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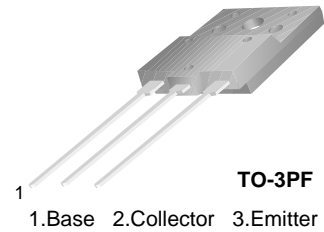


October 2009

FJAF4310 NPN Epitaxial Silicon Transistor

Features

- Audio Power Amplifier
- High Current Capability : $I_C=10A$
- High Power Dissipation
- Wide S.O.A
- Complement to FJAF4210



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	1.48	$^\circ C/W$
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	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=6V, I_C=0$			10	μA
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	$V_{CB}=10V, f=1MHz$		250		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

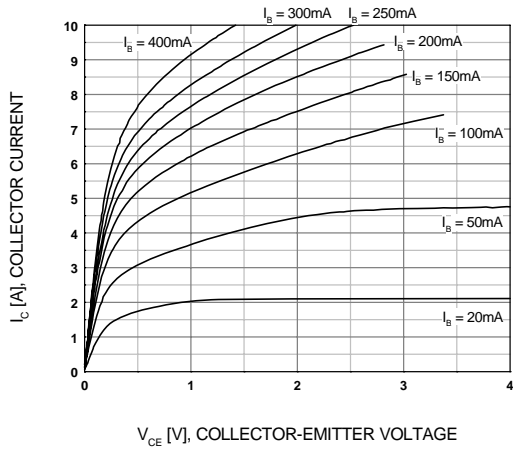


Figure 1. Static Characteristic

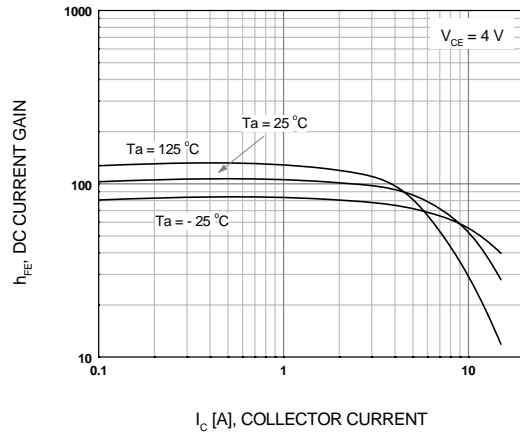


Figure 2. DC current Gain

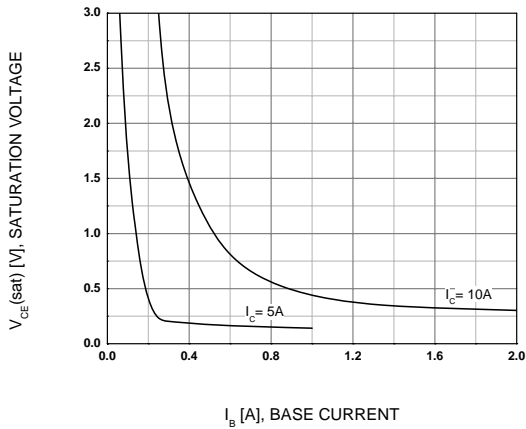


Figure 3. $V_{CE(sat)}$ vs. I_B Characteristics

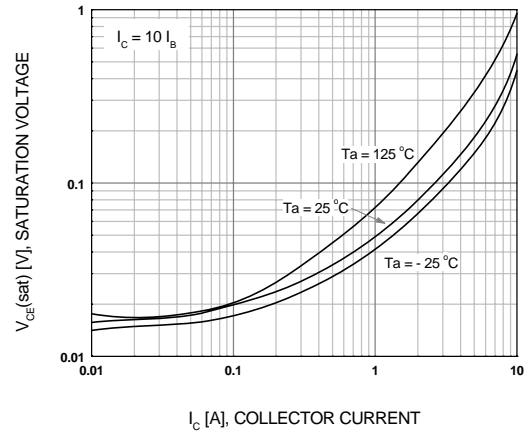


Figure 4. Collector-Emitter Saturation Voltage

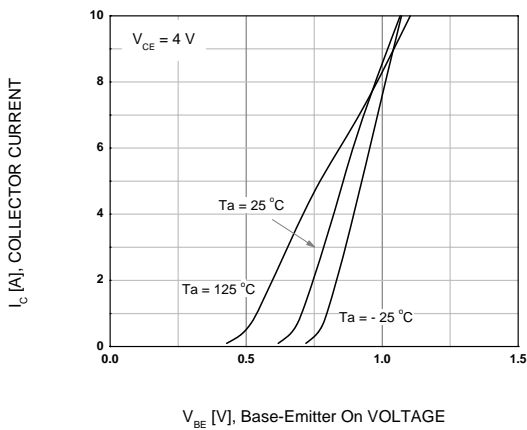


Figure 5. Base-Emitter On Voltage

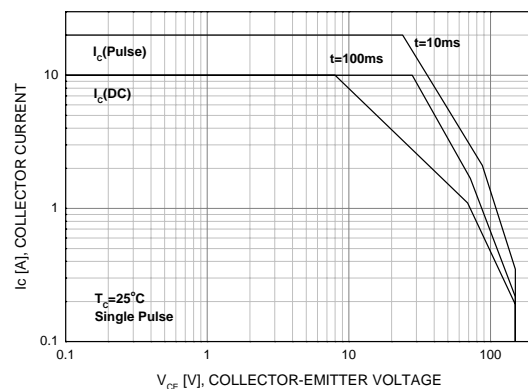


Figure 6. Forward Bias Safe Operating Area

Typical Performance Characteristics

(Continued)

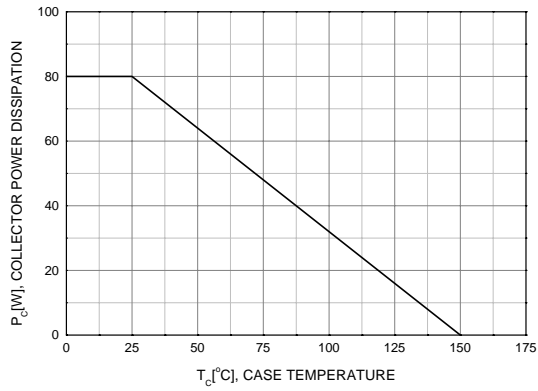
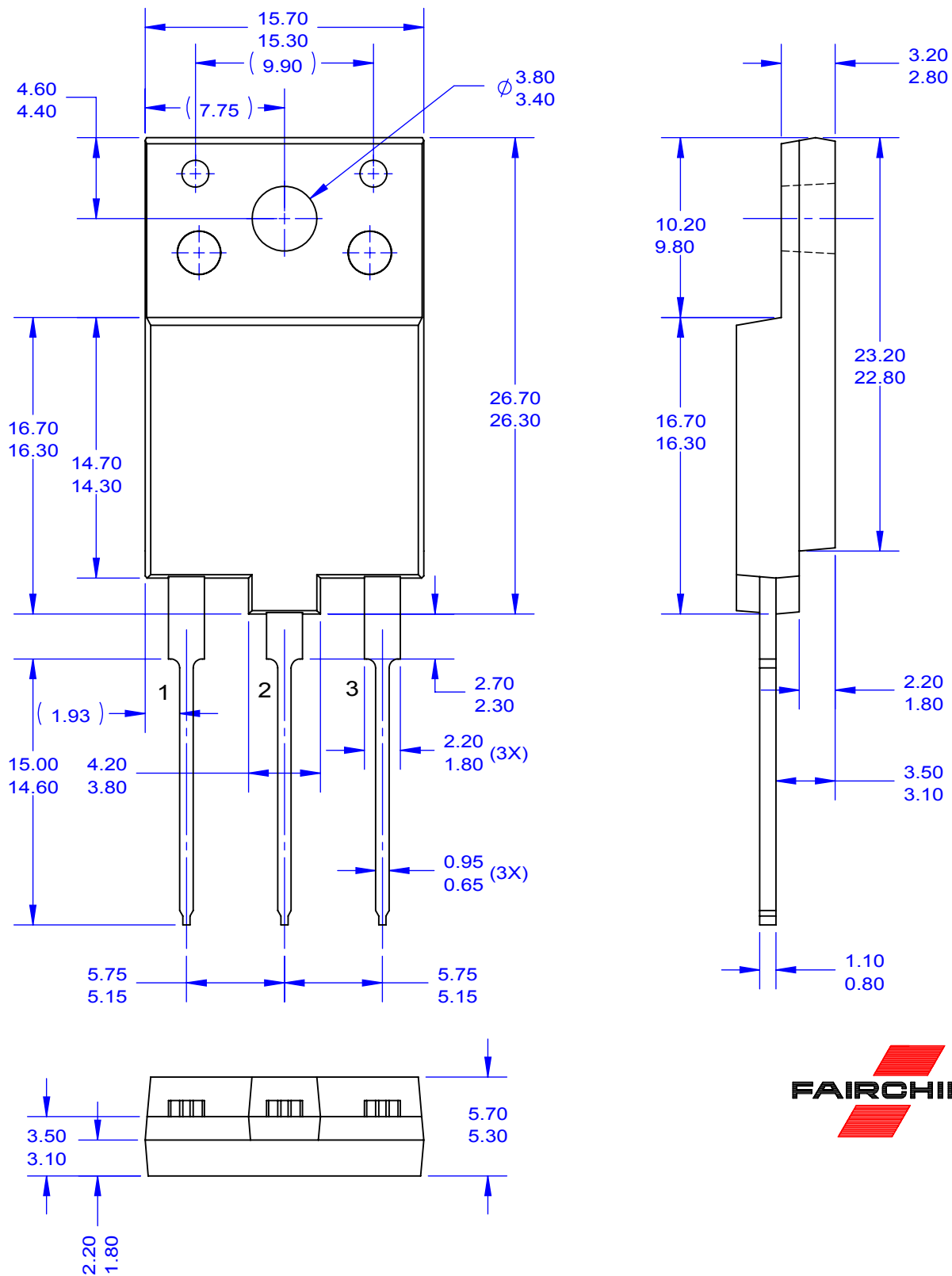


Figure 7. Power Derating



NOTES:

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- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
- D. PIN 2 CONNECTS TO DAP.
- E. DRAWING FILE NAME: TO3PFA03REV2

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