



# FX508

NPN Epitaxial Planar Silicon Transistor

## High-Current Switching Applications

### Applications

- LCD backlight drive.

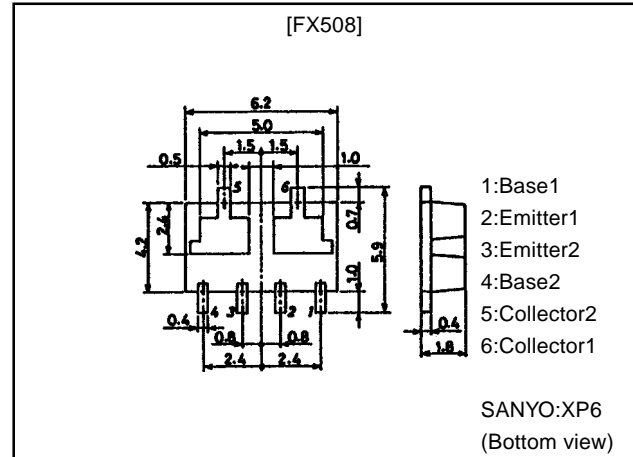
### Features

- Composite type with 2PNP transistors contained in one package, facilitating high-density mounting.
- The FX508 houses two chips, each being equivalent to the 2SD1815, in one package.
- Matched pair characteristics.

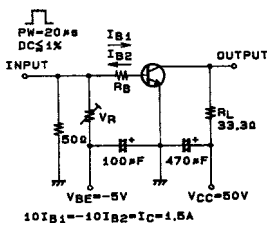
### Package Dimensions

unit:mm

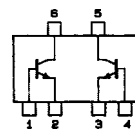
2118



### 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 Ta = 25°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	$I_B$		600	mA
Collector Dissipation	$P_C$	Mounted on ceramic board (750mm <sup>2</sup> ×0.8mm) 1unit	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	$T_{stg}$		-55 to +150	°C

· Marking:508

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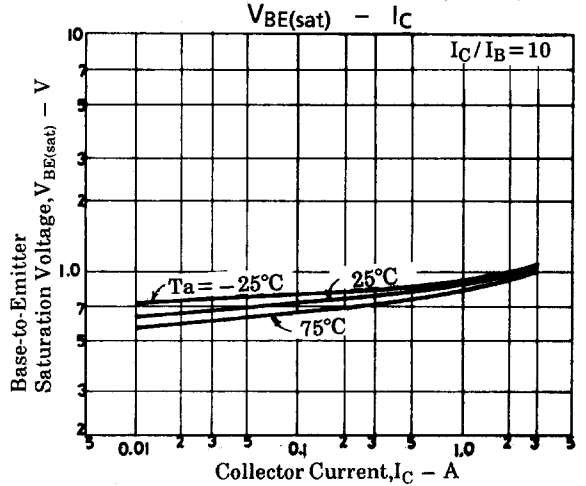
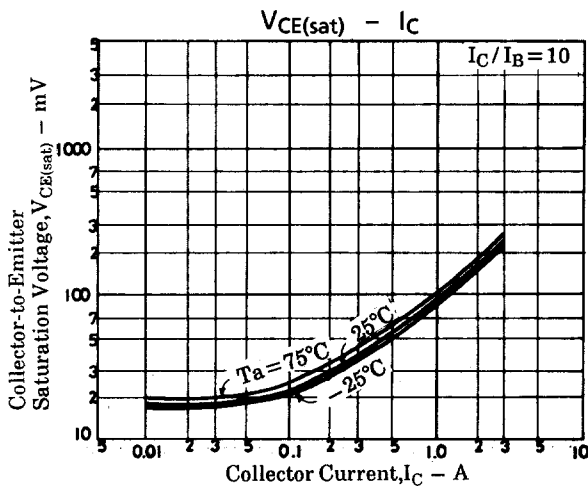
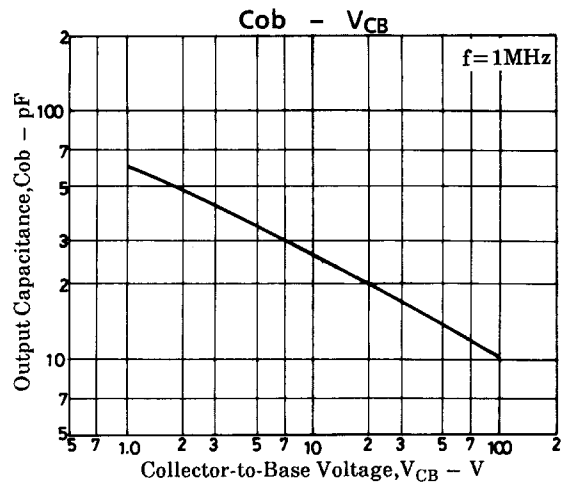
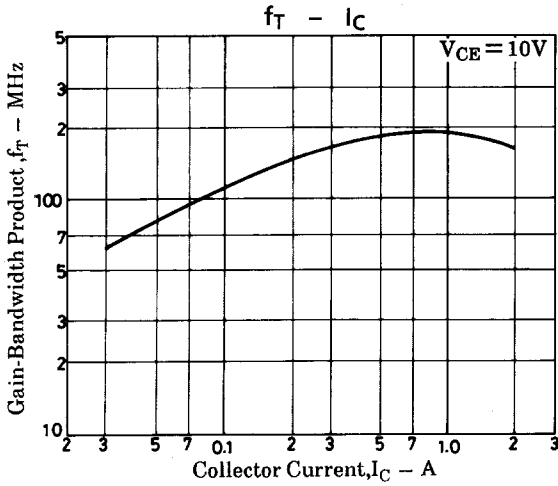
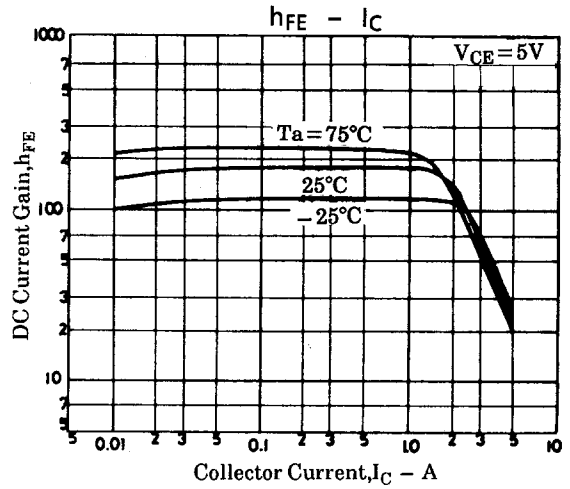
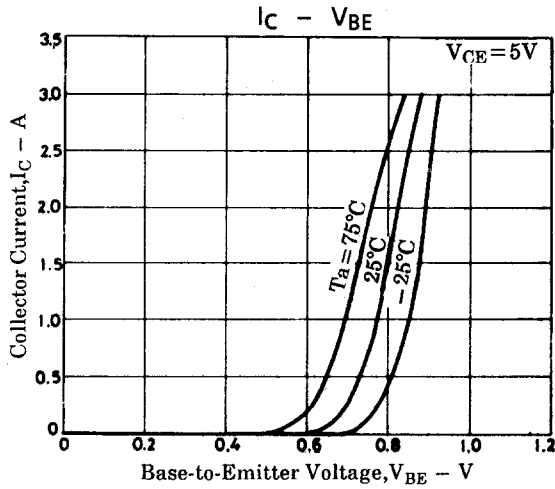
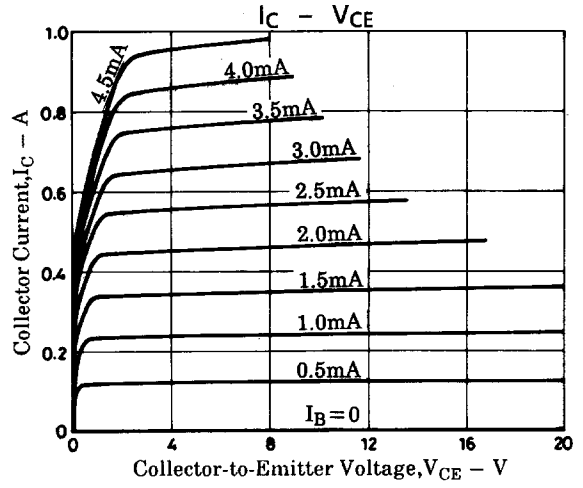
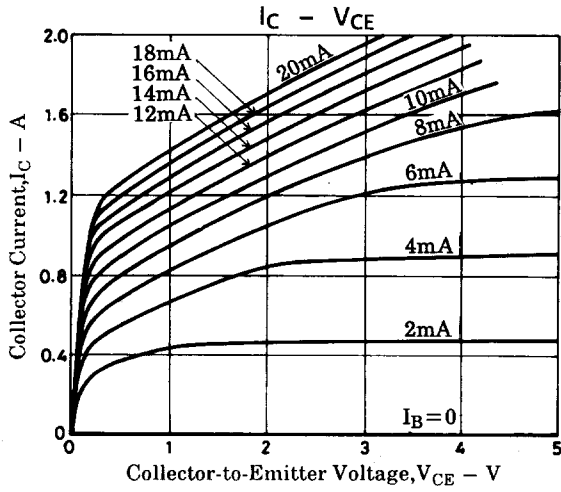
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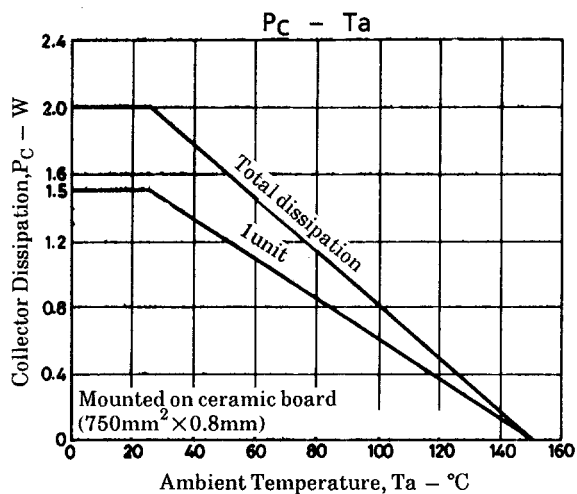
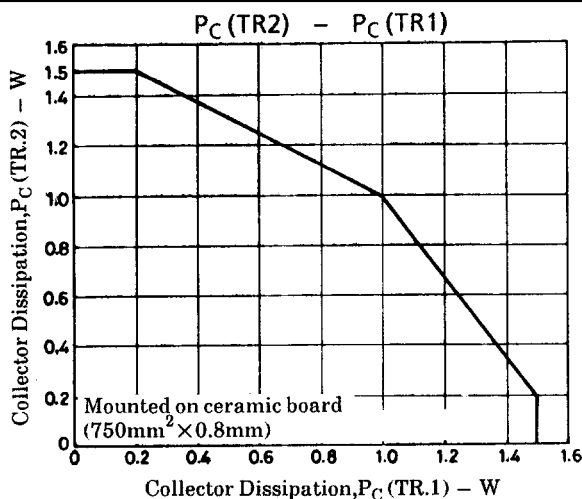
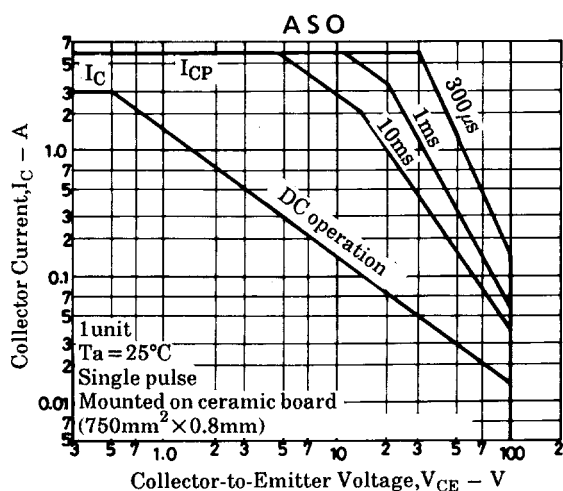
### Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=100\text{V}, I_E=0$			1	$\mu\text{A}$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			1	$\mu\text{A}$
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	$f_T$	$V_{CE}=10\text{V}, I_C=500\text{mA}$		180		MHz
Output Capacitance	Cob	$V_{CB}=10\text{V}, f=1\text{MHz}$		25		pF
C-E Saturation Voltage	$V_{CE}(\text{sat})$	$I_C=1.5\text{A}, I_B=150\text{mA}$		150	400	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 sepcified Test Circuit		100		ns
Storage Time	$t_{stg}$	See sepcified Test Circuit		900		ns
Fall Time	$t_f$	See sepcified Test Circuit		50		ns

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