



FX508

NPN Epitaxial Planar Silicon Transistor

High-Current Switching Applications

Applications

- LCD backlight drive.

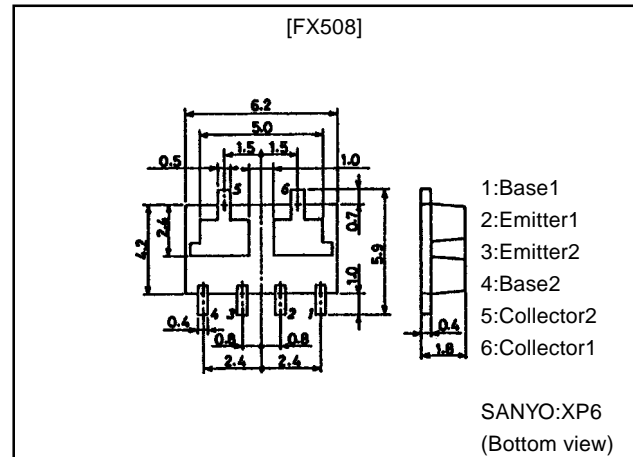
Features

- 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.

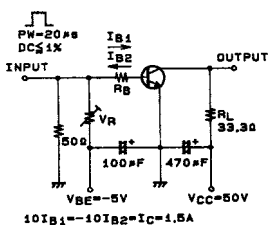
Package Dimensions

unit:mm

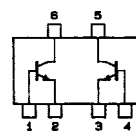
2118



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 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:508

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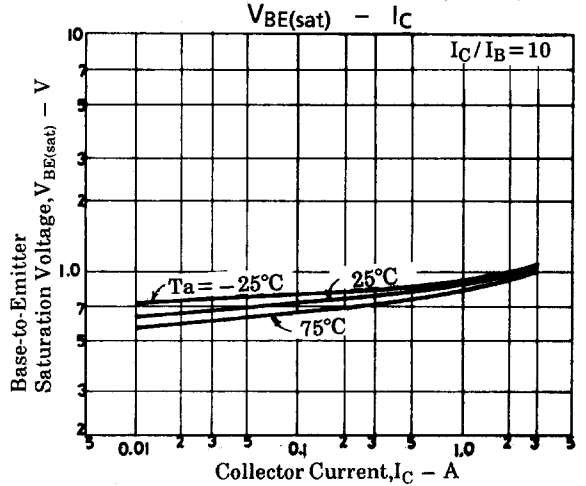
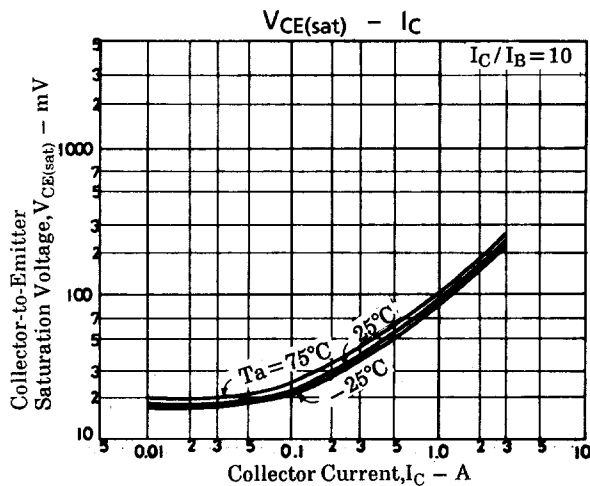
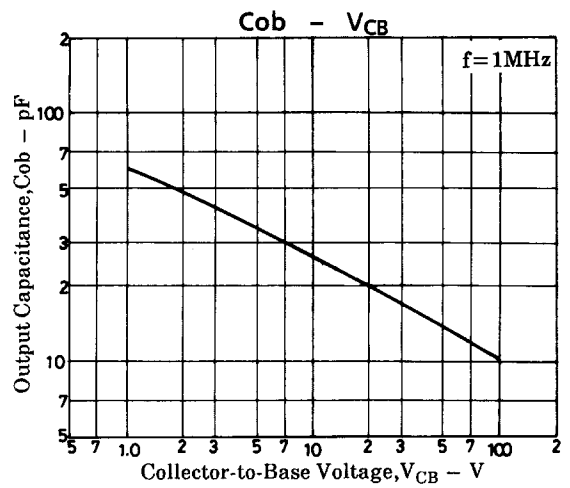
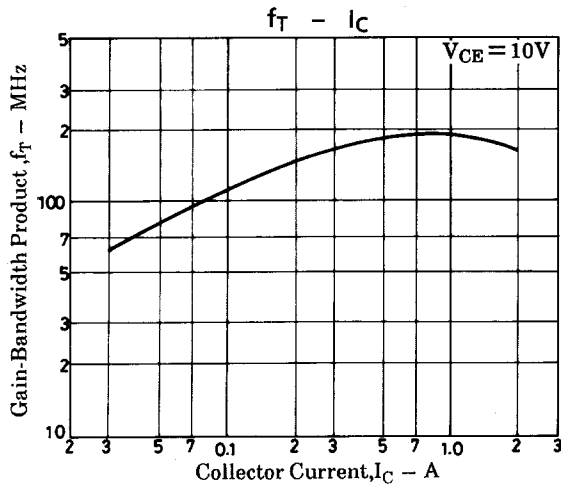
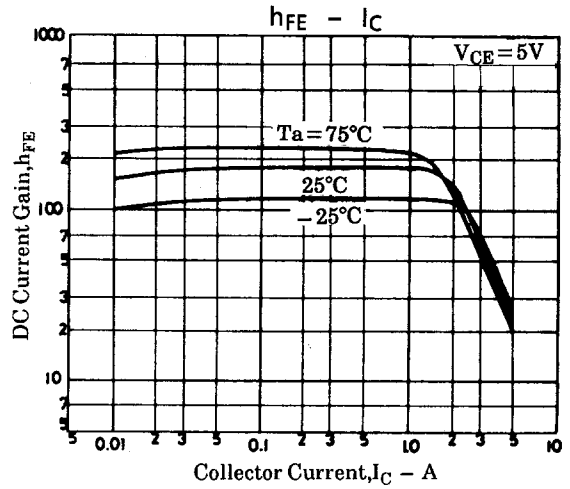
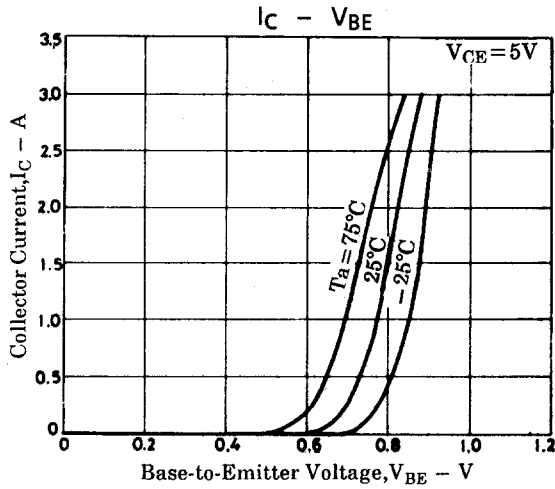
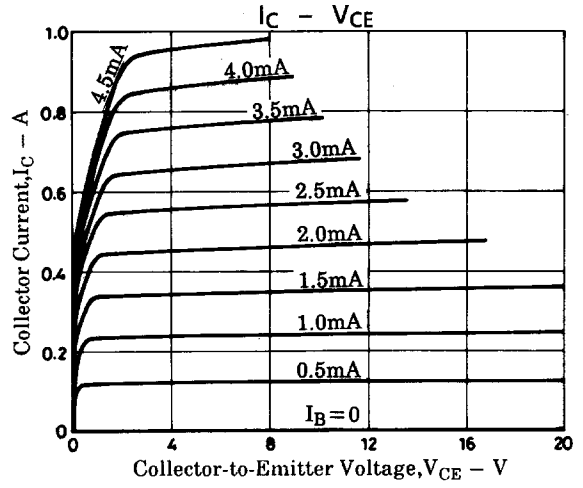
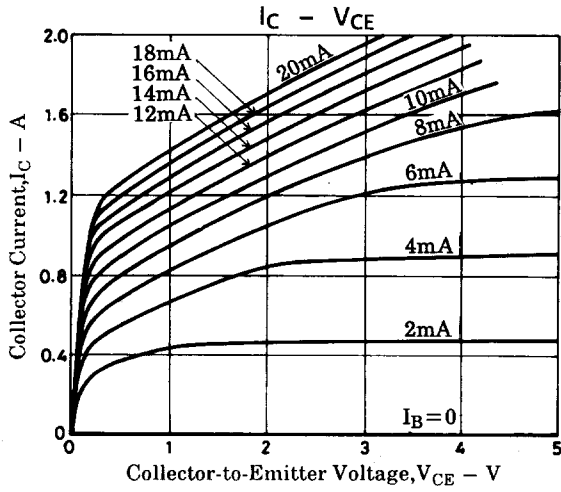
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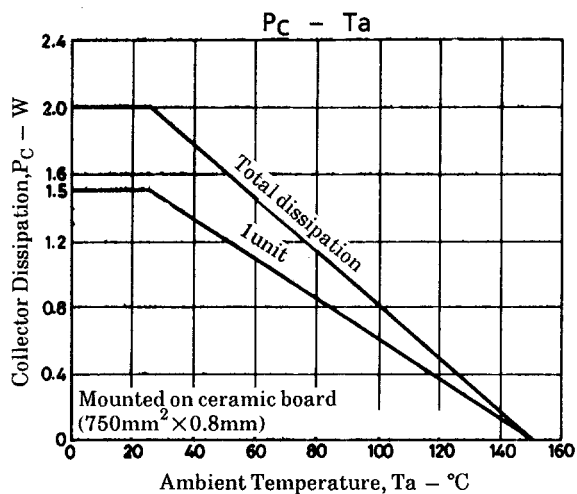
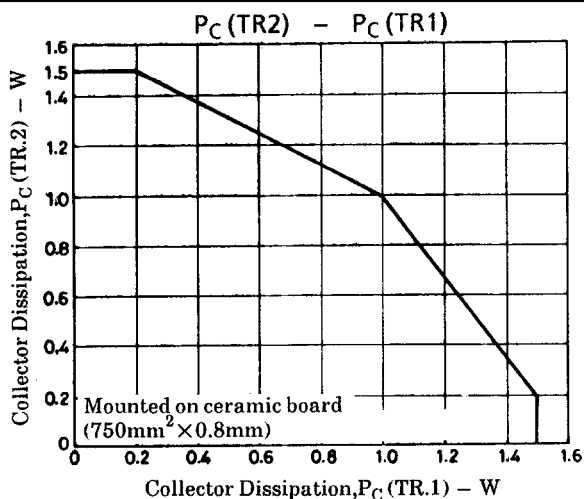
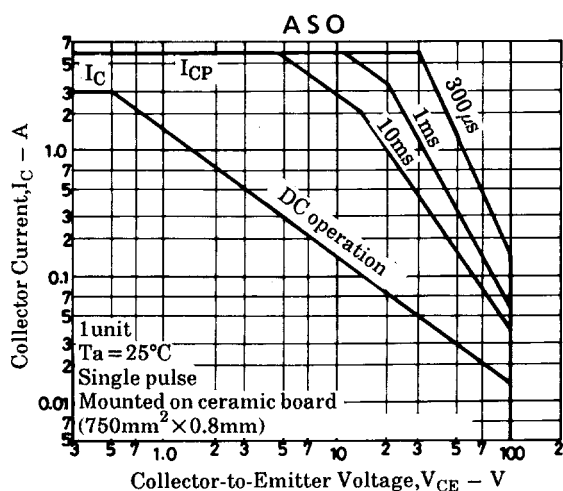
Electrical Characteristics at $T_a = 25^\circ\text{C}$

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|--------------------------|------------------------------|---------------------------------------|---------|-----|-----|---------------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=100\text{V}, I_E=0$ | | | 1 | 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 | $V_{CE}=10\text{V}, I_C=500\text{mA}$ | | 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 |

FX508



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