



FP211

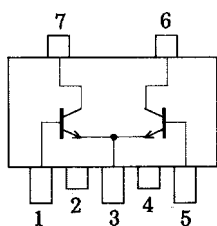
NPN Epitaxial Planar Silicon Transistor

Driver Applications

Features

- Composite type with 2 transistors (NPN) contained in one package, facilitating high-density mounting.
- The FP211 is formed with 2 chips being equivalent to the 2SD1623, placed in one package.

Electrical Connection



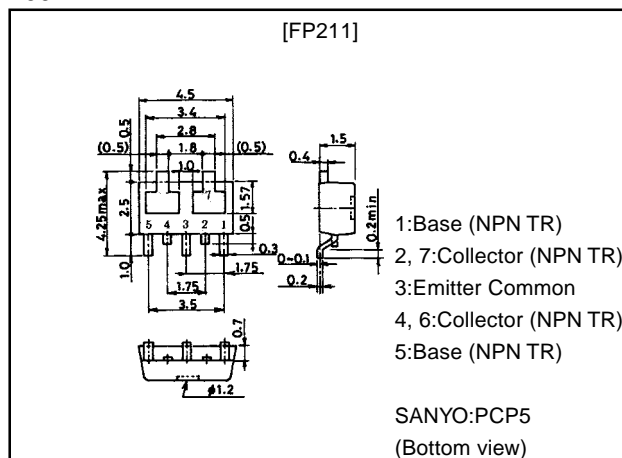
1:Base (NPN TR)
2, 7:Collector (NPN TR)
3:Emitter Common
4, 6:Collector (NPN TR)
5:Base (NPN TR)

(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	Conditons	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB}=50V, I_E=0$			100	nA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=4V, I_C=0$			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
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=1A, I_B=50mA$		0.15	0.4	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		550		ns
Fall Time	t_f	See specified Test Circuit		30		ns

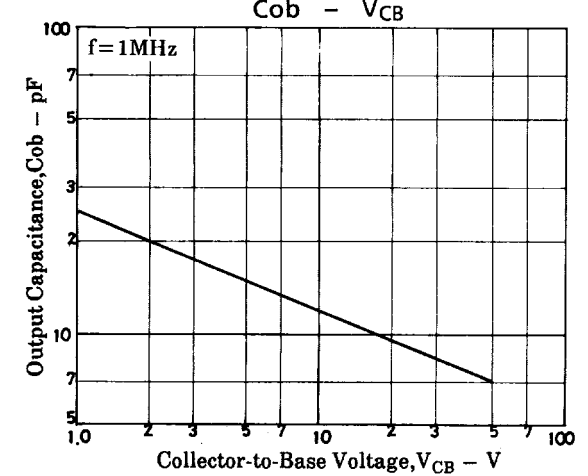
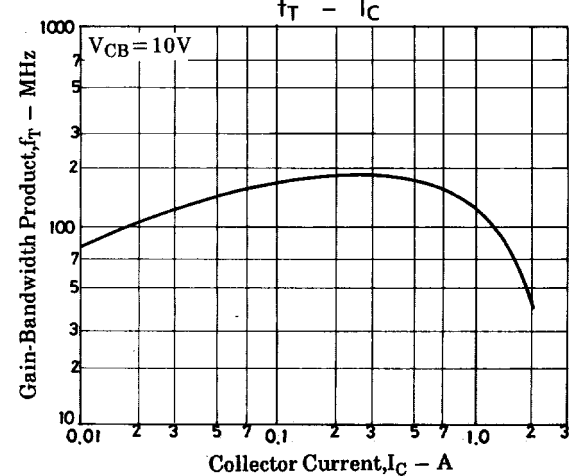
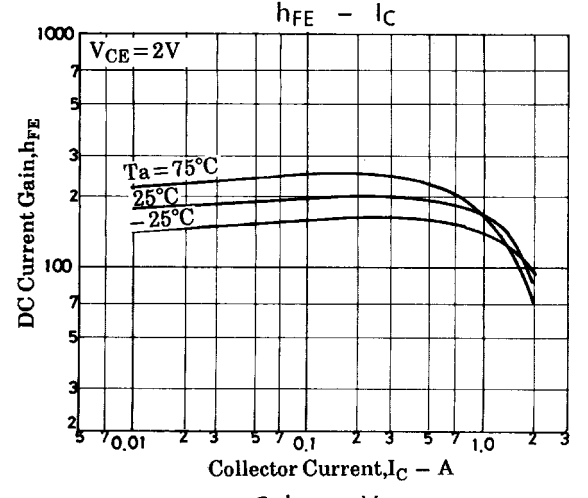
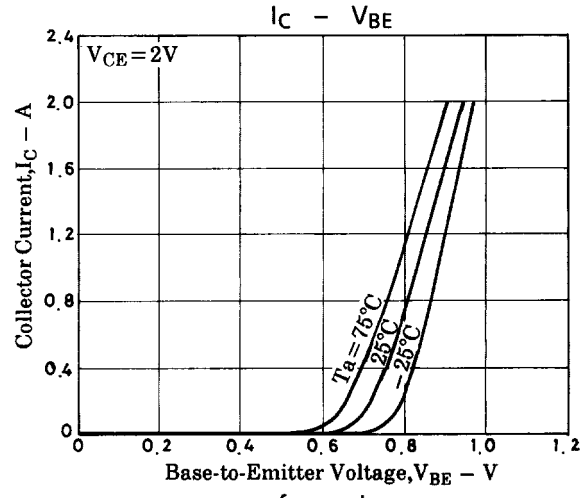
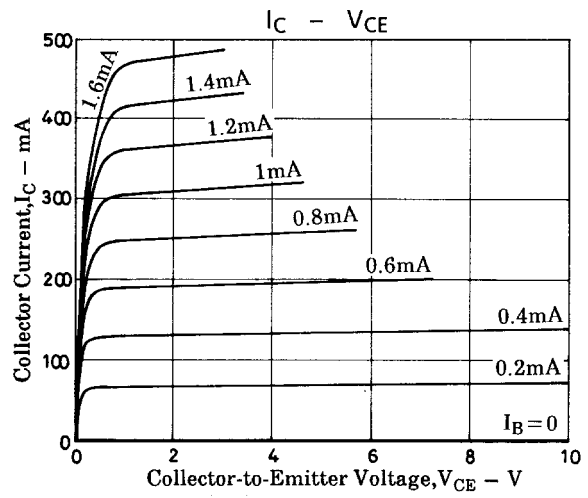
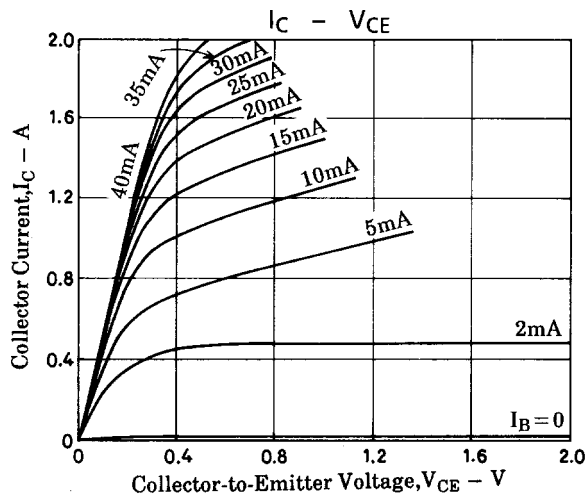
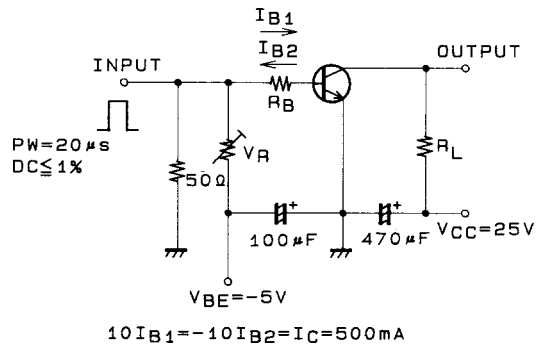
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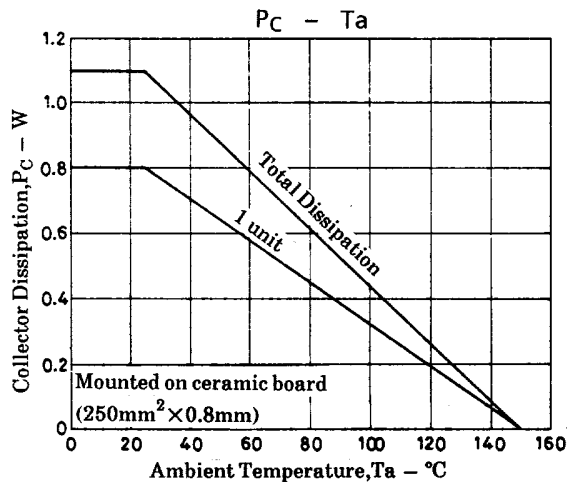
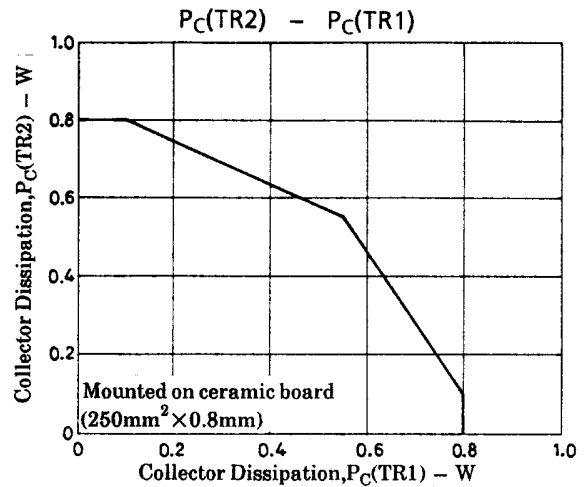
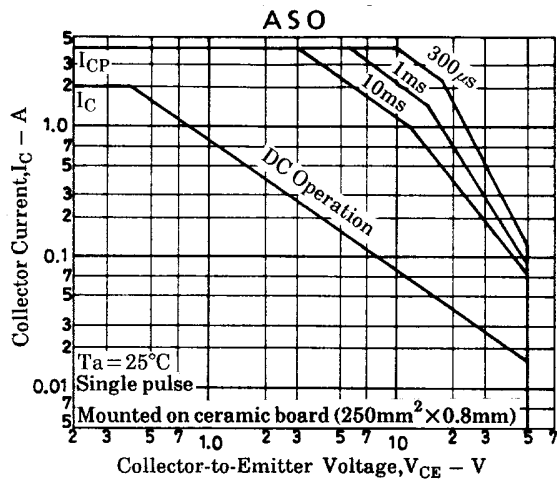
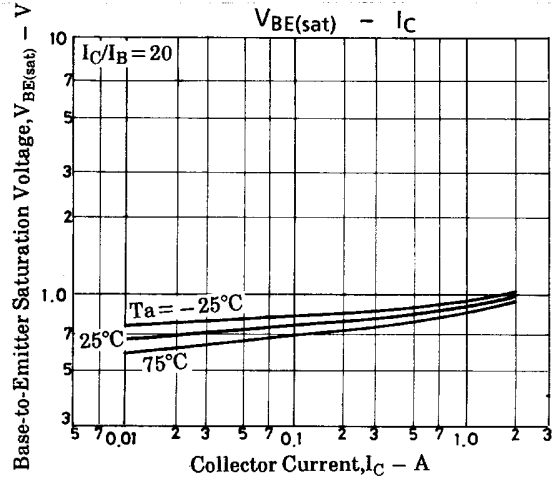
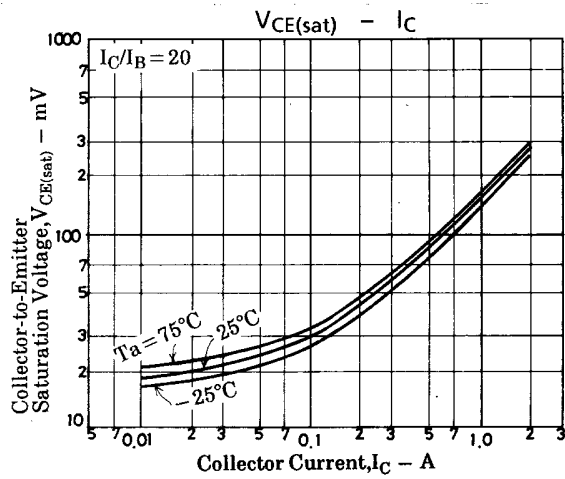
SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquarters

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

52098HA (KT)/53094TH (KOTO) BX-0215 No.4538-1/3

Switching Time Test Circuit





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