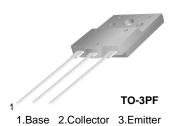


October 2009

# FJAF4310 NPN Epitaxial Silicon Transistor

## **Features**

- Audio Power Amplifier
- High Current Capability : I<sub>C</sub>=10A
- · High Power Dissipation
- Wide S.O.A
- Complement to FJAF4210



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

Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	200	V
V <sub>CEO</sub>	Collector-Emitter Voltage	140	V
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
I <sub>C</sub>	Collector Current (DC)	10	А
I <sub>B</sub>	Base Current (DC)	1.5	А
P <sub>C</sub>	Collector Dissipation (T <sub>C</sub> =25°C)	80	W
$R_{\theta JC}$	Junction to Case	1.48	°C/W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	- 55 ~ 150	°C

## **Electrical Characteristics** T<sub>A</sub>=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
BV <sub>CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> =5mA, I <sub>E</sub> =0	200			V
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> =50mA, R <sub>BE</sub> =∞	140			V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> =5mA, I <sub>C</sub> =0	6			V
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CB</sub> =200V, I <sub>E</sub> =0			10	μА
I <sub>EBO</sub>	Emitter Cut-off Current	V <sub>EB</sub> =6V, I <sub>C</sub> =0			10	μА
h <sub>FE</sub>	* DC Current Gain	V <sub>CE</sub> =4V, I <sub>C</sub> =3A	50		180	
V <sub>CE</sub> (sat)	Collector-Emitter Saturation Voltage	I <sub>C</sub> =5A, I <sub>B</sub> =0.5A			0.5	V
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> =10V, f=1MHz		250		pF
f <sub>T</sub>	Current Gain Bandwidth Product	V <sub>CE</sub> =5V, I <sub>C</sub> =1A		30		MHz

<sup>\*</sup> Pulse Test : PW=20µs

## **h**<sub>FE</sub> Classification

Classification	R	0	Υ	
h <sub>FE</sub>	50 ~ 100	70 ~ 140	90 ~ 180	

## **Typical Perpormance Characteristics**

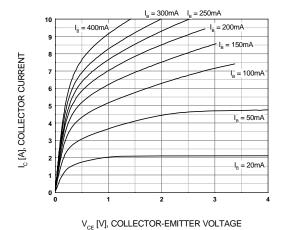


Figure 1. Static Characterstic

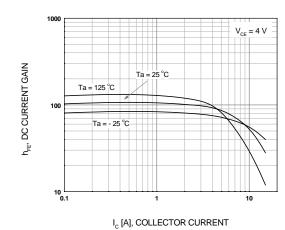


Figure 2. DC current Gain

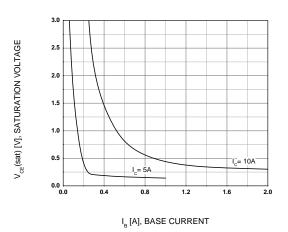


Figure 3. V<sub>CE</sub>(sat) vs. I<sub>B</sub> Characteristics

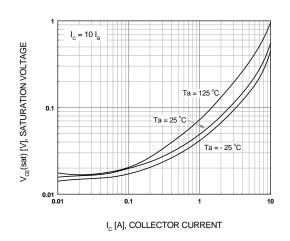


Figure 4. Collector-Emitter Saturation Voltage

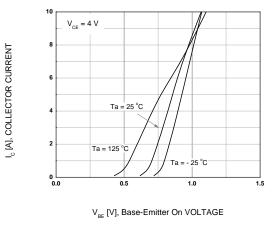


Figure 5. Base-Emitter On Voltage

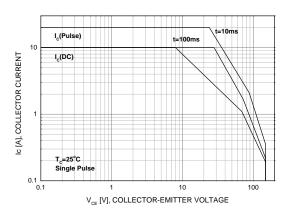


Figure 6. Forward Bias Safe Operating Area

# **Typical Perpormance Characteristics**

(Continued)

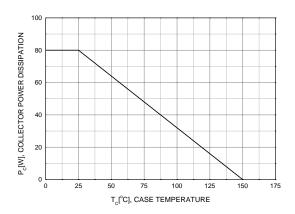
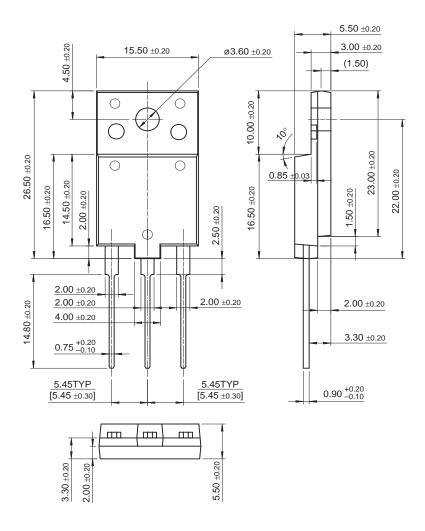


Figure 7. Power Derating

## **Physical Dimension**

# TO-3PF



Dimensions in Millimeters





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Definition of Terms				
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