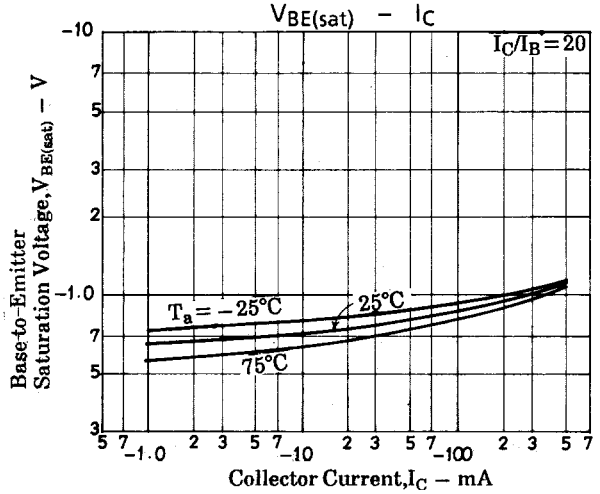

I_C – V_{BE}
V_{CE} = –2V
Collector Current, I_C – mA
Base-to-Emitter Voltage, V_{BE} – V
T_a = 75°C
25°C
–25°C

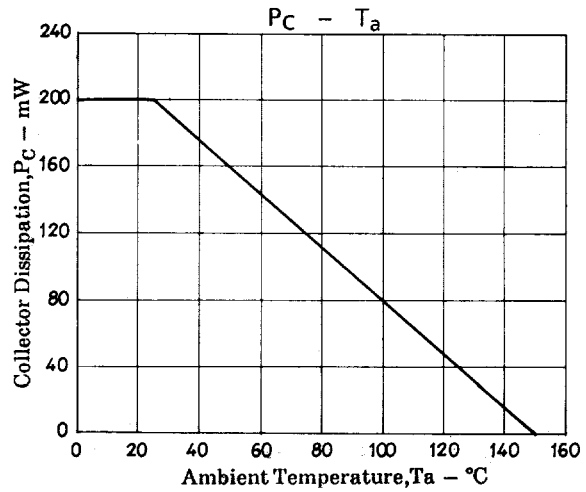

h_{FE} – I_C
V_{CE} = –2V
DC Current Gain, h_{FE}
T_a = 75°C
25°C
–25°C
Collector Current, I_C – mA


f_T – I_C
V_{CE} = –2V
Gain-Bandwidth Product, f_T – MHz
Collector Current, I_C – mA


C_{ob} – V_{CB}
f=1MHz
Output Capacitance, C_{ob} – pF
Collector-to-Base Voltage, V_{CB} – V


$V_{CE(sat)}$ – I_C
I_C/I_B = 20
Collector-to-Emitter Saturation Voltage, $V_{CE(sat)}$ – mV
25°C
T_a = 75°C
–25°C
Collector Current, I_C – mA


$V_{BE(sat)}$ – I_C
I_C/I_B = 20
Base-to-Emitter Saturation Voltage, $V_{BE(sat)}$ – V
T_a = –25°C
25°C
75°C
Collector Current, I_C – mA


P_C – T_a
Collector Dissipation, P_C – mW
Ambient Temperature, Ta – °C

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