

SANYO**FX509**

PNP Epitaxial Planar Silicon Transistor

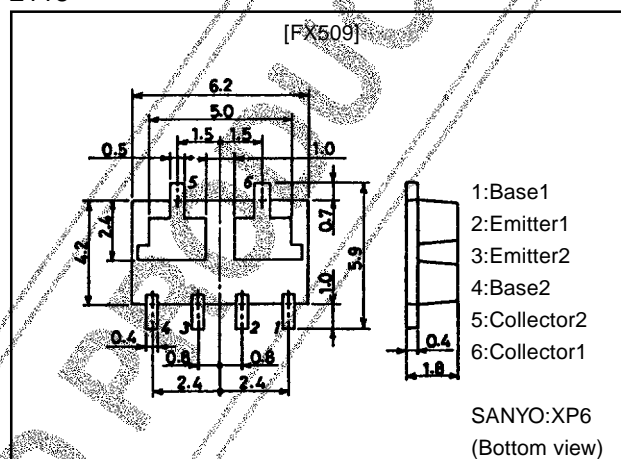
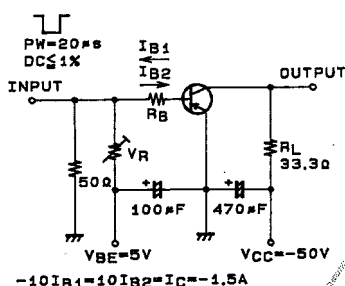
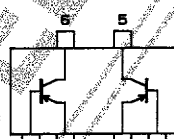
High-Current Switching Applications**Features**

- Composite type with 2PNP transistors contained in one package, facilitating high-density mounting.
- The FX509 houses two chips, each being equivalent to the 2SB1215, in one package.
- Matched pair characteristics.

Package Dimensions

unit:mm

2118

**Switching Time Test Circuit****Electrical Connection**

- 1: Base1
- 2: Emitter1
- 3: Emitter2
- 4: Base2
- 5: Collector2
- 6: Collector1

(Top view)

Specifications**Absolute Maximum Ratings at $T_a = 25^\circ C$**

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		-120	V
Collector-to-Emitter Voltage	V_{CEO}		-100	V
Emitter-to-Base Voltage	V_{EBO}		-6	V
Collector Current	I_C		-3	A
Collector Current (Pulse)	I_{CP}		-6	A
Base Current	I_B		-0.6	A
Collector Dissipation	P_C	Mounted on ceramic board (750mm ² ×0.8mm) 1unit	1.5	W
Total Dissipation	P_T	Mounted on ceramic board (750mm ² ×0.8mm)	2	W
Junction Temperature	T_J		150	°C
Storage Temperature	T_{stg}		-55 to +150	°C

· Marking:509

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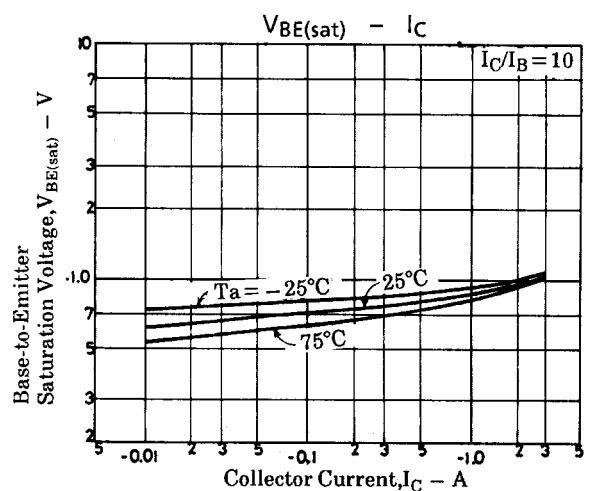
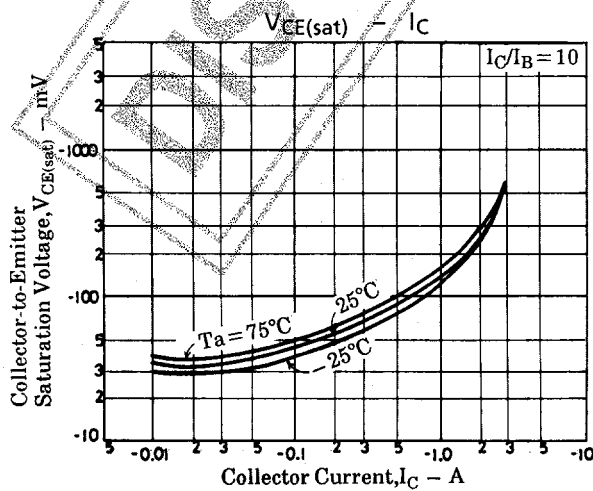
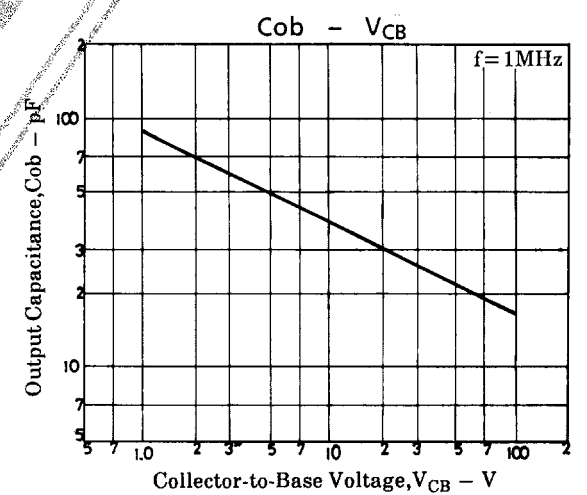
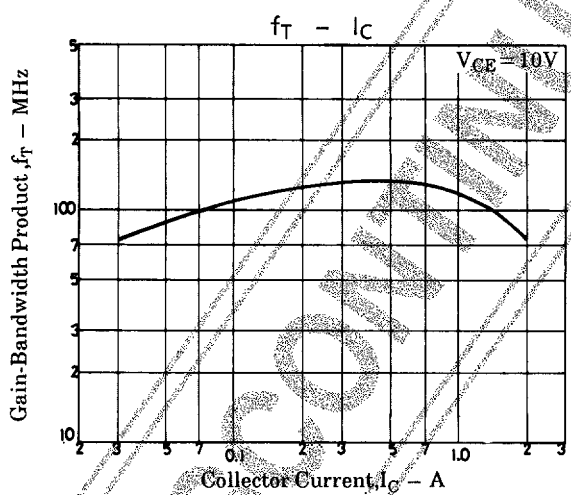
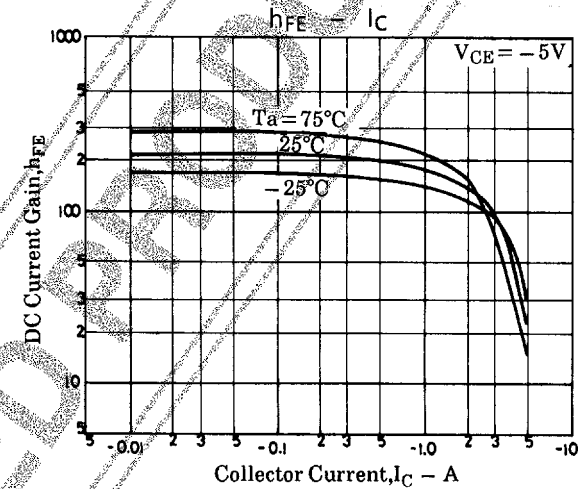
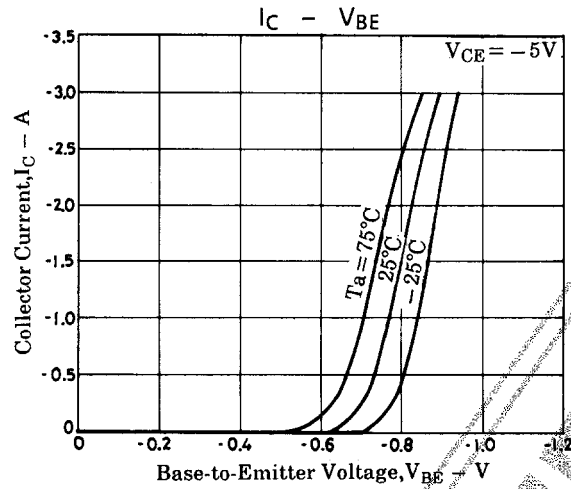
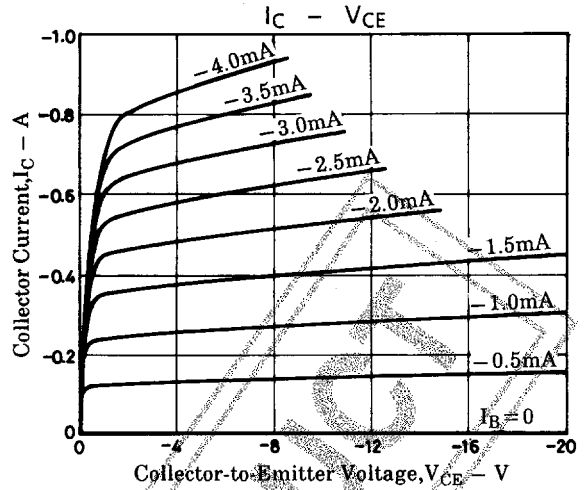
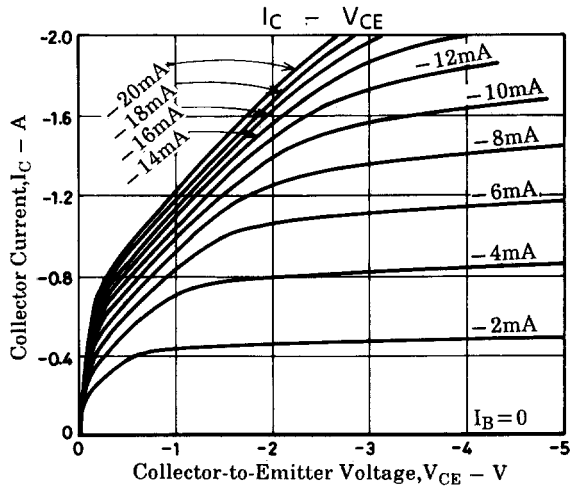
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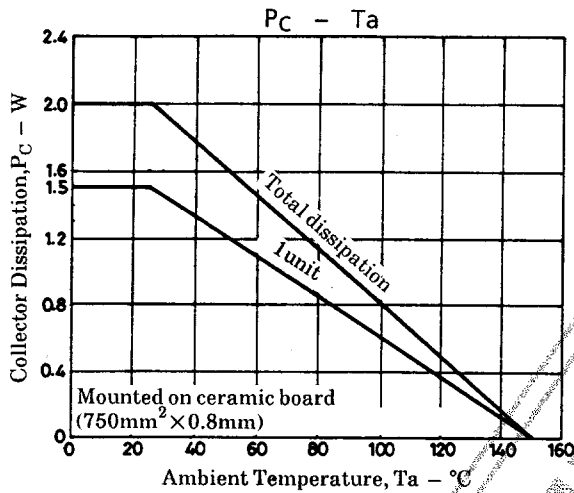
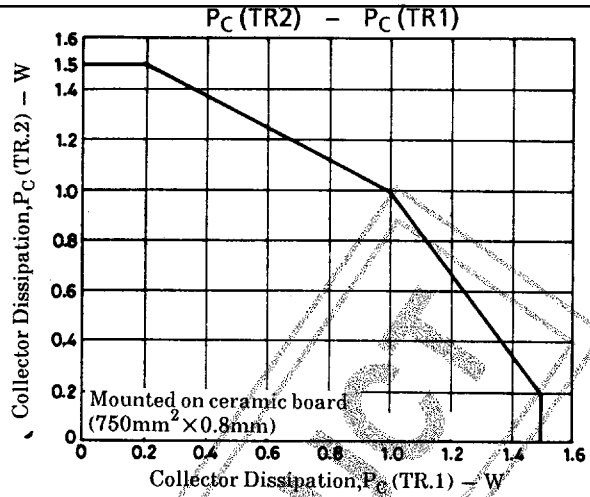
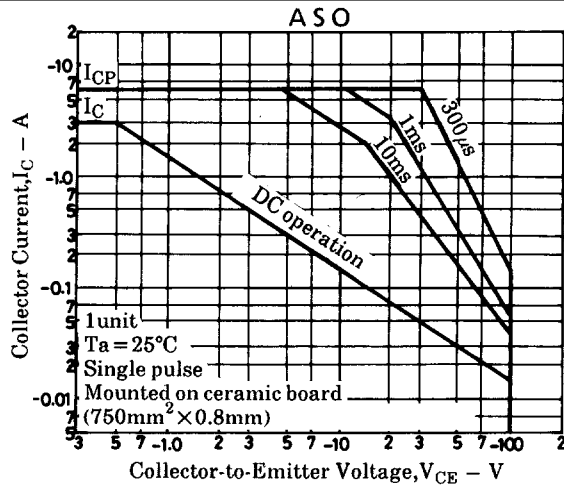
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Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB} = -100\text{V}, I_E = 0$			-1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -4\text{V}, I_C = 0$			-1	μA
DC Current Gain	h_{FE1}	$V_{CE} = -5\text{V}, I_C = -500\text{mA}$	140		400	
	h_{FE2}	$V_{CE} = -5\text{V}, I_C = -2\text{A}$	40			
DC Current Gain Ratio	$h_{FE(\text{small/large})}$	$V_{CE} = -5\text{V}, I_C = -500\text{mA}$	0.8			
Gain-Bandwidth Product	f_T	$V_{CE} = -5\text{V}, I_C = -500\text{mA}$		180		MHz
Output Capacitance	C_{ob}	$V_{CB} = -10\text{V}, f = 1\text{MHz}$		40		pF
C-E Saturation Voltage	$V_{CE(\text{sat})}$	$I_C = -1.5\text{A}, I_B = -150\text{mA}$		-200	-500	mV
B-E Saturation Voltage	$V_{BE(\text{sat})}$	$I_C = -1.5\text{A}, I_B = -150\text{mA}$		-0.9	-1.2	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0$	-120			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, R_{BE} = \infty$	-100			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-6			V
Turn-ON Time	t_{on}	See specified Test Circuit		100		ns
Storage Time	t_{stg}	See specified Test Circuit		800		ns
Fall Time	t_f	See specified Test Circuit		50		ns

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