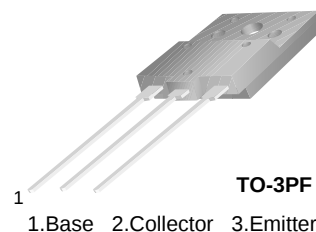


# FJAF4210

## PNP Epitaxial Silicon Transistor

### Features

- Audio Power Amplifier
- High Current Capability :  $I_C = -10A$
- High Power Dissipation
- Wide S.O.A
- Complement to FJAF4310



### Absolute Maximum Ratings\* $T_A = 25^\circ C$ unless otherwise noted

| Symbol          | Parameter                                    | Value      | Units        |
|-----------------|----------------------------------------------|------------|--------------|
| $V_{CBO}$       | Collector-Base Voltage                       | -200       | V            |
| $V_{CEO}$       | Collector-Emitter Voltage                    | -140       | V            |
| $V_{EBO}$       | Emitter-Base Voltage                         | -6         | V            |
| $I_C$           | Collector Current (DC)                       | -10        | A            |
| $I_B$           | Base Current (DC)                            | -1.5       | A            |
| $P_C$           | Collector Dissipation ( $T_C = 25^\circ C$ ) | 80         | W            |
| $R_{\theta JC}$ | Junction to Case                             | 1.33       | $^\circ C/W$ |
| $T_J$           | Junction Temperature                         | 150        | $^\circ C$   |
| $T_{STG}$       | Storage Temperature                          | - 55 ~ 150 | $^\circ C$   |

### Electrical Characteristics $T_A = 25^\circ C$ unless otherwise noted

| Symbol        | Parameter                            | Test Condition                 | Min. | Typ. | Max. | Units   |
|---------------|--------------------------------------|--------------------------------|------|------|------|---------|
| $BV_{CBO}$    | Collector-Base Breakdown Voltage     | $I_C = -5mA, I_E = 0$          | -200 |      |      | V       |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = -50mA, R_{BE} = \infty$ | -140 |      |      | V       |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage       | $I_E = -5mA, I_C = 0$          | -6   |      |      | V       |
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CB} = -200V, I_E = 0$      |      |      | -10  | $\mu A$ |
| $I_{EBO}$     | Emitter Cut-off Current              | $V_{EB} = -6V, I_C = 0$        |      |      | -10  | $\mu A$ |
| $h_{FE}$      | * DC Current Gain                    | $V_{CE} = -4V, I_C = -3A$      | 50   |      | 180  |         |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -5A, I_B = -0.5A$       |      |      | -0.5 | V       |
| $C_{ob}$      | Output Capacitance                   | $V_{CB} = -10V, f = 1MHz$      |      | 400  |      | pF      |
| $f_T$         | Current Gain Bandwidth Product       | $V_{CE} = -5V, I_C = -1A$      |      | 30   |      | MHz     |

\* Pulse Test :  $PW = 20\mu s$

### $h_{FE}$ Classification

| Classification | R        | O        | Y        |
|----------------|----------|----------|----------|
| $h_{FE}$       | 50 ~ 100 | 70 ~ 140 | 90 ~ 180 |

## Typical Performance Characteristics

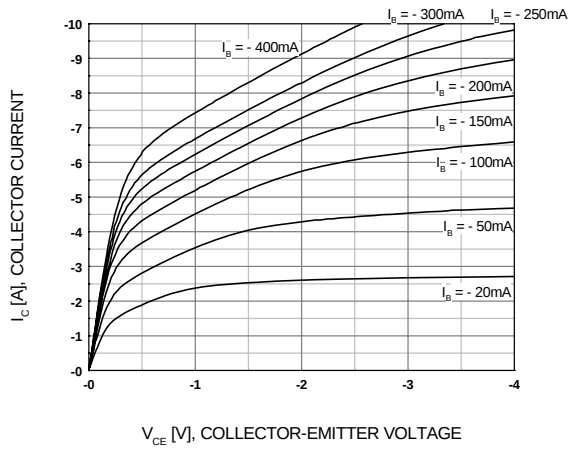


Figure 1. Static Characteristic

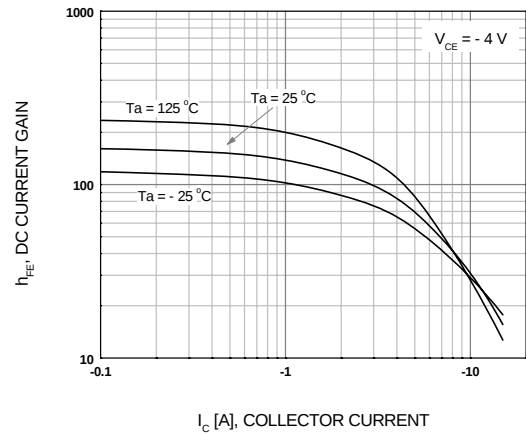


Figure 2. DC current Gain

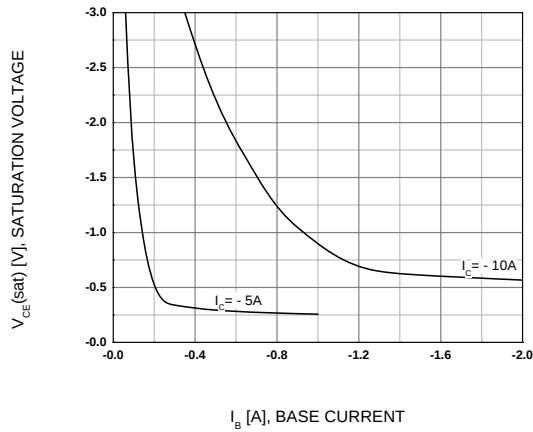


Figure 3.  $V_{CE(sat)}$  vs.  $I_b$  Characteristics

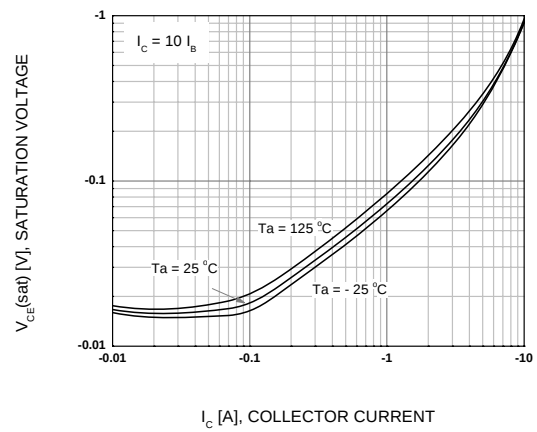


Figure 4. Collector-Emitter Saturation Voltage

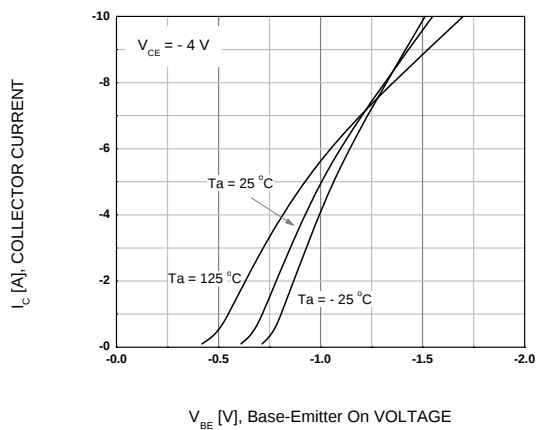


Figure 5. Base-Emitter On Voltage

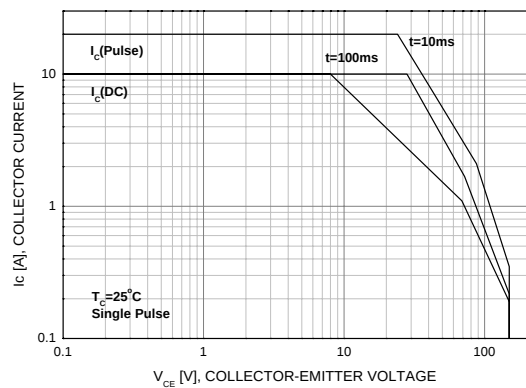


Figure 6. Forward Bias Safe Operating Area

## Typical Performance Characteristics

(Continued)

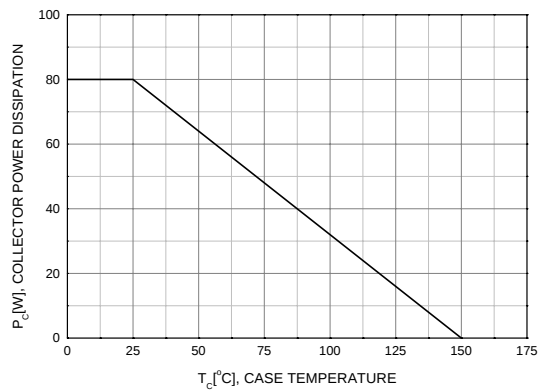
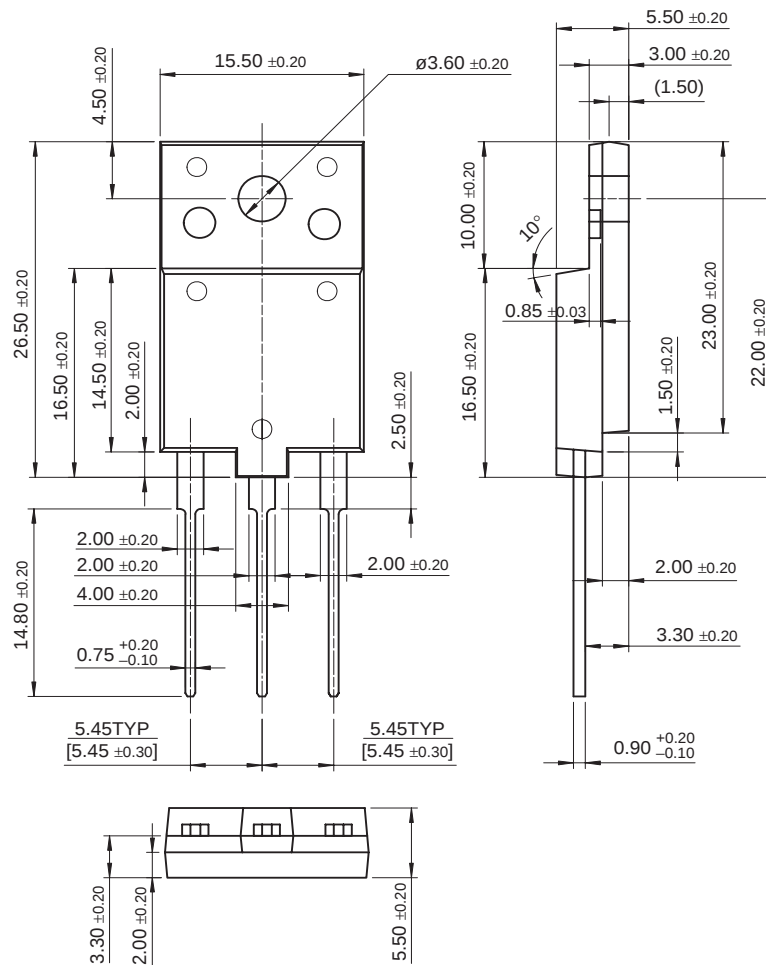


Figure 7. Power Derating

# Physical Dimension

## TO-3PF



Dimensions in Millimeters



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| Build it Now™                                                                     | FRFET®                                                                            | Programmable Active Droop™                                                        | TinyBoost™                                                                          |
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| CorePOWER™                                                                        | Green FPS™                                                                        | QS™                                                                               | TinyCalc™                                                                           |
| CROSSVOLT™                                                                        | Green FPS™ e-Series™                                                              | Quiet Series™                                                                     | TinyLogic®                                                                          |
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