

**SANYO****FX503**

PNP Epitaxial Planar Silicon Transistor

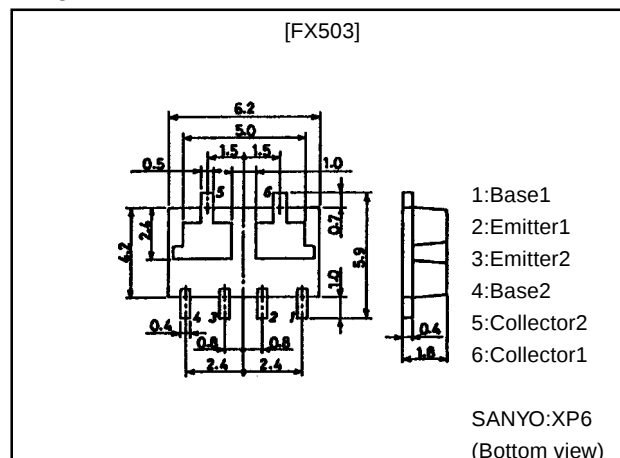
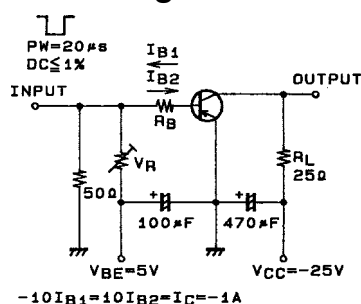
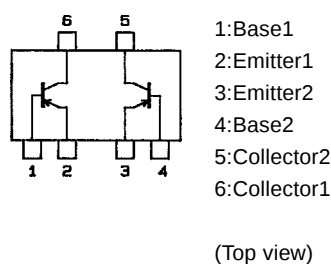
**High-Current Switching Applications****Features**

- Composite type with 2 PNP transistors contained in one package, facilitating high-density mounting.
- The FX503 houses two chips, each being equivalent to the 2SB1202, in one package.
- Matched pair characteristics.

**Package Dimensions**

unit:mm

2118

**Switching Time Test Circuit****Electrical Connection****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            | $I_C$     |                                                             | -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) 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          | $T_{stg}$ |                                                             | -55 to +150 | °C   |

· Marking:503

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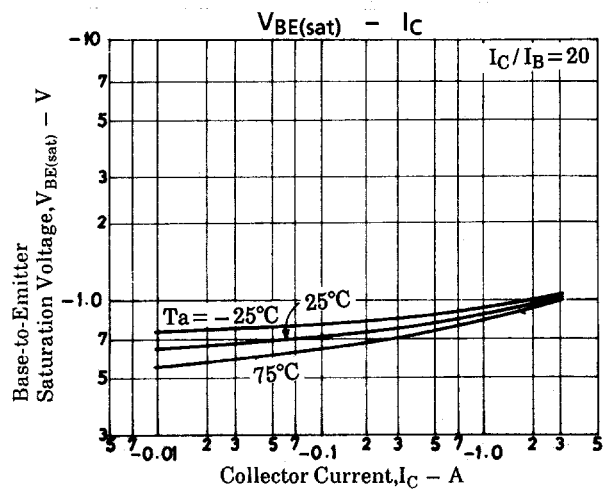
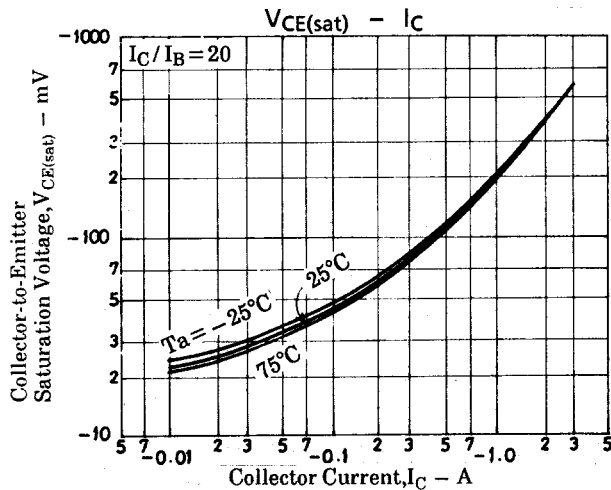
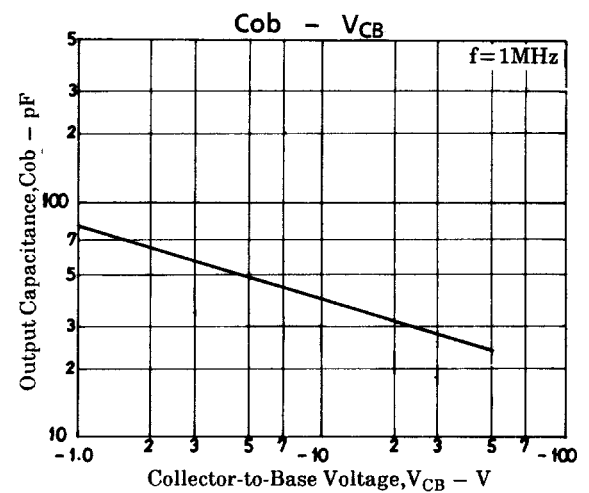
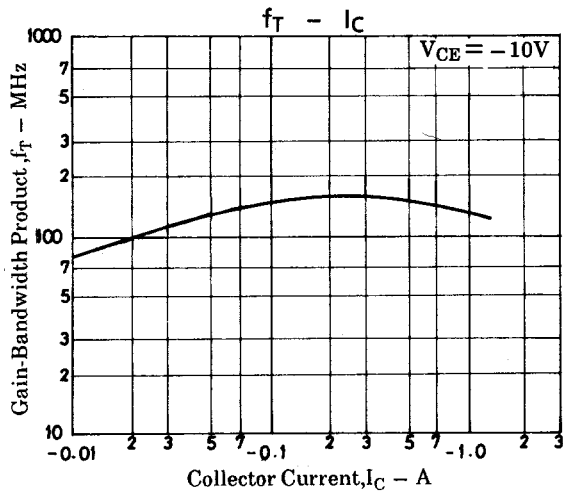
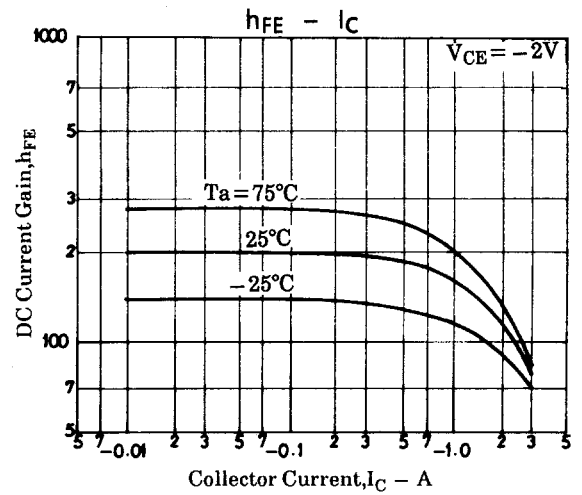
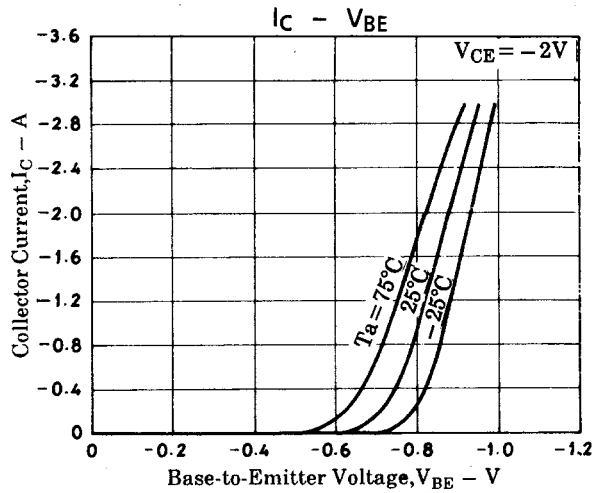
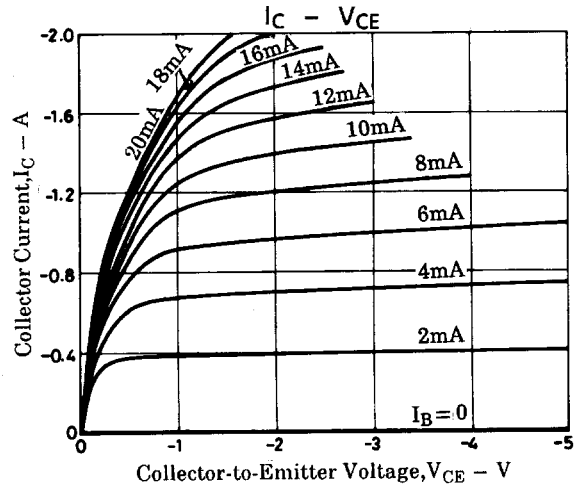
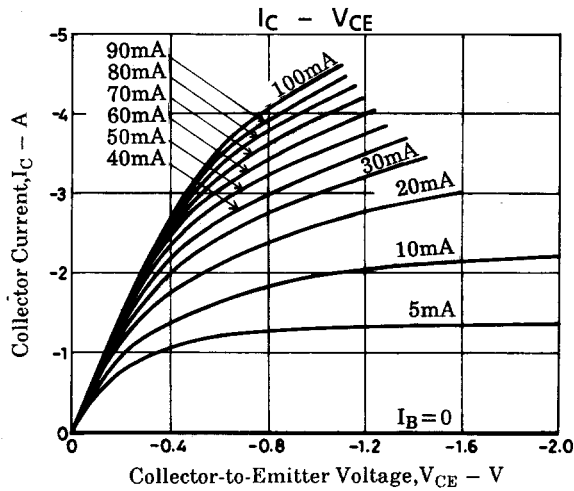
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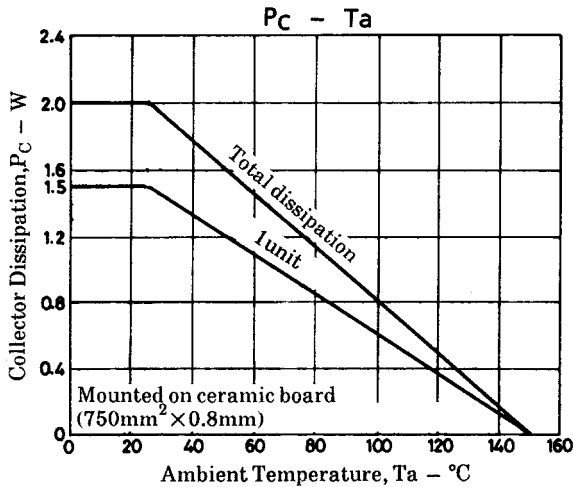
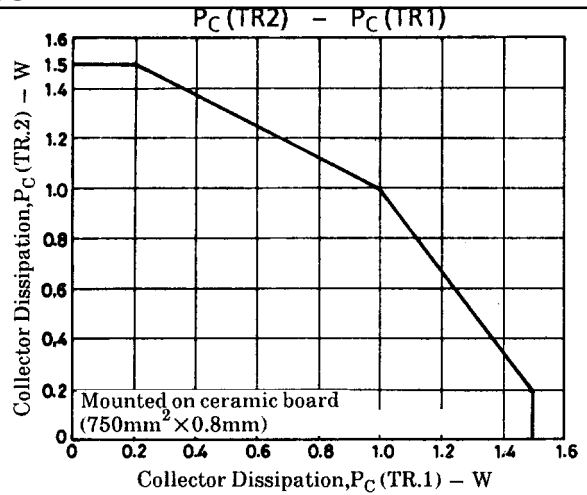
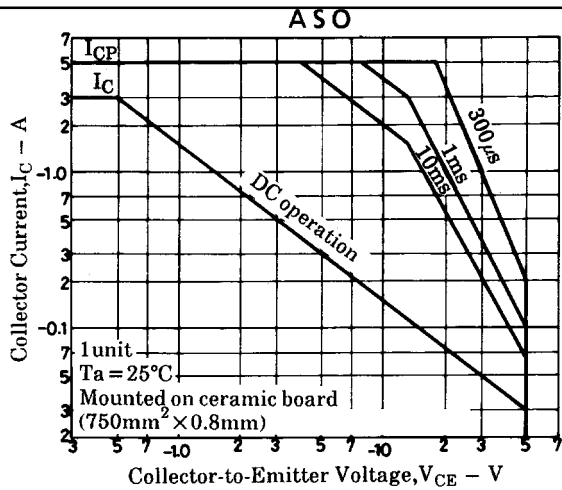
## FX503

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

| Parameter                | Symbol                       | Conditions                              | Ratings |       |      | Unit          |
|--------------------------|------------------------------|-----------------------------------------|---------|-------|------|---------------|
|                          |                              |                                         | min     | typ   | max  |               |
| Collector Cutoff Current | $I_{CBO}$                    | $V_{CB}=-40\text{V}, I_E=0$             |         |       | -1   | $\mu\text{A}$ |
| Emitter Cutoff Current   | $I_{EBO}$                    | $V_{EB}=-4\text{V}, I_C=0$              |         |       | -1   | $\mu\text{A}$ |
| DC Current Gain          | $h_{FE1}$                    | $V_{CE}=-2\text{V}, I_C=-100\text{mA}$  | 140     |       | 400  |               |
|                          | $h_{FE2}$                    | $V_{CE}=-2\text{V}, I_C=-3\text{A}$     | 35      |       |      |               |
| DC Current Gain Ratio    | $h_{FE}(\text{small/large})$ | $V_{CE}=-2\text{V}, I_C=-100\text{mA}$  | 0.8     |       |      |               |
| Gain-Bandwidth Product   | $f_T$                        | $V_{CE}=-10\text{V}, I_C=-100\text{mA}$ |         | 150   |      | MHz           |
| Output Capacitance       | $C_{ob}$                     | $V_{CB}=-10\text{V}, f=1\text{MHz}$     |         | 39    |      | pF            |
| C-E Saturation Voltage   | $V_{CE(\text{sat})}$         | $I_C=-2\text{A}, I_B=-100\text{mA}$     |         | -350  | -700 | mV            |
| B-E Saturation Voltage   | $V_{BE(\text{sat})}$         | $I_C=-2\text{A}, I_B=-100\text{mA}$     |         | -0.94 | -1.2 | V             |
| C-B Breakdown Voltage    | $V_{(BR)CBO}$                | $I_C=-10\mu\text{A}, I_E=0$             | -60     |       |      | V             |
| C-E Breakdown Voltage    | $V_{(BR)CEO}$                | $I_C=-1\text{mA}, R_{BE}=\infty$        | -50     |       |      | 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              |         | 70    |      | ns            |
| Storage Time             | $t_{stg}$                    | See sepcified Test Circuit              |         | 450   |      | ns            |
| Fall Time                | $t_f$                        | See sepcified Test Circuit              |         | 35    |      | ns            |





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