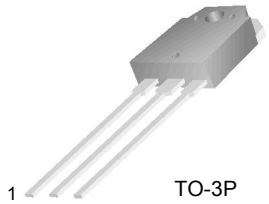
FAIRCHILD SEMICONDUCTOR®

October 2008

FJA4310

NPN Epitaxial Silicon Transistor

- Audio Power Amplifier
- High Current Capability : I_C=10A
- High Power Dissipation
- Wide S.O.A
- Complement to FJA4210



1 TO-3P

1.Base 2.Collector 3.Emitter

Absolute Maximum Ratings* T_a = 25°C unless otherwise noted

Symbol	Parameter	Ratings	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°C)	100	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Electrical Characteristics* T_a=25°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}=∞	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: Pulse Width≤300μs, Duty Cycle≤2%

h_{FE} Classification

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

Typical Characteristics

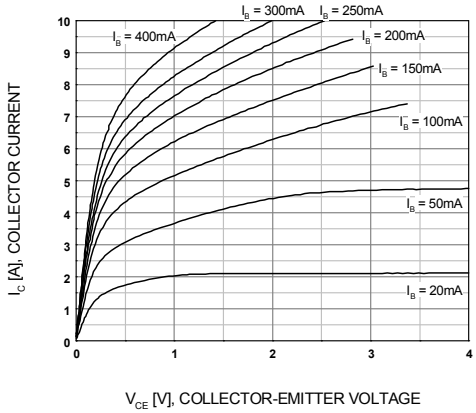


Figure 1. Static Characterstic

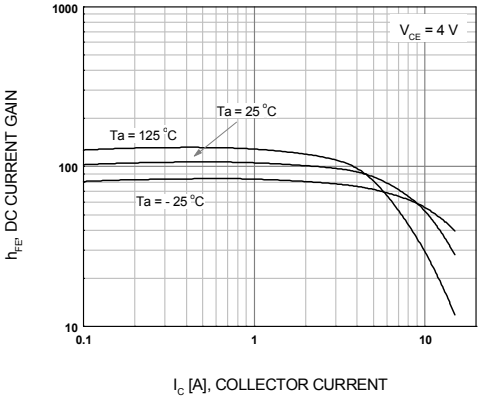


Figure 2. DC current Gain

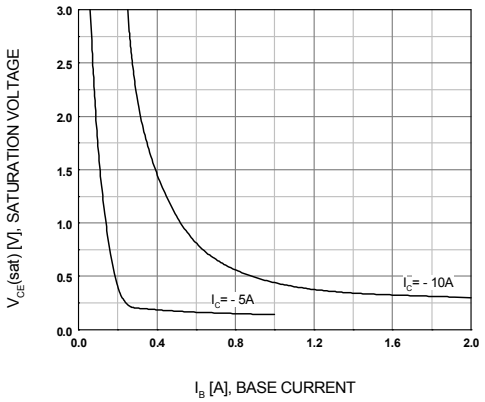


Figure 3. V_{CE}(sat) vs. I_B Characteristics

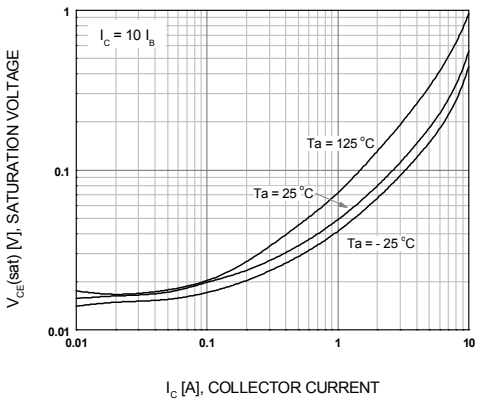


Figure 4. Collector-Emitter Saturation Voltage

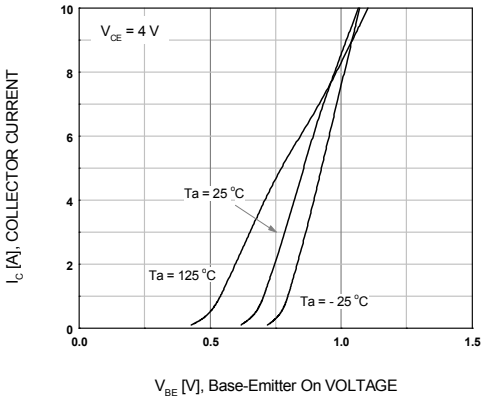


Figure 5. Base-Emitter On Voltage

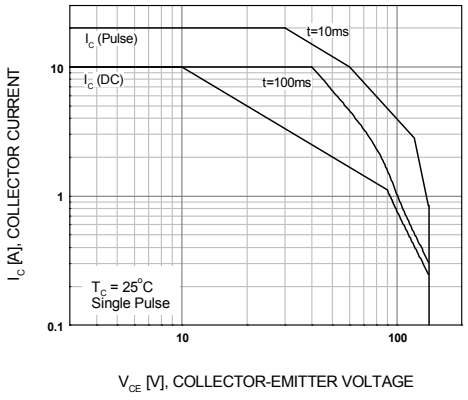


Figure 6. Forward Bias Safe Operating Area

Typical Characteristics (Continued)

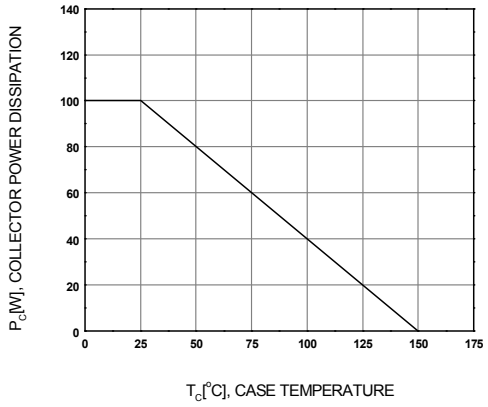
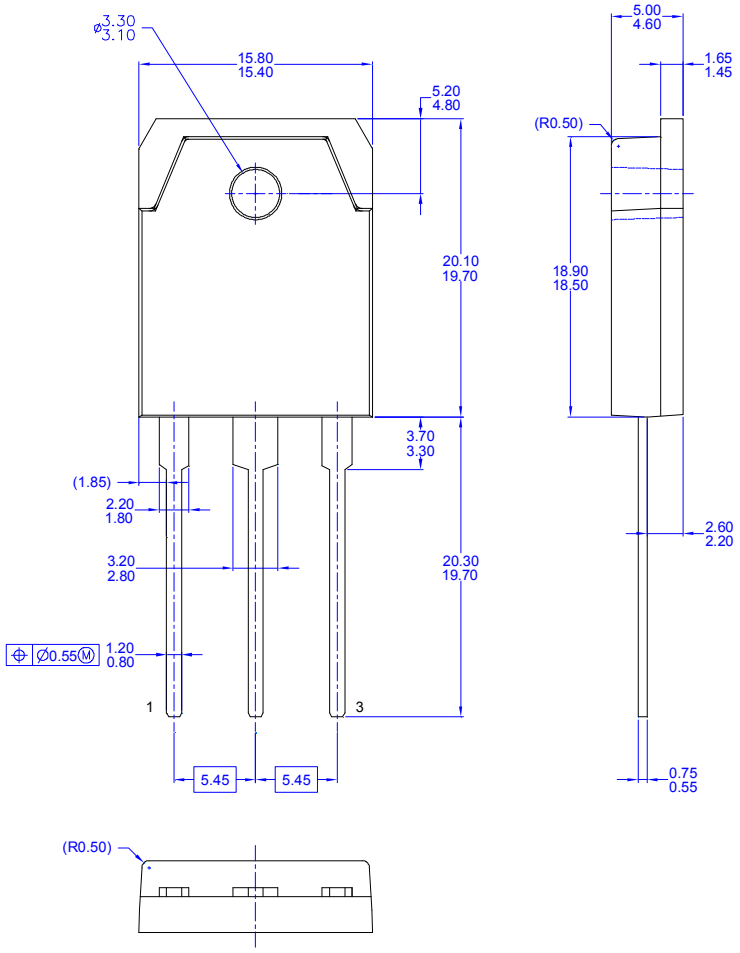


Figure 7. Power Derating

Package Dimension (TO-3P)



NOTES:
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B) ALL DIMENSIONS ARE IN MILLIMETERS.
C) DIMENSIONING AND TOLERANCING PER ASME14.5 1973.
D) DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.
E) DRAWING FILE NAME: TO3P03AREV2.

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