Ordering number:EN4552

FP106

TR:PNP Epitaxial Planar Silicon Transistor
SBD:Schottky Barrier Diode

DC-DC Converter Applications

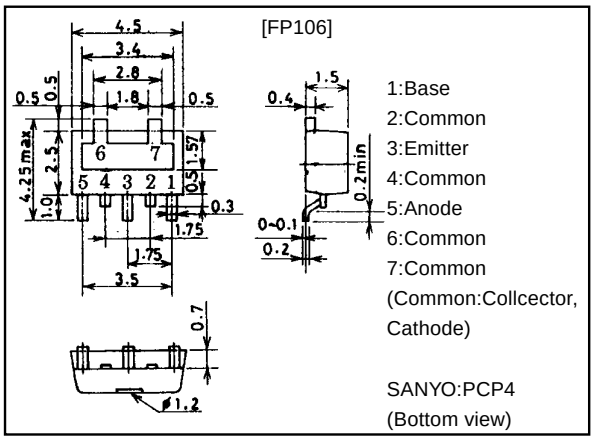
Features

- Complex type with a PNP transistor and a Shottky barrier diode in one package, facilitating high-density mounting.
- The FP106 is composed of 2 chips, one being equivalent to the 2SA1898 and the other the SB10-05C.

Package Dimensions

unit:mm

2088A



Specifications

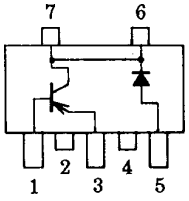
Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
[TR]				
Collector-to-Base Voltage	V_{CBO}		–15	V
Collector-to-Emitter Voltage	V_{CEO}		–15	V
Emitter-to-Base Voltage	V_{EBO}		–5	V
Collector Current	I_C		–3	A
Collector Current (Pulse)	I_{CP}		–5	A
Base Current	I_B		–600	mA
Collector Dissipation	P_C	Mounted on ceramic board (250mm²×0.8mm)	1.3	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C
[SBD]				
Repetitive Peak Reverse Voltage	V_{RRM}		15	V
Non-repetitive Peak Reverse Surge Voltage	V_{RSM}		17	V
Average Rectified Current	I_O		1	A
Surge Forward Current	I_{FSM}	50Hz sine wave, 1cycle	8	A
Junction Temperature	Tj		–55 to +125	˚C
Storage Temperature	Tstg		–55 to +125	˚C

Marking:106

Continued on next page.

Electrical Connection



1:Base
2:Common
3:Emitter
4:Common
5:Anode
6:Common
7:Common
(Common:Collcector, Cathode)

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

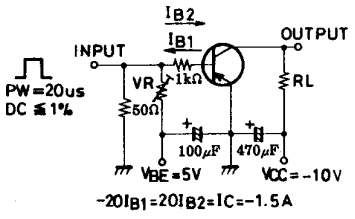
Continued from preceding page.

Electrical Characteristics at Ta=25˚C

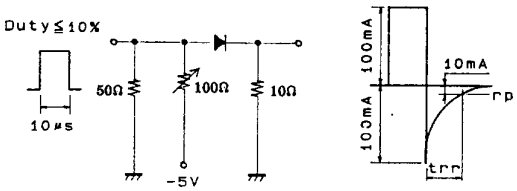
.Parameter	Symbol	Conditons	Ratings			Unit
			min	typ	max	
[TR]						
Collector Cutoff Current	I_{CBO}	V_{CB}=–12V, I_E=0			–1	µA
Emitter Cutoff Current	I_{EBO}	V_{EB}=–3V, I_C=0			–1	µA
DC Current Gain	$h_{FE}1$	V_{CE}=–2V, I_C=–0.5A	100		280	
	$h_{FE}2$	V_{CE}=–2V, I_C=–3A	50			
Gain-Bandwidth Product	f_T	V_{CE}=–2V, I_C=–0.3A		300		MHz
Output Capacitance	Cob	V_{CE}=–10V, f=1MHz		28		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=–1.5A, I_B=–75mA		–0.25	–0.5	V
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=–1.5A, I_B=–75mA		–0.95	–1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=–10µA, I_E=0	–15			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, IC=0	–5			V
Turn-ON Time	t_{on}	See specified Test Circuit		30		ns
Storage Time	tstg	See specified Test Circuit		100		ns
Fall Time	t_f	See specified Test Circuit		120		ns
[SBD]						
Reverse Voltage	V_R	I_R=300µA	15			V
Forward Voltage	V_F	I_F=1A			0.55	V
Reverse Current	I_R	V_R=7.5V			50	µA
Interterminal Capacitance	C	V_R=10V, f=1MHz		30		pF
Reverse Recovery Time	t_{rr}	I_F=I_R=100mA, See specified Test Circuit			10	ns
Thermal Resistance	Rthj-a	Mounted on ceramic board (250mm²×0.8mm)		120		˚C/W

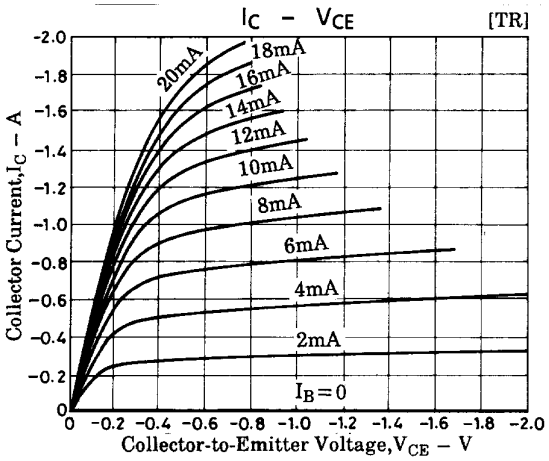
Switching Time Test Circuit

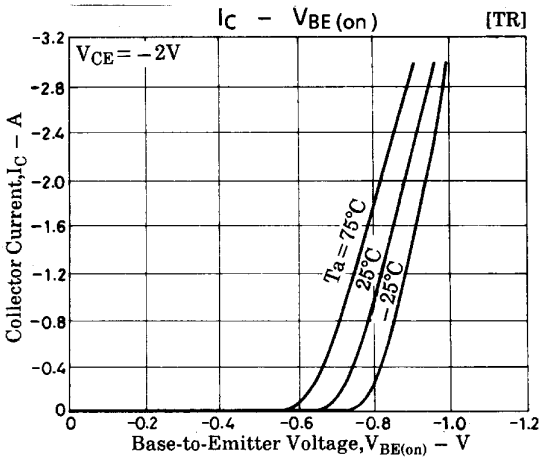
(TR)

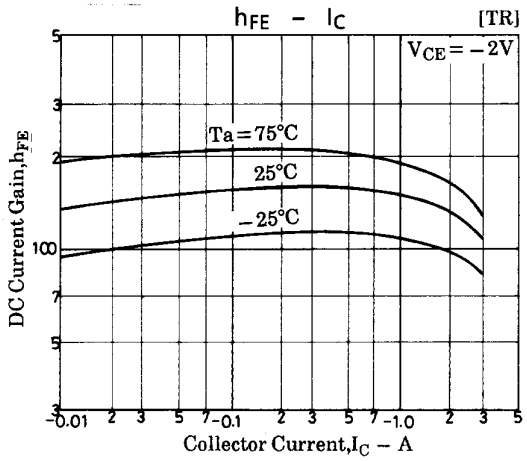


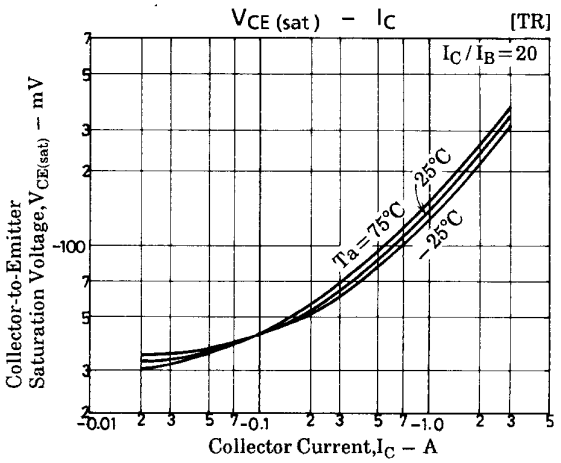
(SBD)

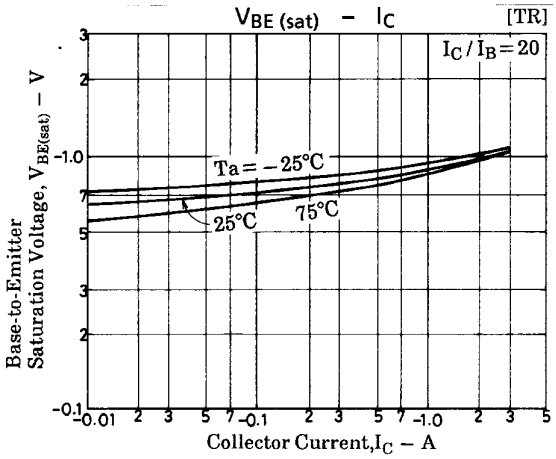


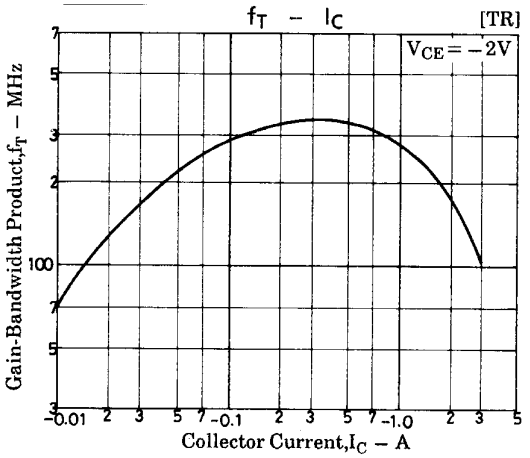


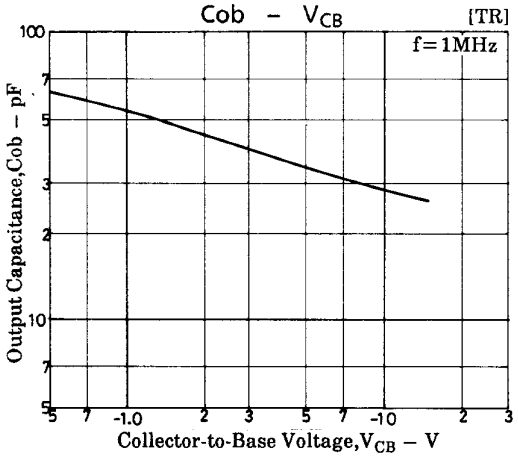


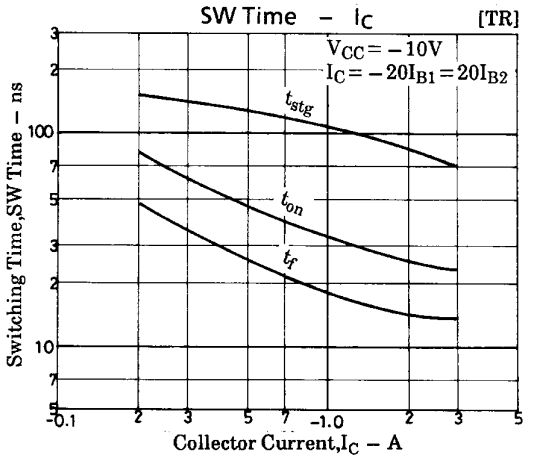


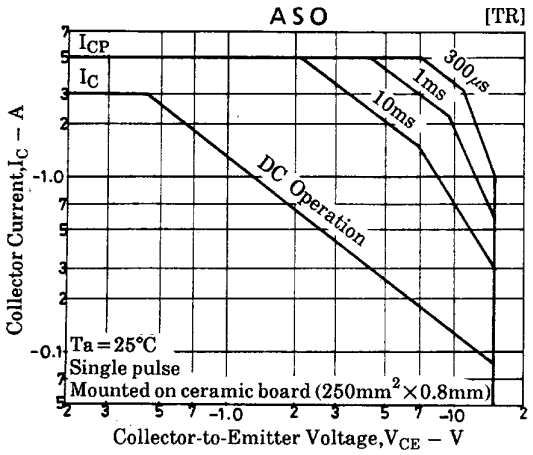


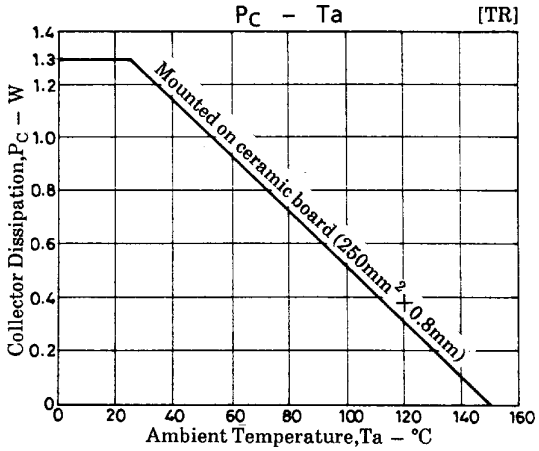


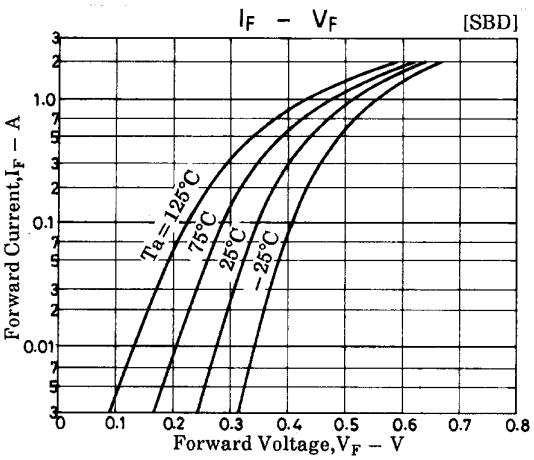


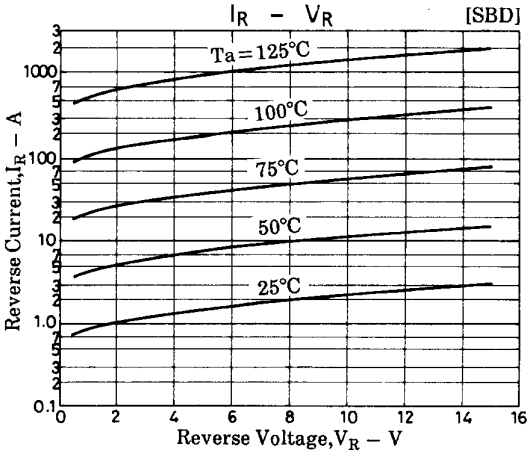


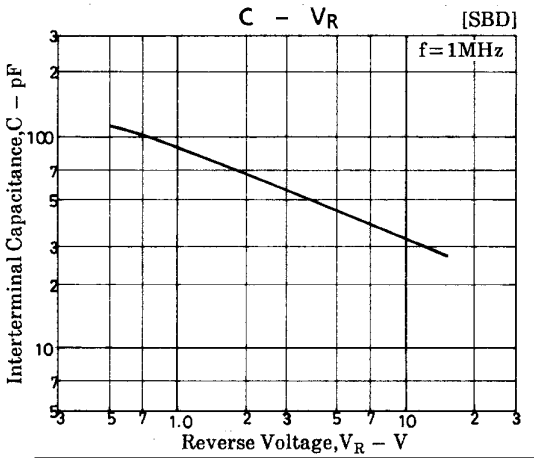


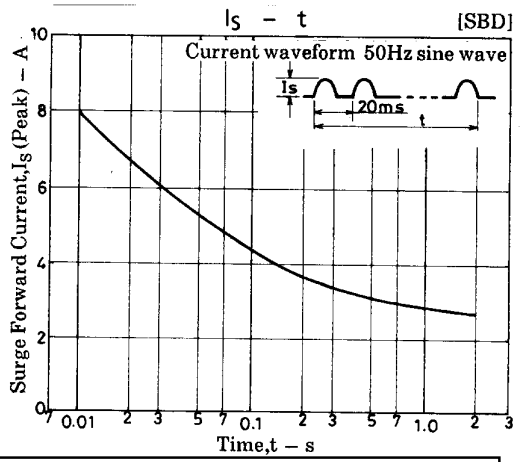












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