Ordering number:EN4496

FP203

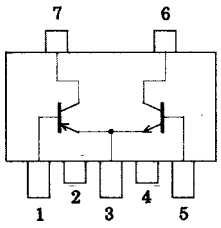
PNP/NPN Epitaxial Planar Silicon Transistors

Push-Pull Circuits

Features

- Composite type with 2 transistors of PNP transistor and NPN transistor,facilitating high-density mounting.
- The FP203 is formed with chips, being equivalent to the 2SB1122 and 2SD1622, placed in one package.

Electrical Connection



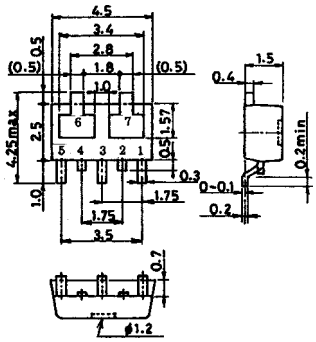
1:Base (PNP TR)
2:Collector (PNP TR)
3:Emitter Common
4:Collector (NPN TR)
5:Base (NPN TR)
6:Collector (NPN TR)
7:Collector (PNP TR)
(Top view)

Package Dimensions

unit:mm

2097A

[FP203]



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

SANYO:PCP5
(Bottom view)

Specifications

Absolute Maximum Ratings at Ta = 25˚C

( ) : PNP

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)60	V
Collector-to-Emitter Voltage	V_{CEO}		(–)50	V
Emitter-to-Base Voltage	V_{EBO}		(–)5	V
Collector Current	I_C		(–)1	A
Collector Current (Pulse)	I_{CP}		(–)2	A
Base Current	I_B		(–)0.2	A
Collector Dissipation	P_C	Mounted on ceramic board (250mm²×0.8mm) 1unit	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

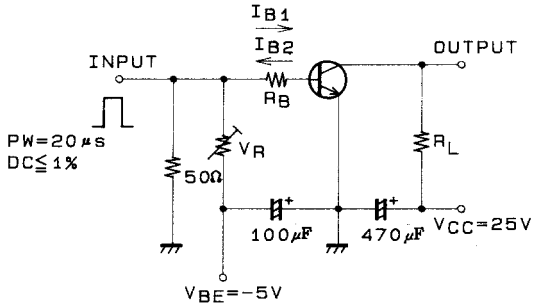
Electrical Characteristics at Ta=25˚C

Parameter	Symbol	Conditons	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)50V, I_E=0			(–)100	nA
Emitter Cutoff Current	I_{EBO}	V_{EB}=(–)4V, I_C=0			(–)100	nA
DC Current Gain	h_{FE}	V_{CE}=(–)2V, I_C=(–)100mA	140		400	
Gain-Bandwidth Product	f_T	V_{CE}=(–)10V, I_C=(–)50mA		150		MHz
Output Capacitance	Cob	V_{CB}=(–)10V, f=1MHz		(12)		pF
				8.5		pF
C-E Saturation Voltage	$V_{CE(sat)}$	I_C=(–)500mA, I_B=(–)50mA		(–180)	(–400)	mV
				120	250	mV
B-E Saturation Voltage	$V_{BE(sat)}$	I_C=(–)500mA, I_B=(–)50mA		(–)0.9	(–)1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)10μA, I_E=0	(–)60			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	I_E=(–)10μA, I_C=0	(–)5			V
Turn-ON Time	t_{on}	See specified Test Circuit		40		ns
Storage Time	t_{stg}	See specified Test Circuit		(300) 350		ns
Fall Time	t_f	See specified Test Circuit		30		ns

Marking:203

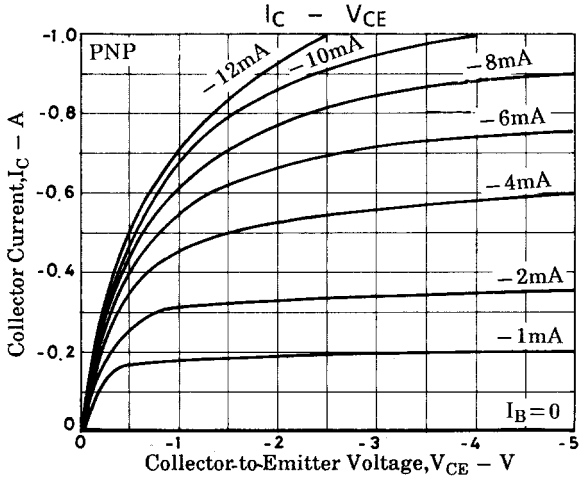
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

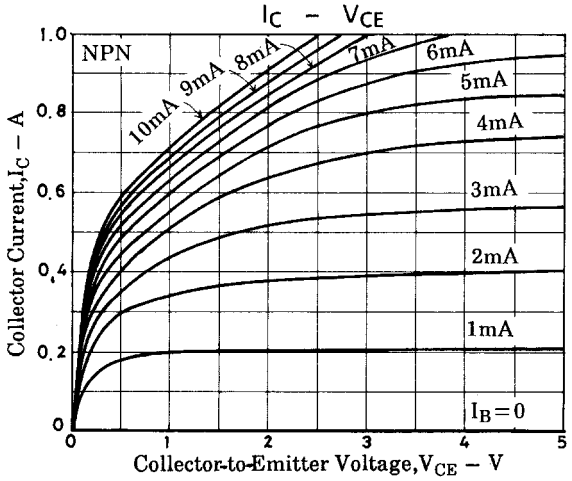
Switching Time Test Circuit

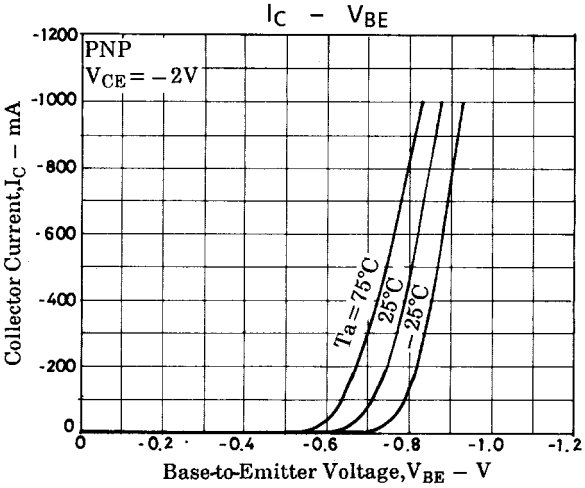


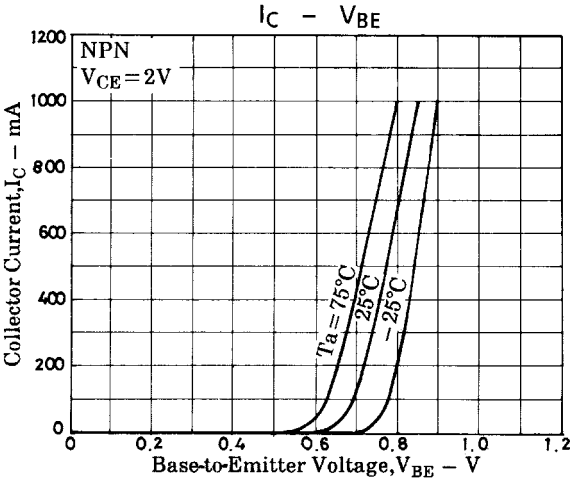
$10I_{B1}=-10I_{B2}=I_C=500mA$

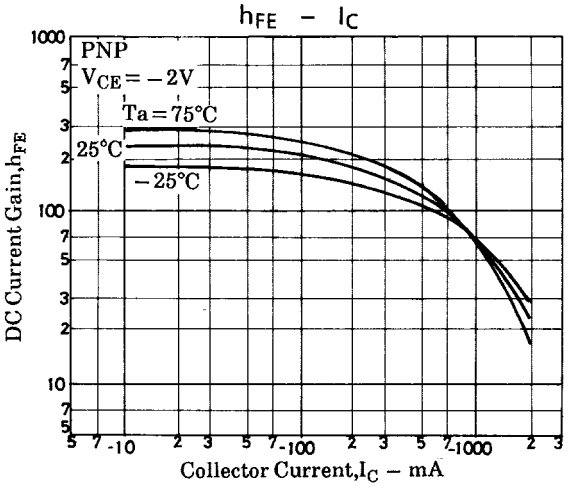
For PNP, the polarity is reversed.

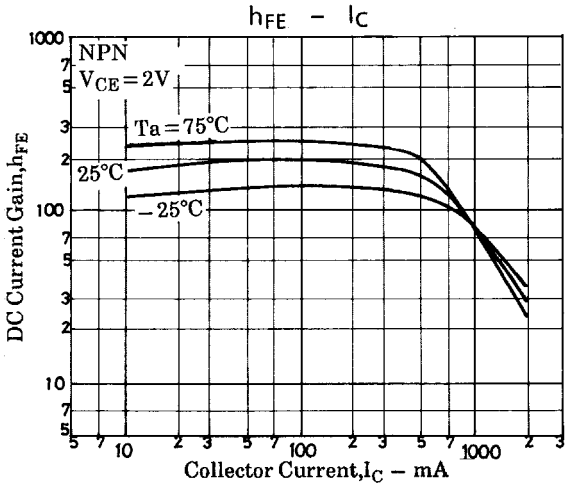




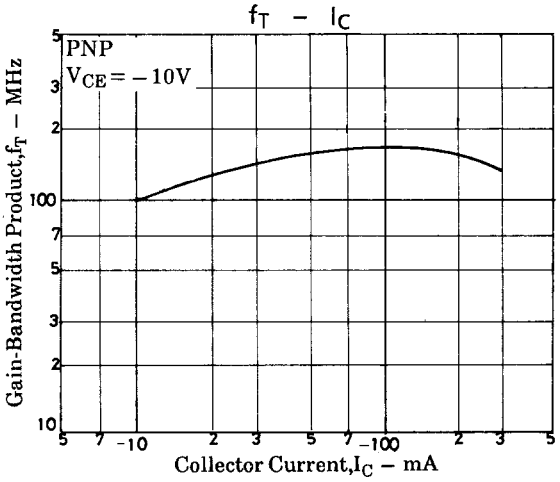




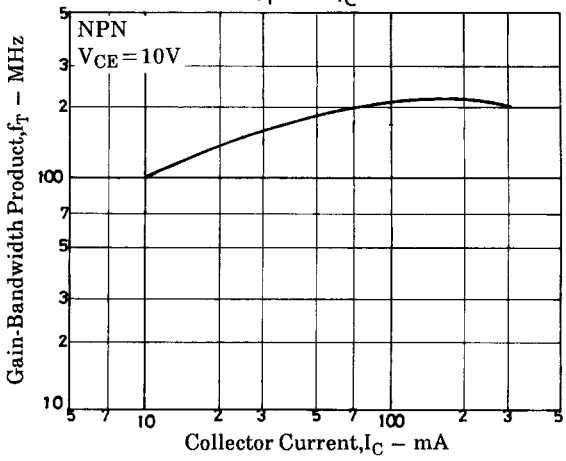




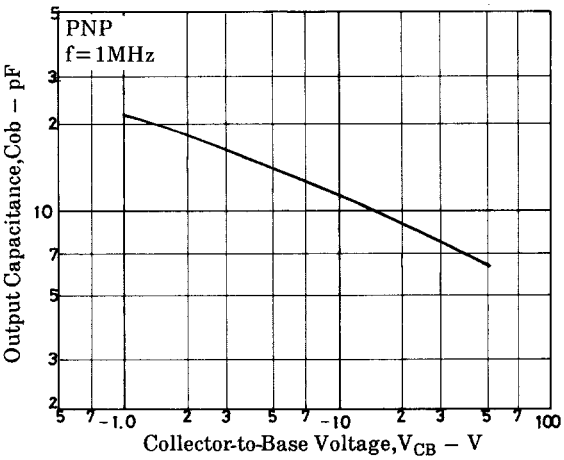
f_T – I_C



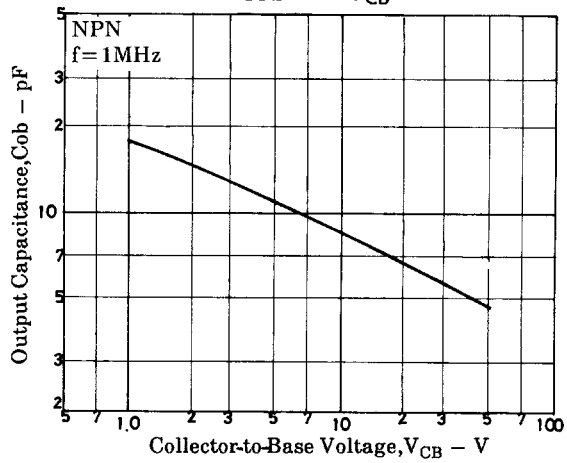
f_T – I_C



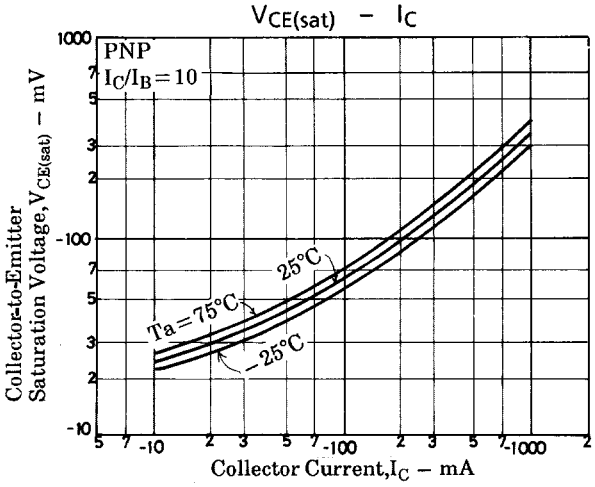
Cob – V_{CB}



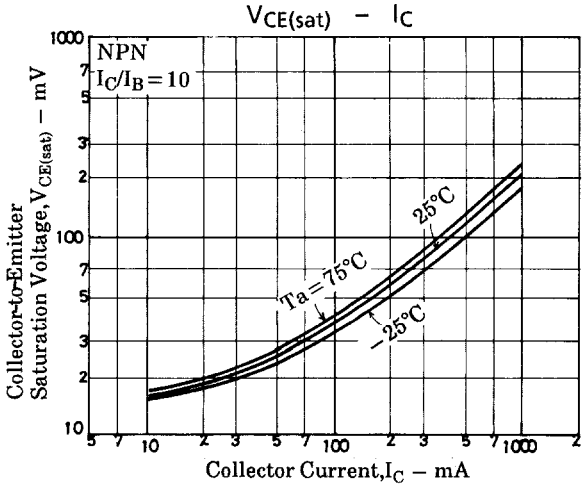
Cob – V_{CB}



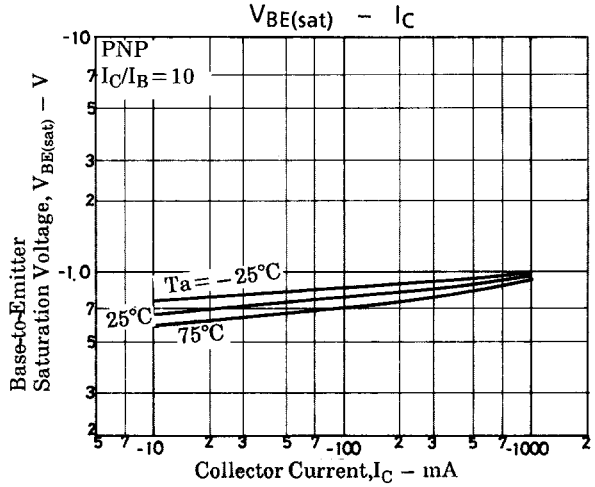
$V_{CE(sat)}$ – I_C



$V_{CE(sat)}$ – I_C



$V_{BE(sat)}$ – I_C



$V_{BE(sat)}$ – I_C