Ordering number:EN4905

# FX507

NPN Epitaxial Planar Silicon Transistor

## High-Current Switching Applications

## Applications

· LCD baklight drive.

## Features

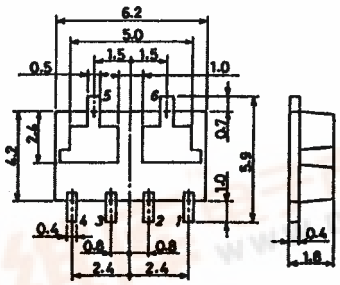
· Composite type with 2PNP transistors contained in one package, facilitating high-density mounting.
· The FX507 houses two chips, each being equivalent to the 2SC3647, in one package.
· Matched pair characteristics.

## Package Dimensions

unit:mm

2118

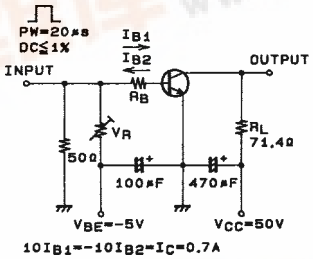
[FX507]



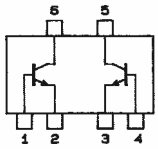

1:Base1
2:Emitter1
3:Emitter2
4:Base2
5:Collector2
6:Collector1

SANYO:XP6
(Bottom view)

## 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 | $I_C$ | | 2 | A |
| Collector Current (Pulse) | $I_{CP}$ | | 3 | A |
| Base Current | $I_B$ | | 400 | mA |
| Collector Dissipation | $P_C$ | Mounted on ceramic board (750mm²×0.8mm) 1unit | 1.5 | W |
| Total Dissipation | $P_T$ | Mounted on ceramic board (750mm²×0.8mm) | 2 | W |
| Junction Temperature | Tj | | 150 | ˚C |
| Storage Temperature | Tstg | | –55 to +150 | ˚C |

· Marking:507

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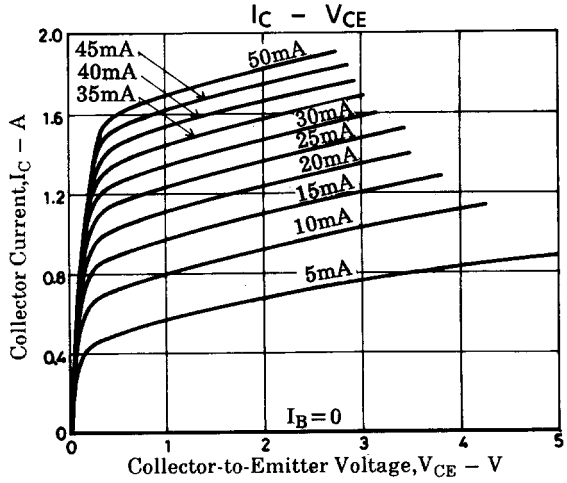
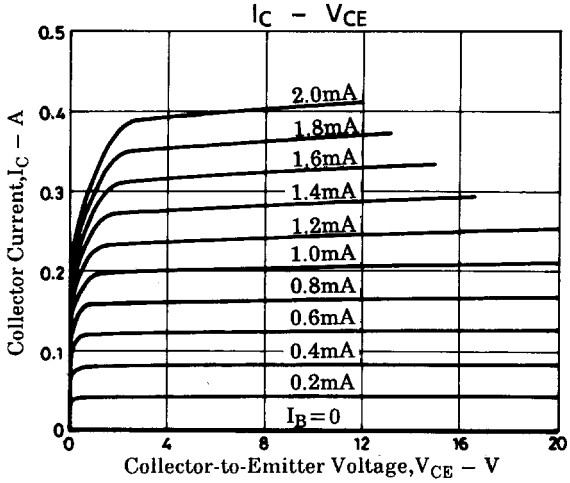
**Electrical Characteristics at Ta = 25˚C**

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=100V, $I_E$=0 | | | 100 | nA |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$=4V, $I_C$=0 | | | 100 | nA |
| DC Current Gain | $h_{FE}$ | $V_{CE}$=5V, $I_C$=100mA | 140 | | 400 | |
| DC Current Gain Ratio | $h_{FE(small/large)}$ | $V_{CE}$=5V, $I_C$=100mA | 0.8 | | | |
| Gain-Bandwidth Product | $f_T$ | $V_{CE}$=10V, $I_C$=100mA | | 120 | | MHz |
| Output Capacitance | Cob | $V_{CB}$=10V, f=1MHz | | 16 | | pF |
| C-E Saturation Voltage | $V_{CE(sat)}$ | $I_C$=1A, $I_B$=100mA | | 130 | 400 | mV |
| B-E Saturation Voltage | $V_{BE(sat)}$ | $I_C$=1A, $I_B$=100mA | | 0.85 | 1.2 | V |
| C-B Breakdown Voltage | $V_{(BR)CBO}$ | $I_C$=10μA, $I_E$=0 | 120 | | | V |
| C-E Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$=1mA, $R_{BE}$=∞ | 100 | | | V |
| E-B Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$=10μA, $I_C$=0 | 6 | | | V |
| Turn-ON Time | $t_{on}$ | See sepcified Test Circuit | | 80 | | ns |
| Storage Time | $t_{stg}$ | See sepcified Test Circuit | | 1000 | | ns |
| Fall Time | $t_f$ | See sepcified Test Circuit | | 50 | | ns |

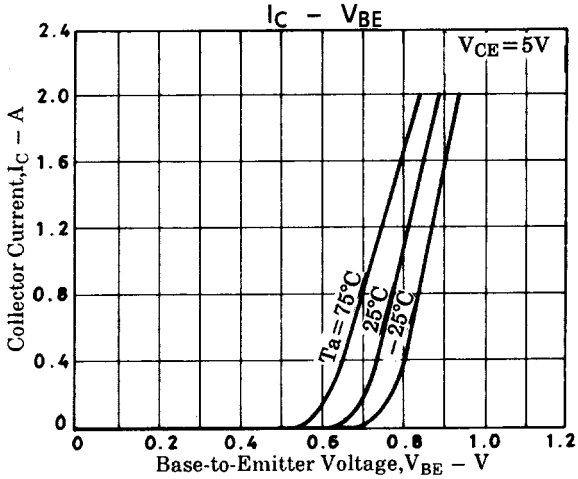
$I_C$ – $V_{CE}$



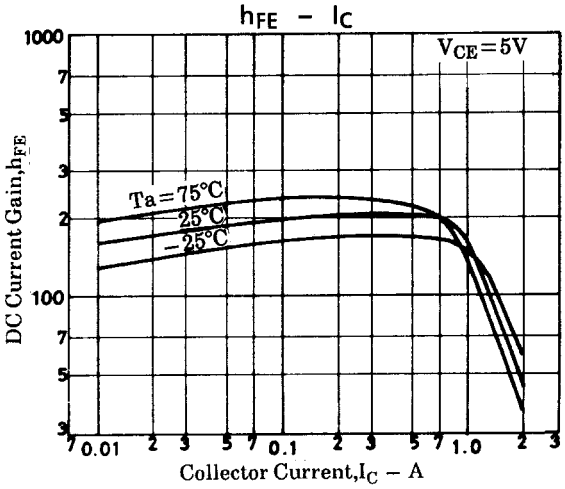

$I_C$ – $V_{CE}$



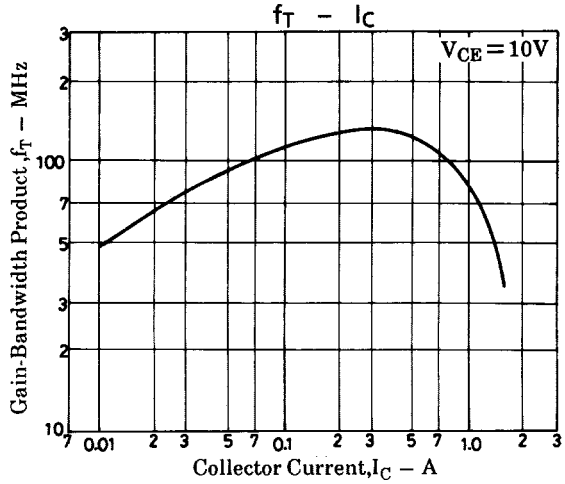

$I_C$ – $V_{BE}$



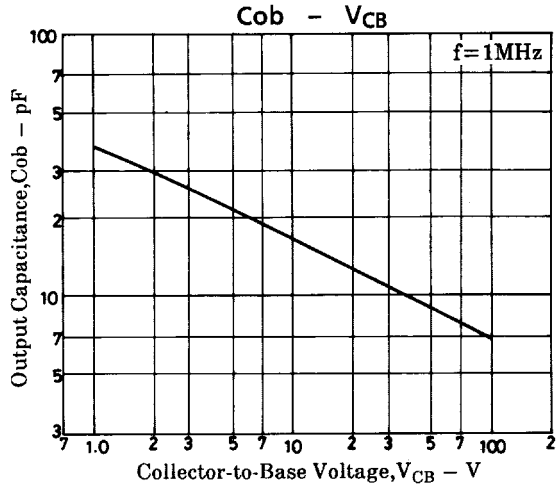

$h_{FE}$ – $I_C$



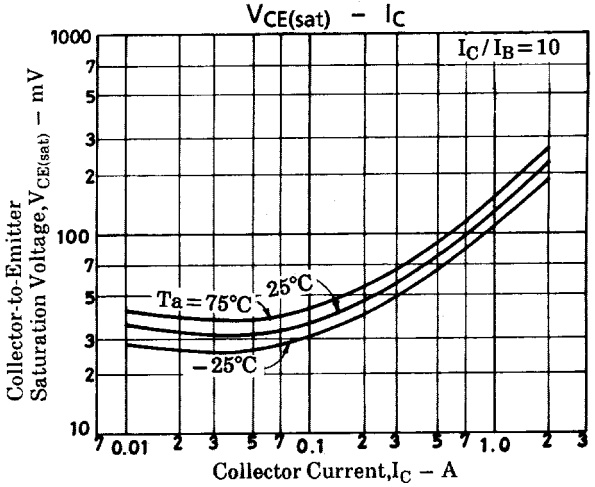

$f_T$ – $I_C$



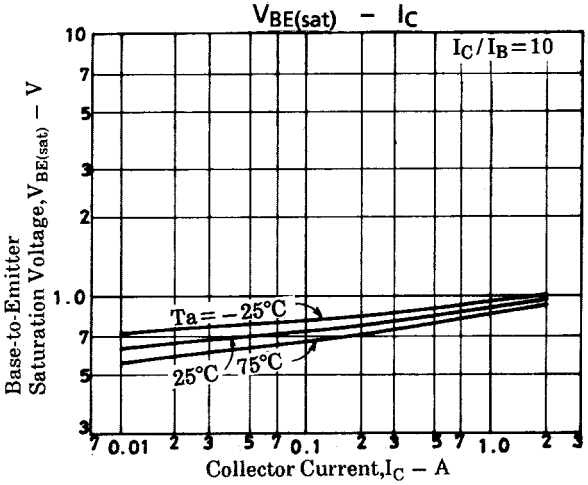

Cob – $V_{CB}$



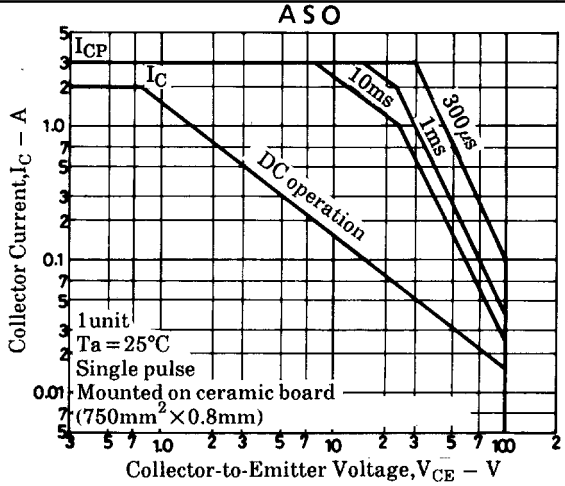

$V_{CE(sat)}$ – $I_C$



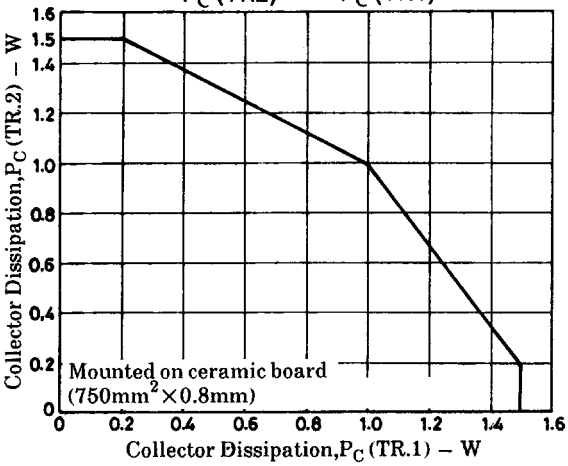

$V_{BE(sat)}$ – $I_C$



ASO




PC (TR2) – PC (TR1)




PC – Ta