



FP203

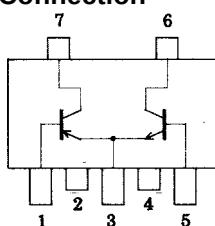
PNP/NPN Epitaxial Planar Silicon Transistors

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

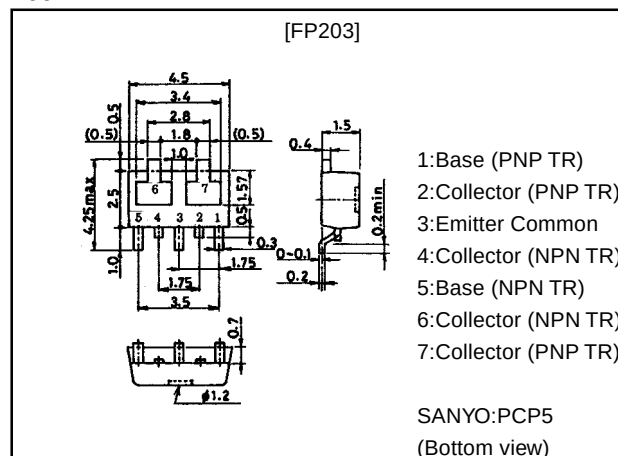


- 1:Base (PNP TR)
2:Collector (PNP TR)
3:Emitter Common
4:Collector (NPN TR)
5:Base (NPN TR)
6:Collector (NPN TR)
7:Collector (PNP TR)
(Top view)

Package Dimensions

unit:mm

2097A



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 (250mm ² ×0.8mm) 1unit	0.75	W
Total Dissipation	P_T	Mounted on ceramic board (250mm ² ×0.8mm)	1.0	W
Junction Temperature	T_j		150	°C
Storage Temperature	T_{stg}		-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	C_{ob}	$V_{CB}=(-)10V, f=1MHz$		(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	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	$(-)60$			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	$(-)50$			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	$(-)5$			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

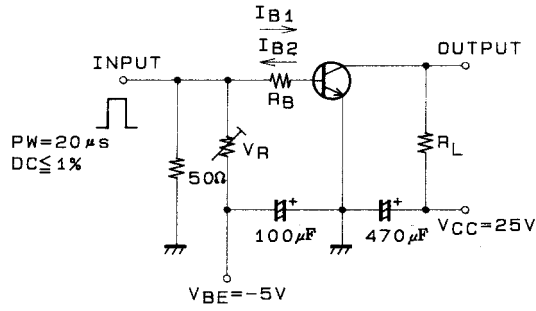
Marking:203

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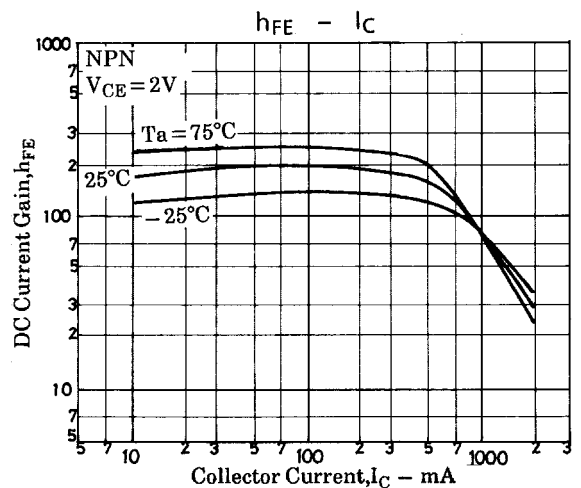
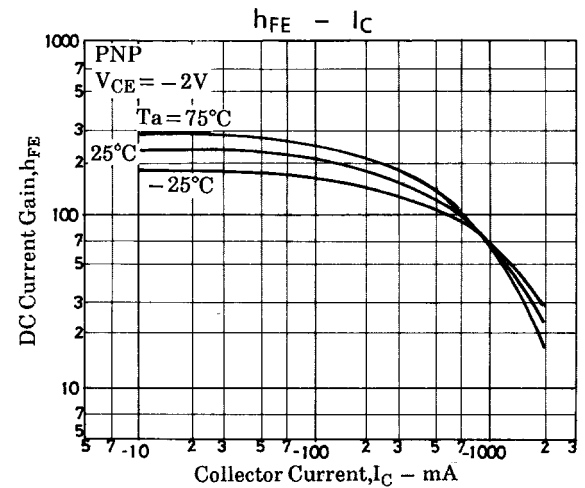
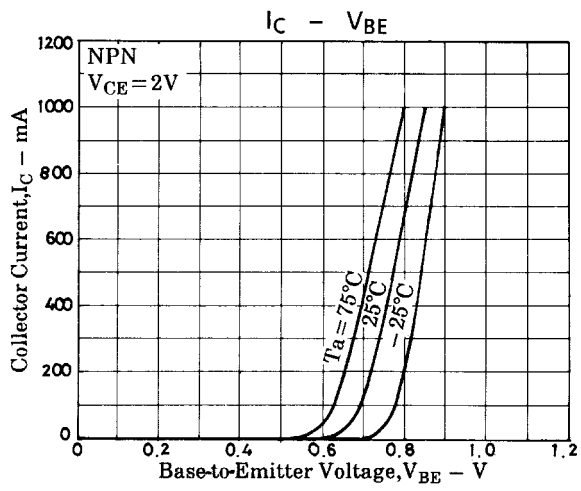
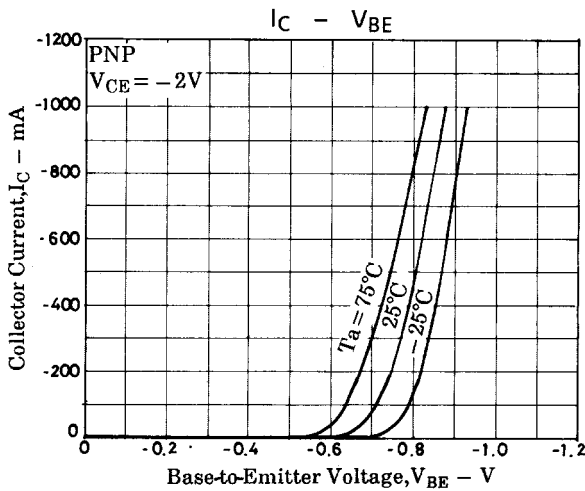
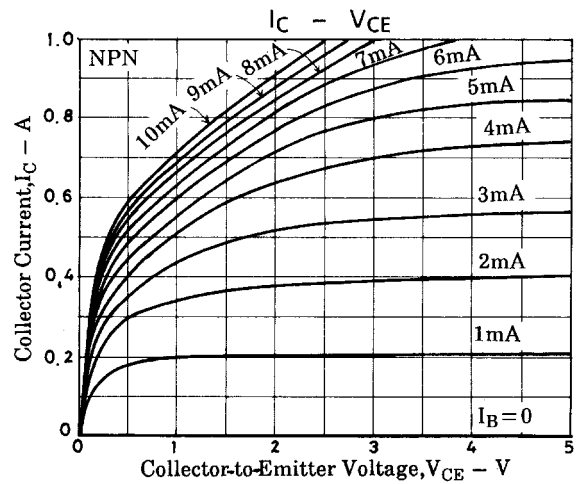
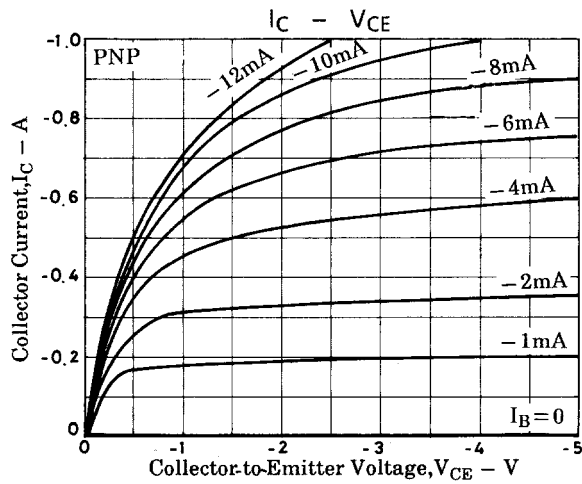
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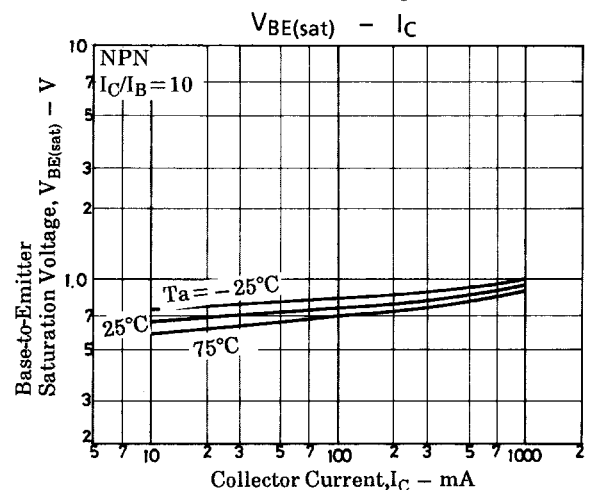
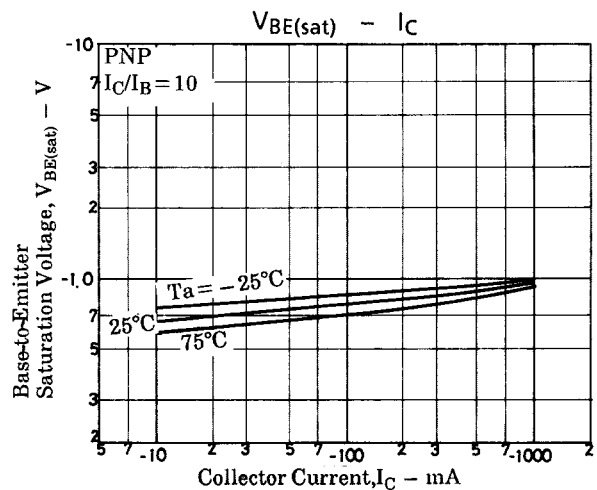
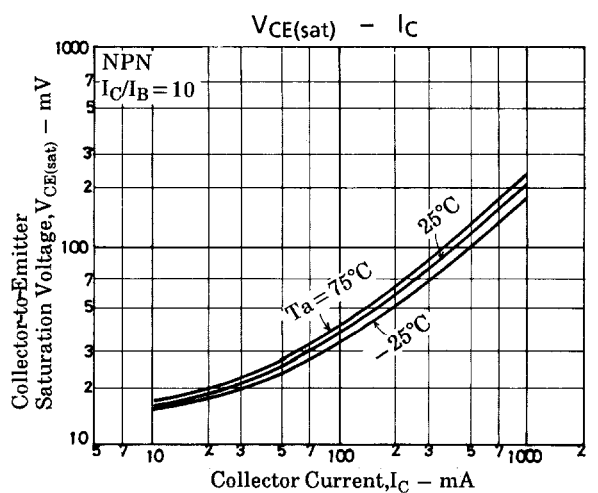
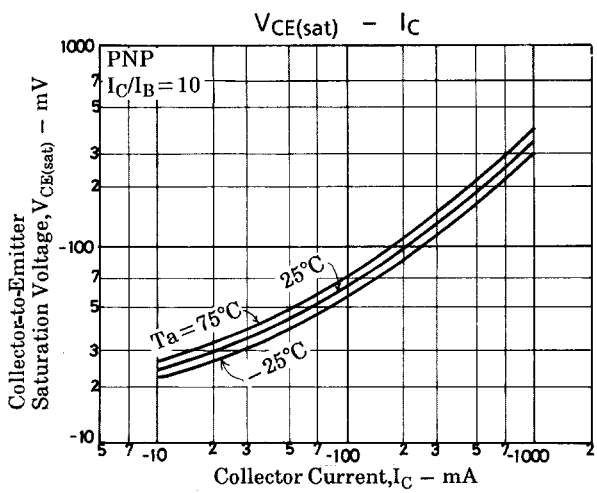
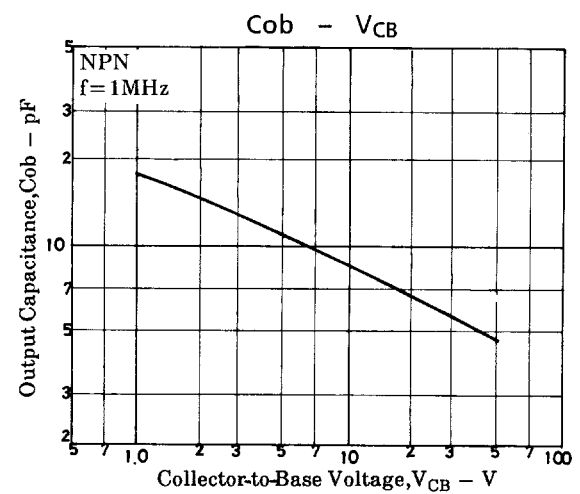
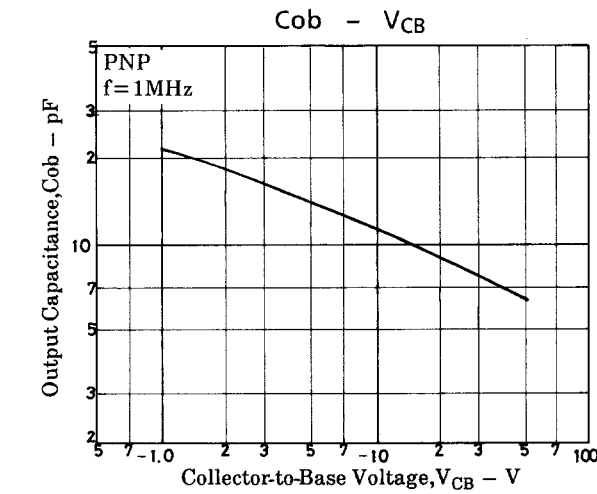
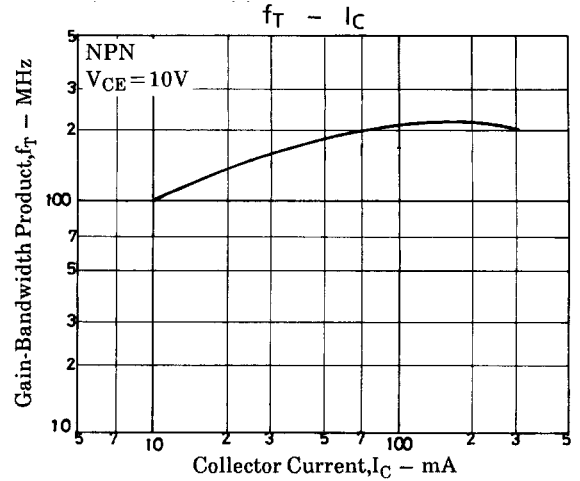
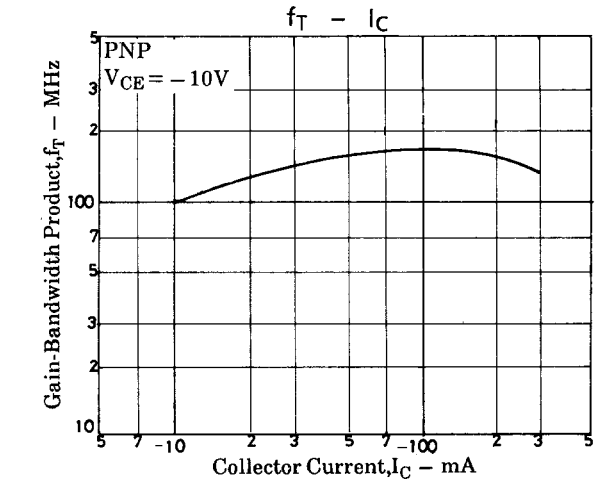
Switching Time Test Circuit

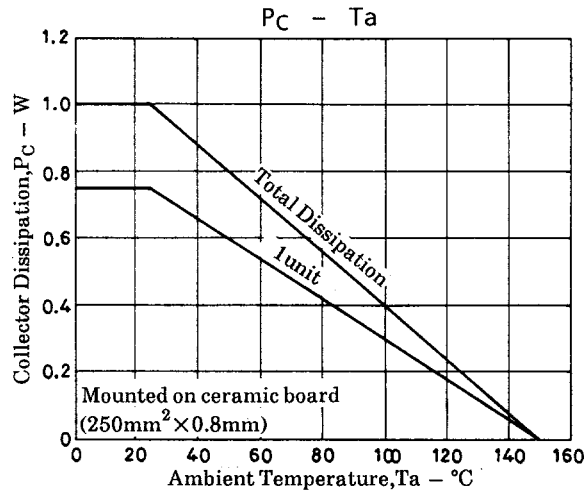
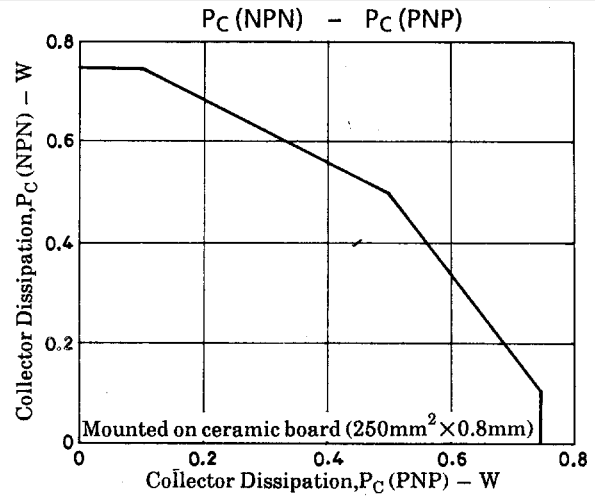
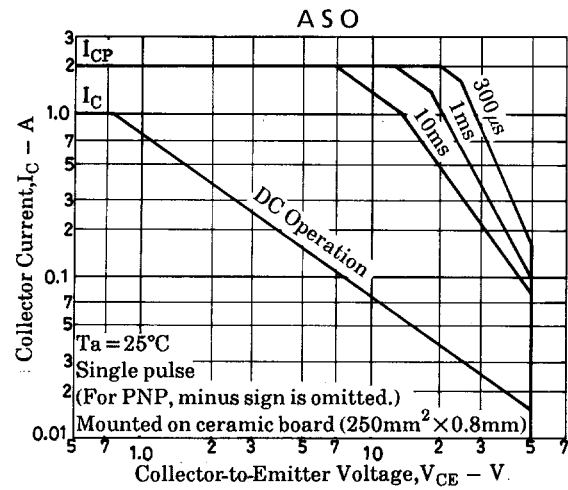


$$10I_{B1} = -10I_{B2} = I_C = 500mA$$

For PNP, the polarity is reversed.







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