

Ordering number:EN4537



FP210

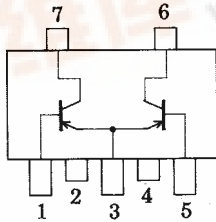
NPN Epitaxial Planar Silicon Transistor

Driver Applications

Features

- Composite type with 2 transistors (PNP) contained in one package, facilitating high-density mounting.
- The FP210 is formed with 2 chips being equivalent to the 2SB1123, placed in one package.

Electrical Connection



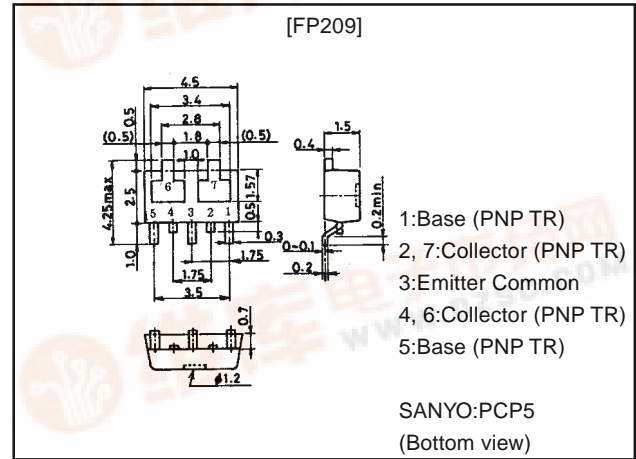
- 1:Base (PNP TR)
- 2, 7:Collector (PNP TR)
- 3:Emitter Common
- 4, 6:Collector (PNP TR)
- 5:Base (PNP TR)

(Top view)

Package Dimensions

unit:mm

2097A



Specifications

Absolute Maximum Ratings at Ta = 25°C

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}		-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 (250mm ² ×0.8mm) 1 unit	0.8	W
Total Dissipation	P_T	Mounted on ceramic board (250mm ² ×0.8mm)	1.1	W
Junction Temperature	T_J		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

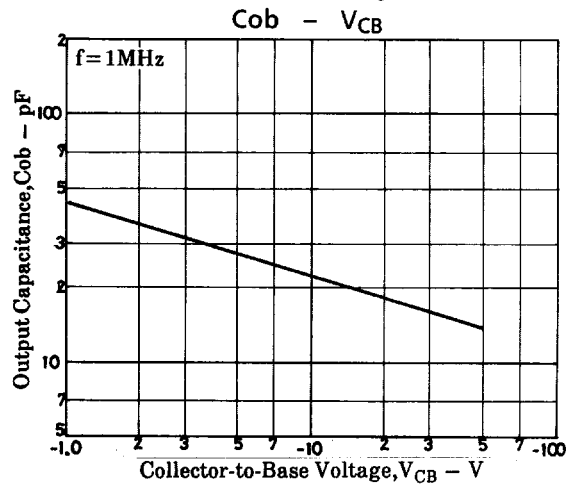
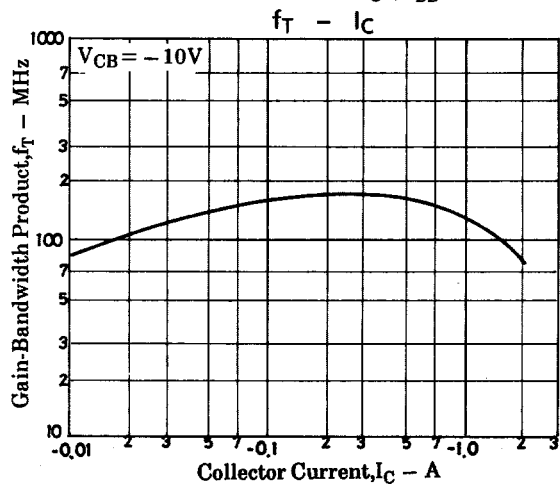
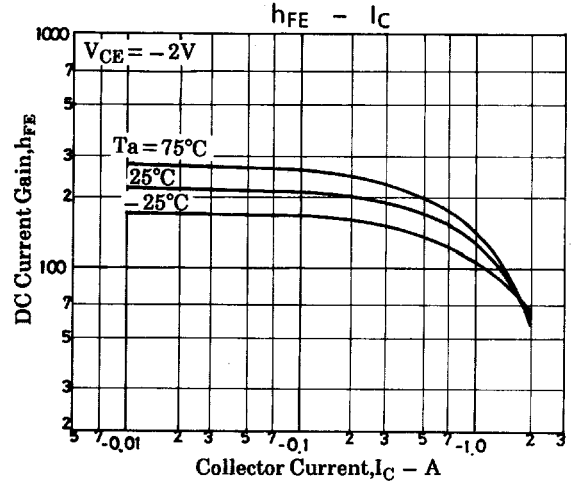
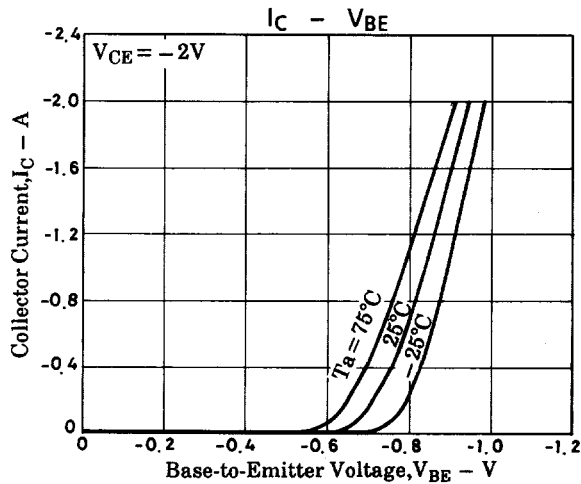
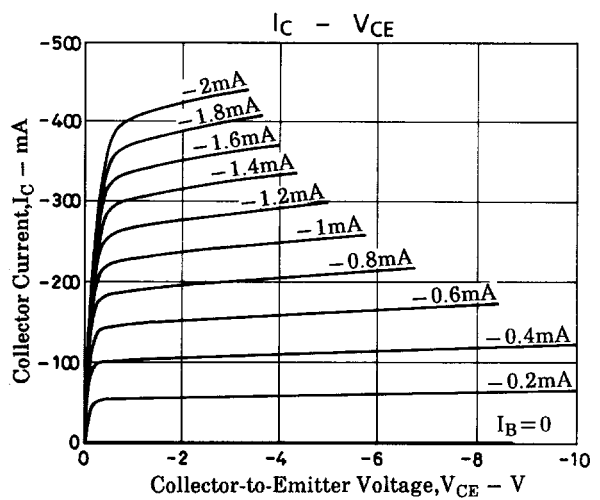
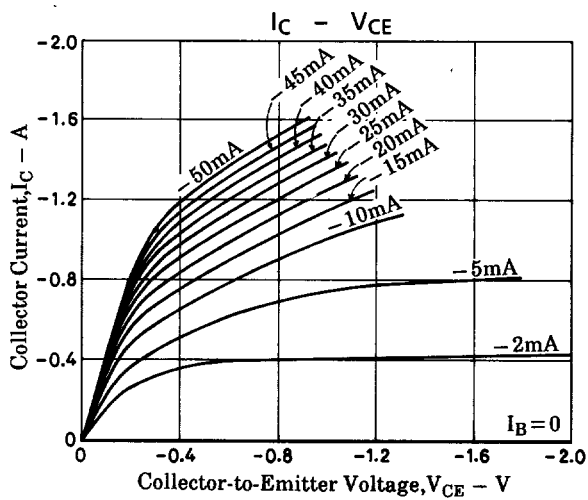
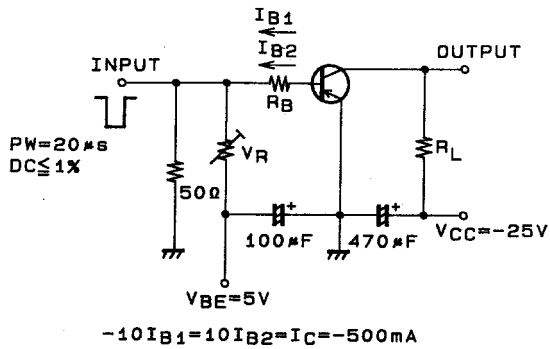
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=-50V, I_E=0$			-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}	$V_{CB}=-10V, f=1MHz$		22		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=-1A, I_B=-50mA$	-0.3		-0.7	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=-1A, I_B=-50mA$	-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	$V_{(BR)EBO}$	$I_E=-10\mu A, I_C=0$	-6			V
Turn-ON Time	t_{on}	See specified Test Circuit		60		ns
Storage Time	t_{stg}	See specified Test Circuit		450		ns
Fall Time	t_f	See specified Test Circuit		30		ns

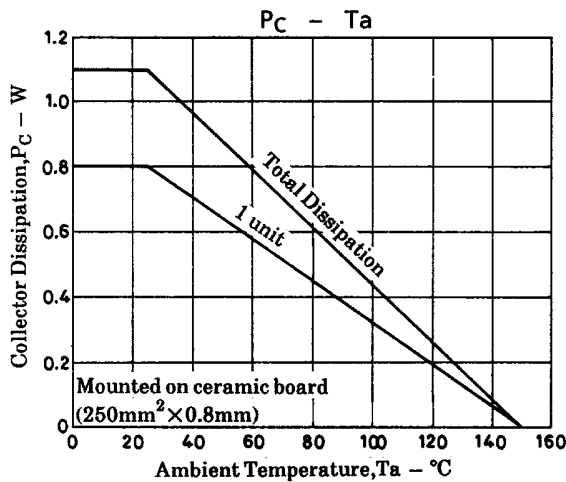
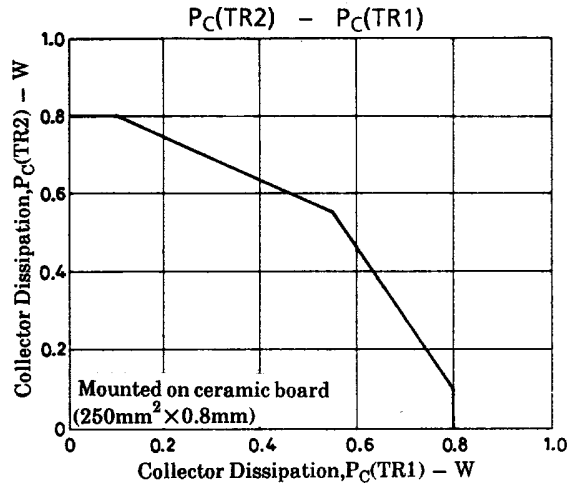
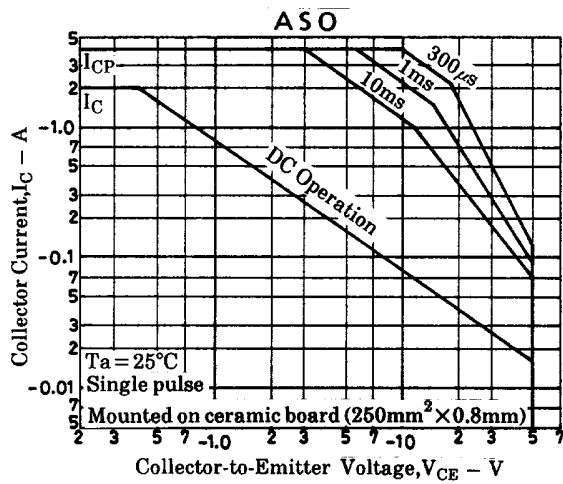
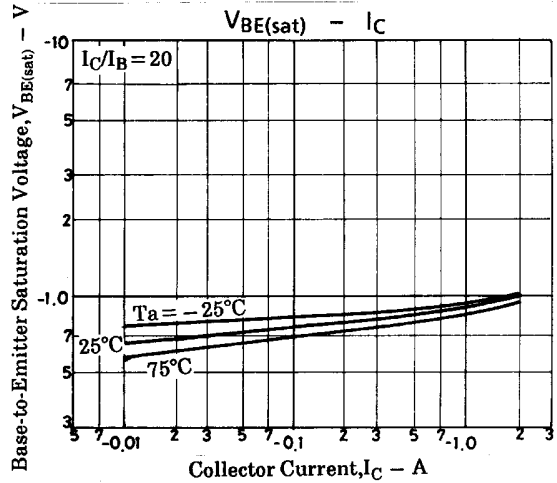
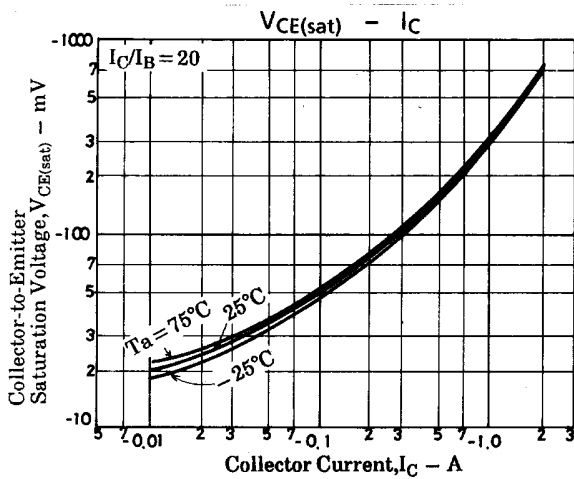
Marking:210

FP210

Switching Time Test Circuit



FP210



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