Ordering number:EN3116

FC118

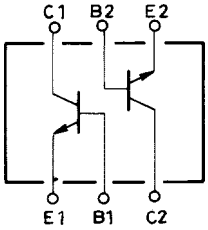
NPN Epitaxial Planar Silicon Composite Transistor

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 FC118 is formed with two chips, being equivalent to the 2SC4577, placed in one package.
- Low collector to emitter saturation voltage.
- Excellent in thermal equilibrium and pair capability.

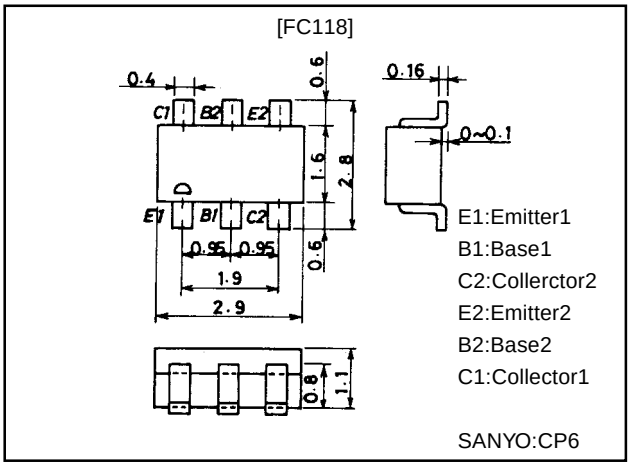
Electrical Connection



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

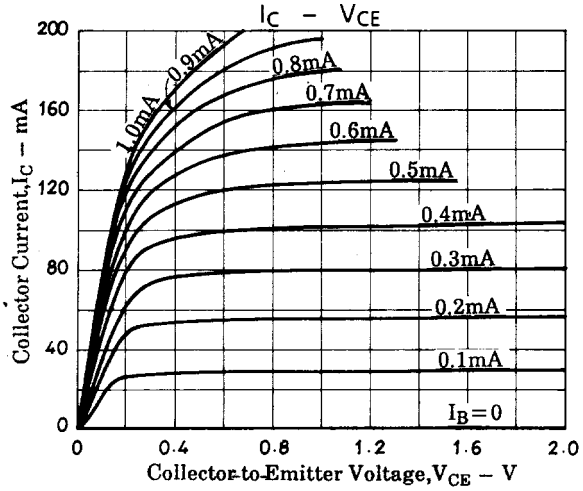
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=15V, I_E=0			0.1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=4V, I_C=0			0.1	μA
DC Current Gain	$h_{FE}(1)$	V_{CE}=2V, I_C=10mA	160		560	
	$h_{FE}(2)$	V_{CE}=2V, I_C=400mA	80			
DC Current Gain Ratio	h_{FE}(small/large)	V_{CE}=2V, I_C=10mA	0.8	0.98		
Gain-Bandwidth Product	f_T	V_{CE}=2V, I_C=50mA		300		MHz
Output Capacitance	Cob	V_{CE}=10V, f=1MHz		4		pF
C-E Saturation Voltage	$V_{CE(sat)}1$	I_C=5mA. I_B=0.5mA		15	30	mV
	$V_{CE(sat)}2$	I_C=200mA. I_B=10mA		160	300	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

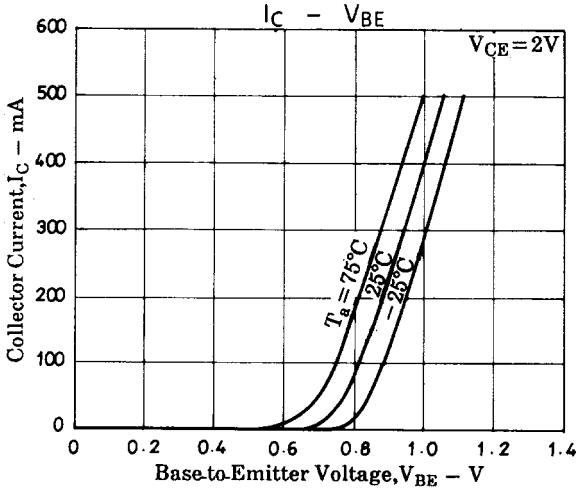
Note: The specifications shown above are for each individual transistor.

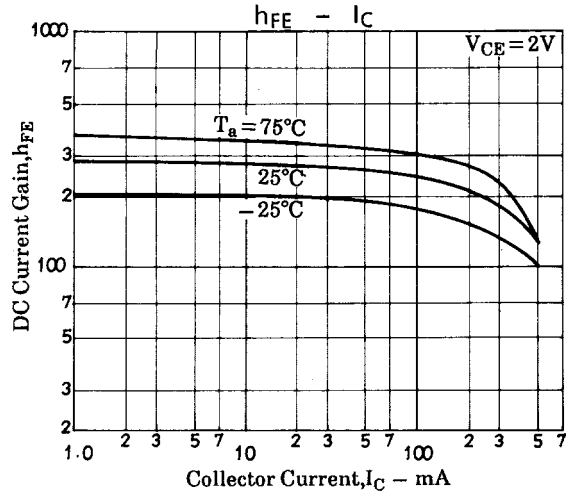
Marking:110

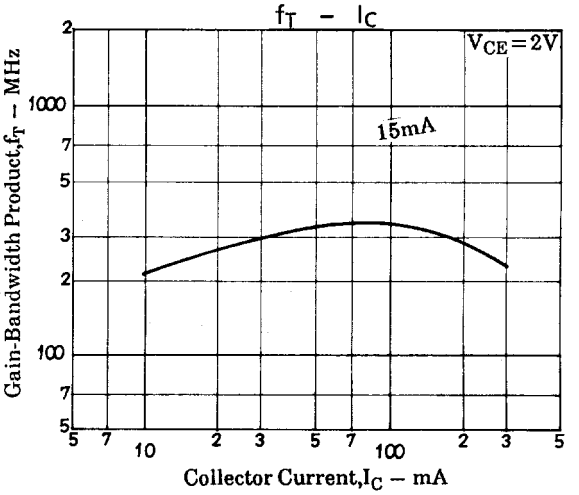
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters

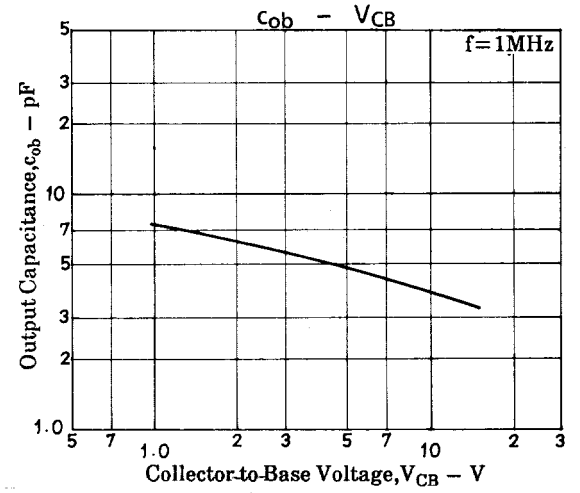
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

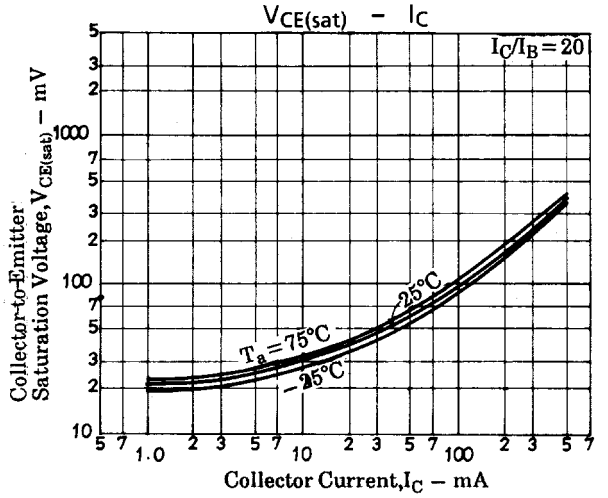

I_C – V_{CE}
Collector Current, I_C – mA
Collector-to-Emitter Voltage, V_{CE} – V
1.0mA
0.9mA
0.8mA
0.7mA
0.6mA
0.5mA
0.4mA
0.3mA
0.2mA
0.1mA
I_B=0

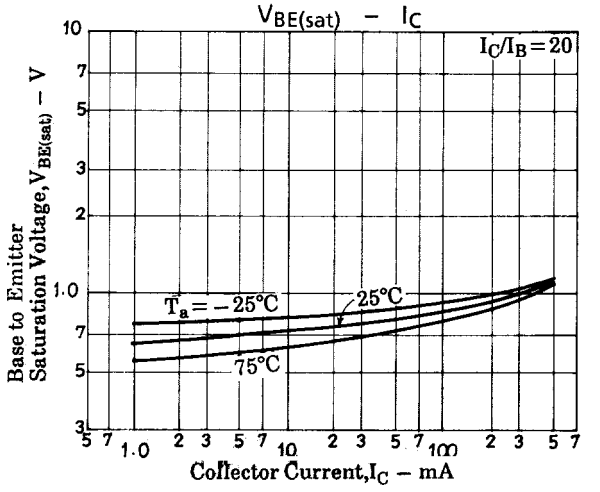

I_C – V_{BE}
V_{CE}=2V
Collector Current, I_C – mA
Base-to-Emitter Voltage, V_{BE} – V
T_a=75°C
25°C
–25°C

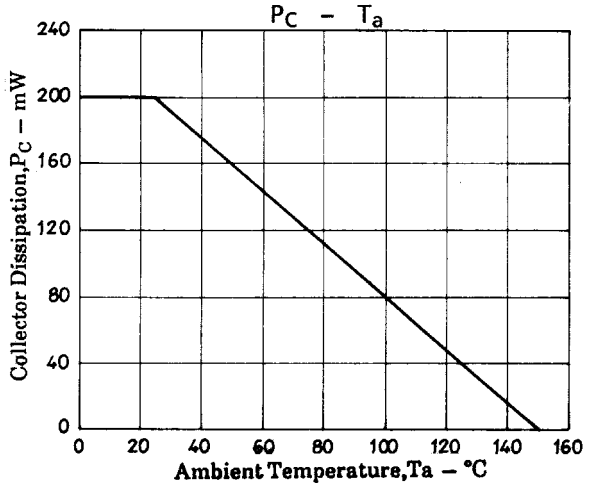

h_{FE} – I_C
V_{CE}=2V
DC Current Gain, h_{FE}
T_a=75°C
25°C
–25°C
Collector Current, I_C – mA


f_T – I_C
V_{CE}=2V
Gain-Bandwidth Product, f_T – MHz
15mA
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