Ordering number:EN4724

FP213

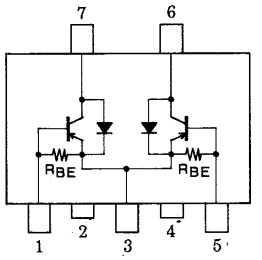
PNP Epitaxial Planar Silicon Transistor

Motor Driver Applications

Features

- Composite type with 2 PNP transistors facilitating high-density mounting.
- The FP213 is composed of 2 chips, each being equivalent to the 2SB1397, placed in one package.

Electrical Connection



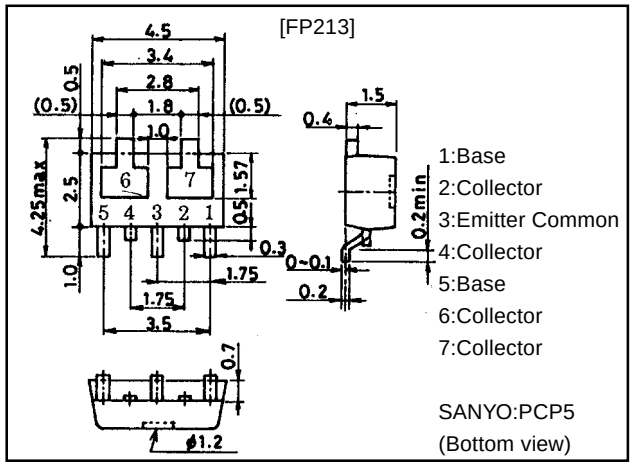
1:Base
2:Collector
3:Emitter Common
4:Collector
5:Base
6:Collector
7:Collector

(Top view)

Package Dimensions

unit:mm

2097A



1:Base
2:Collector
3:Emitter Common
4:Collector
5:Base
6:Collector
7:Collector

SANYO:PCP5

(Bottom view)

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		–25	V
Collector-to-Emitter Voltage	V_{CEO}		–20	V
Emitter-to-Base Voltage	V_{EBO}		–6	V
Collector Current	I_C		–2	A
Collector Current (Pulse)	I_{CP}		–4	A
Base Current	I_B		–400	mA
Collector Dissipation	P_C	Mounted on ceramic board (250mm²×0.8mm) 1 unit	0.8	W
Total Power Dissipation	P_T	Mounted on ceramic board (250mm²×0.8mm)	1.1	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

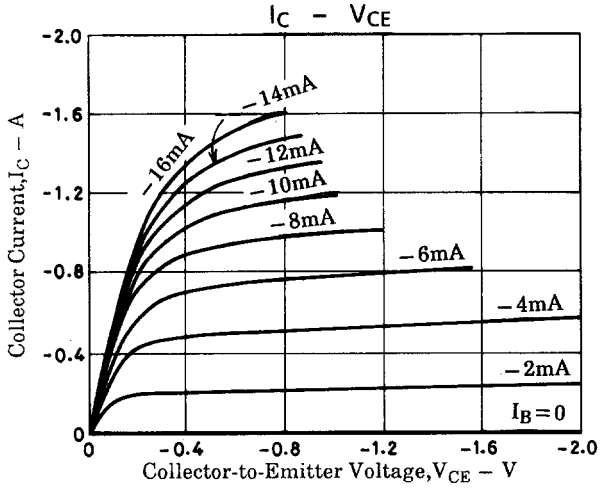
Electrical Characteristics at Ta=25˚C

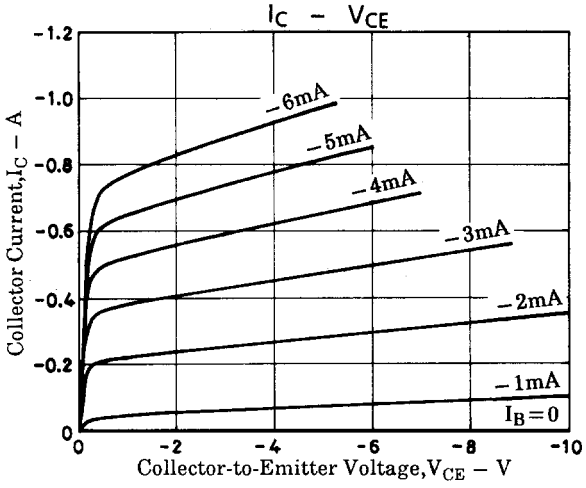
Parameter	Symbol	Conditons	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=–20V, I_E=0			–1	μA
DC Current Gain	$h_{FE}1$	V_{CE}=–2V, I_C=–0.5A	70			
	$h_{FE}2$	V_{CE}=–2V, I_C=–2A	50			
Gain-Bandwidth Product	f_T	V_{CE}=–2V, I_C=–0.5A		300		MHz
Output Capacitance	Cob	V_{CB}=–10V, f=1MHz		40		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=–1A, I_B=–50mA		–0.25	–0.5	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=–1A, I_B=–50mA			–1.5	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=–10μA, I_E=0	–25			V
C-E Breakdown Voltage	$V_{(BR)CEO}1$	I_C=–10mA, R_{BE}=∞	–25			V
	$V_{(BR)CEO}2$	I_E=–10mA, R_{BE}=∞	–20			V
Diode Forward Voltage	V_F	I_F=0.5A			–1.5	V
Base-to-Emitter Resistance	R_{BE}			1.6		kΩ

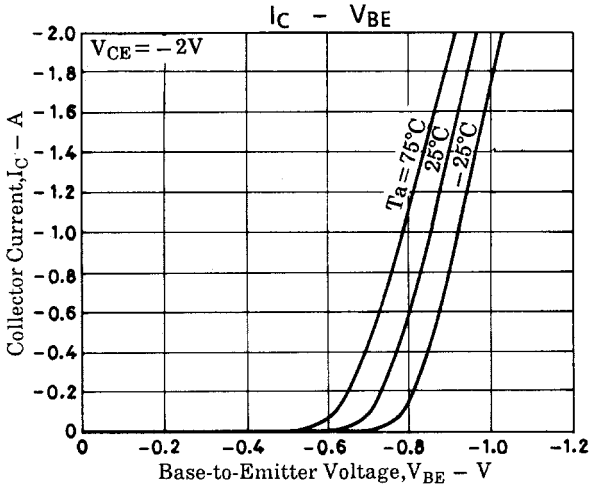
Marking:213

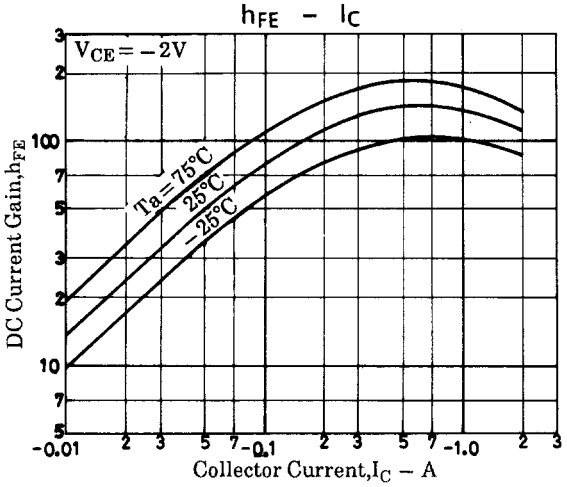
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters

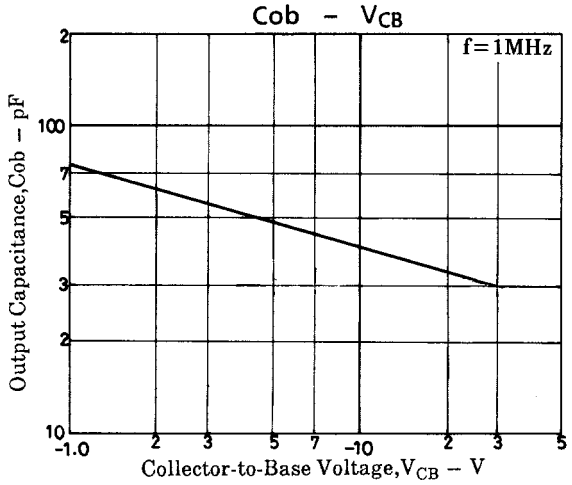
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

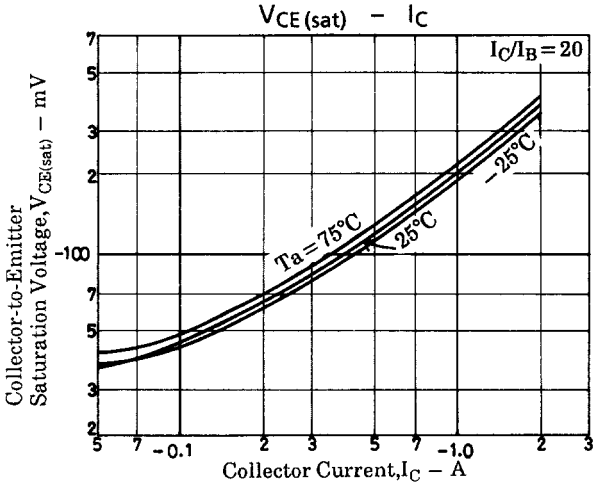

IC – VCE
Collector Current,IC – A
Collector-to-Emitter Voltage,VCE – V
–14mA
–16mA
–12mA
–10mA
–8mA
–6mA
–4mA
–2mA
IB=0

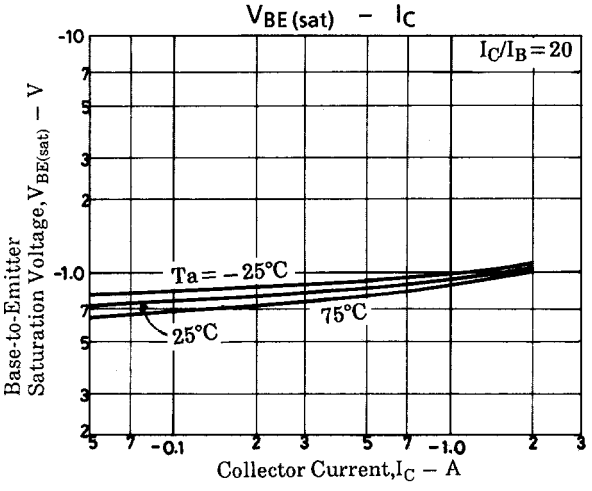

IC – VCE
Collector Current,IC – A
Collector-to-Emitter Voltage,VCE – V
–6mA
–5mA
–4mA
–3mA
–2mA
–1mA
IB=0

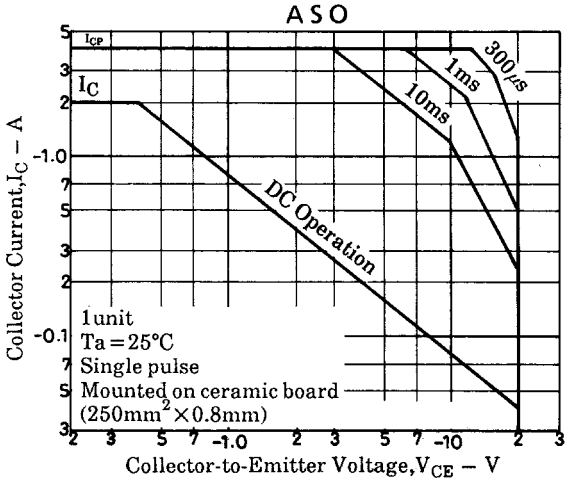

IC – VBE
VCE=–2V
Collector Current,IC – A
Base-to-Emitter Voltage,VBE – V
Ta=75°C
25°C
–25°C


hFE – IC
VCE=–2V
DC Current Gain,hFE
Collector Current,IC – A
Ta=75°C
25°C
–25°C


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


VCE(sat) – IC
IC/IB=20
Collector-to-Emitter
Saturation Voltage,VCE(sat) – mV
Collector Current,IC – A
Ta=75°C
25°C
–25°C


VBE(sat) – IC
IC/IB=20
Base-to-Emitter
Saturation Voltage,VBE(sat) – V
Collector Current,IC – A
Ta=–25°C
25°C
75°C


ASO
ICP
IC
300μs
1ms
10ms
DC Operation
1unit
Ta=25°C
Single pulse
Mounted on ceramic board
(250mm2×0.8mm)
Collector Current,IC – A
Collector-to-Emitter Voltage,VCE – V