

Ordering number:EN4877



# FX501

PNP Epitaxial Planar Silicon Transistor

## High-Current Switching Applications

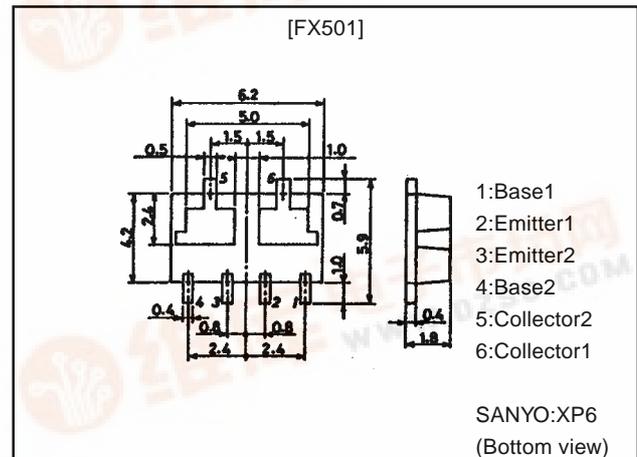
### Features

- Composite type with 2 PNP transistors contained in one package, facilitating high-density mounting.
- The FX501 houses two chips, each being equivalent to the 2SB1205, in one package.
- Matched pair characteristics.

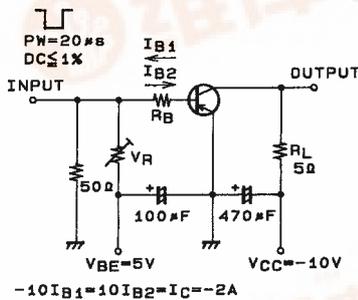
### Package Dimensions

unit:mm

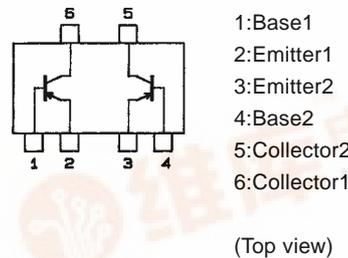
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### Switching Time Test Circuit



### Electrical Connection



### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	$V_{CBO}$		-25	V
Collector-to-Emitter Voltage	$V_{CEO}$		-20	V
Emitter-to-Base Voltage	$V_{EBO}$		-5	V
Collector Current	$I_C$		-5	A
Collector Current (Pulse)	$I_{CP}$		-8	A
Base Current	$I_B$		-1	A
Collector Dissipation	$P_C$	Mounted on ceramic board (750mm <sup>2</sup> ×0.8mm) 1 unit	1.5	W
Total Dissipation	$P_T$	Mounted on ceramic board (750mm <sup>2</sup> ×0.8mm)	2	W
Junction Temperature	$T_J$		150	°C
Storage Temperature	$T_{stg}$		-50 to +150	°C

· Marking:501

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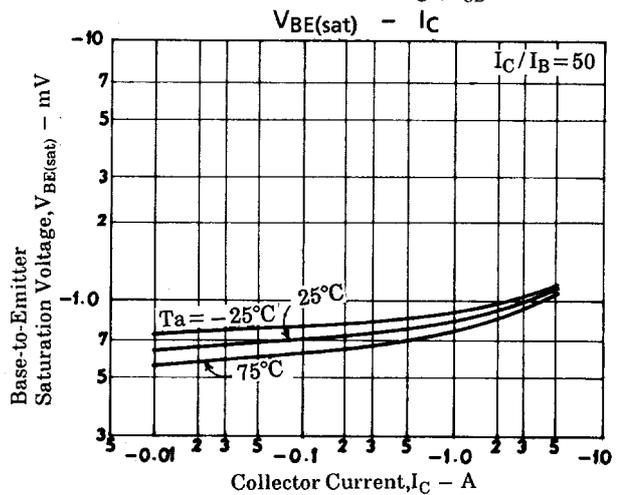
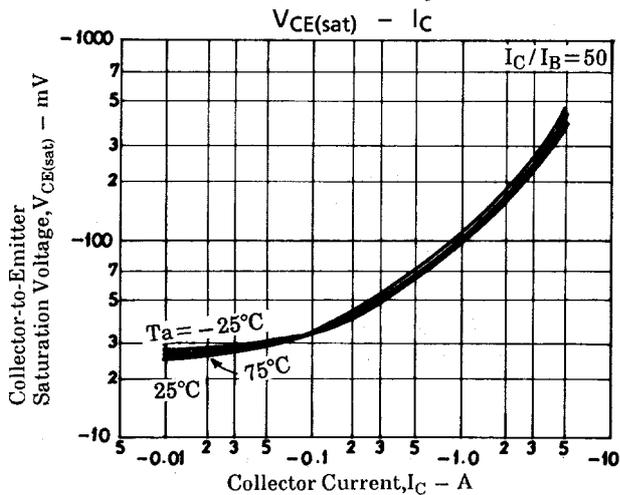
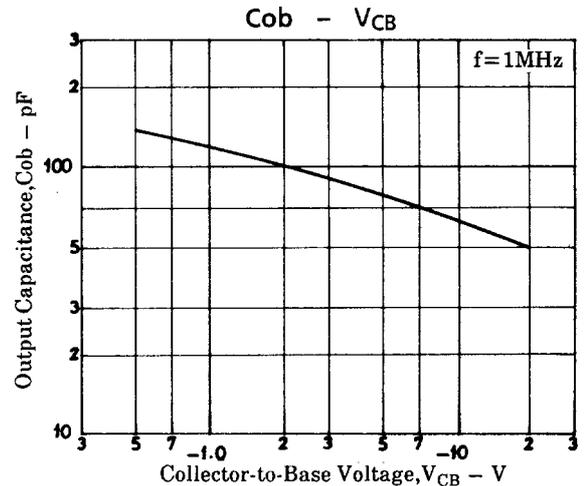
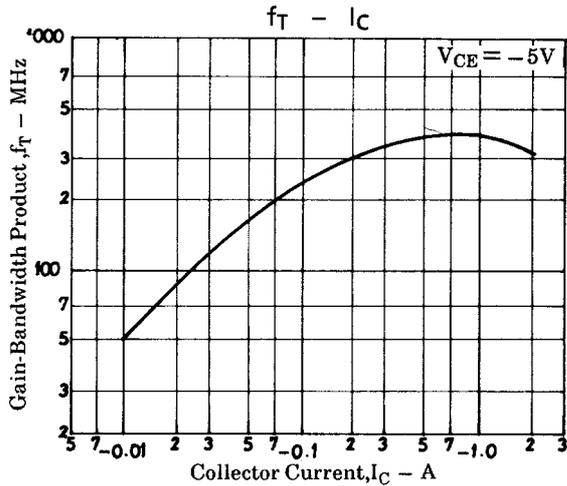
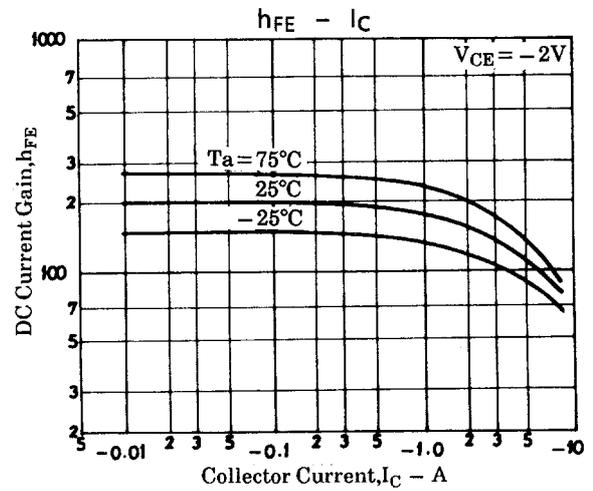
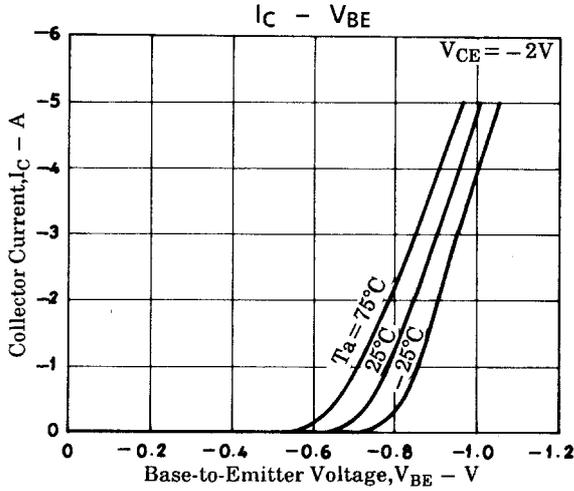
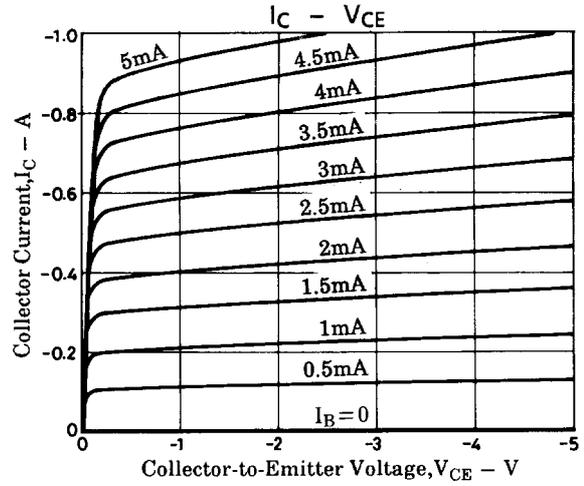
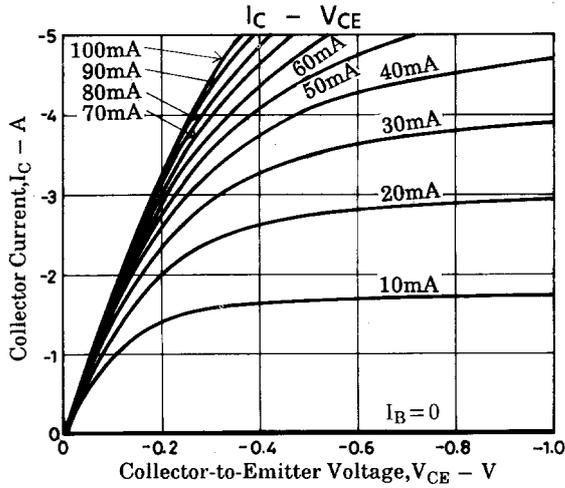
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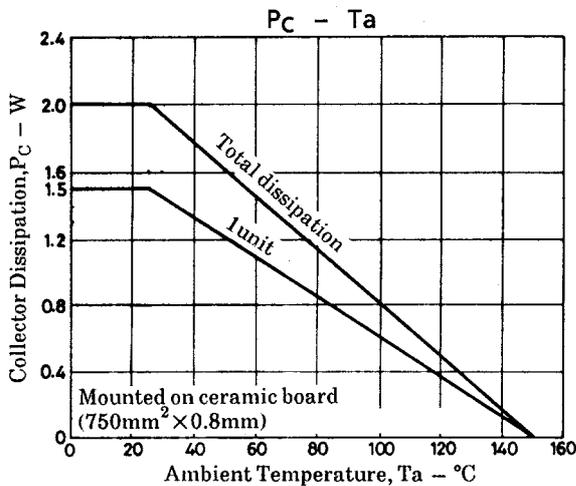
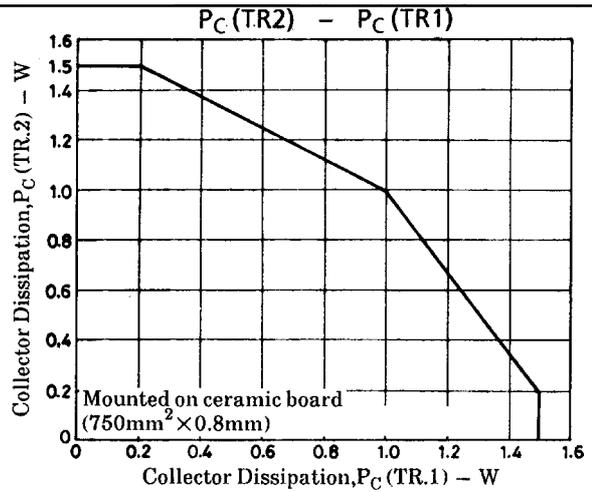
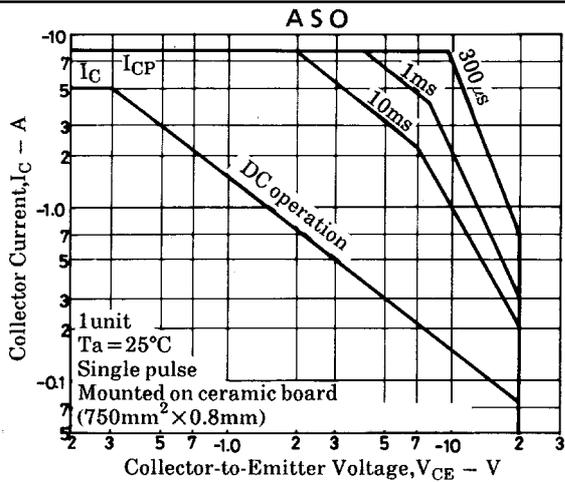
### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=-20\text{V}, I_E=0$			-500	nA
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=-4\text{V}, I_C=0$			-500	nA
DC Current Gain	$h_{FE1}$	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$	140		400	
	$h_{FE2}$	$V_{CE}=-2\text{V}, I_C=-4\text{A}$	60			
DC Current Gain Ratio	$h_{FE}(\text{small/large})$	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$	0.8			
Gain-Bandwidth Product	$f_T$	$V_{CE}=-5\text{V}, I_C=-500\text{mA}$		350		MHz
Output Capacitance	$C_{ob}$	$V_{CB}=-10\text{V}, f=1\text{MHz}$		60		pF
C-E Saturation Voltage	$V_{CE}(\text{sat})$	$I_C=-3\text{A}, I_B=-60\text{mA}$		-250	-500	mV
B-E Saturation Voltage	$V_{BE}(\text{sat})$	$I_C=-3\text{A}, I_B=-60\text{mA}$		-1.0	-1.3	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}, I_E=0$	-25			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, R_{BE}=\infty$	-20			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}, I_C=0$	-5			V
Turn-ON Time	$t_{on}$	See sepcified Test Circuit		40		ns
Storage Time	$t_{stg}$	See sepcified Test Circuit		200		ns
Fall Time	$t_f$	See sepcified Test Circuit		10		ns

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