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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

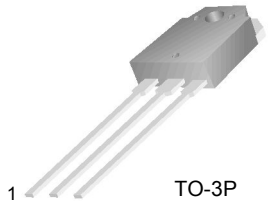
FAIRCHILD SEMICONDUCTOR®

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

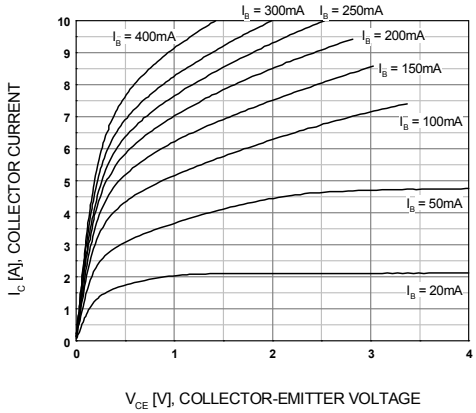


Figure 1. Static Characterstic

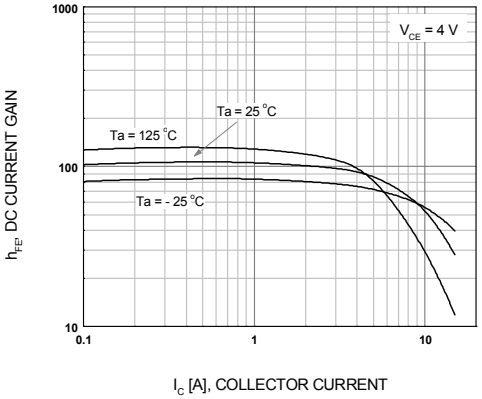


Figure 2. DC current Gain

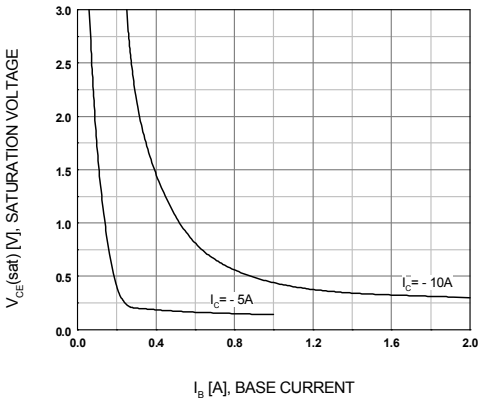


Figure 3. V_{CE}(sat) vs. I_B Characteristics

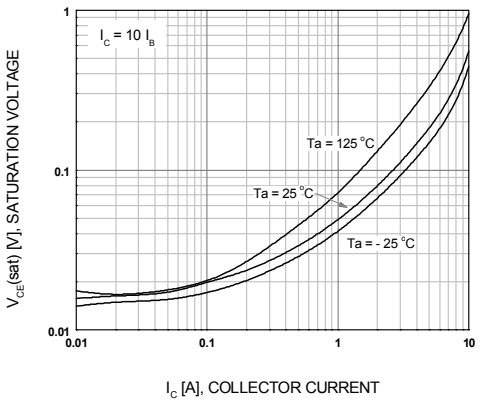


Figure 4. Collector-Emitter Saturation Voltage

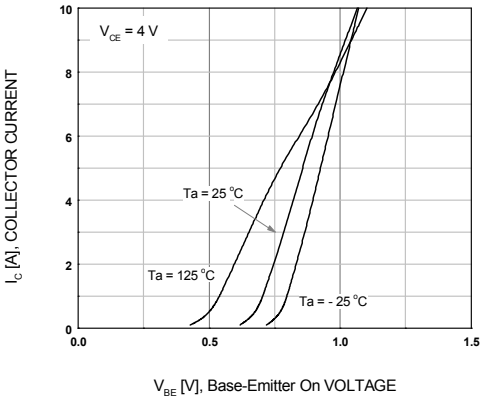


Figure 5. Base-Emitter On Voltage

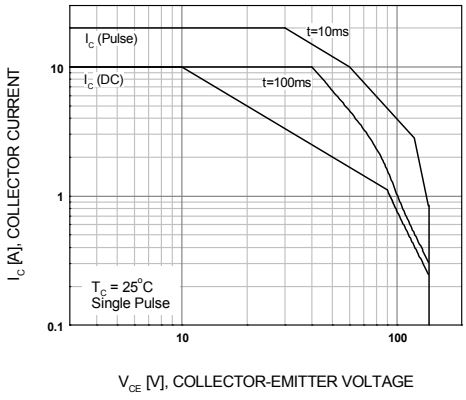


Figure 6. Forward Bias Safe Operating Area

Typical Characteristics (Continued)

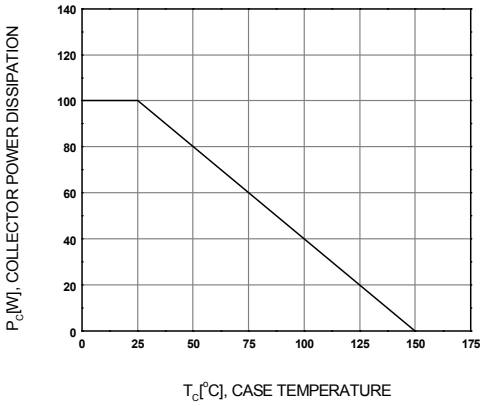
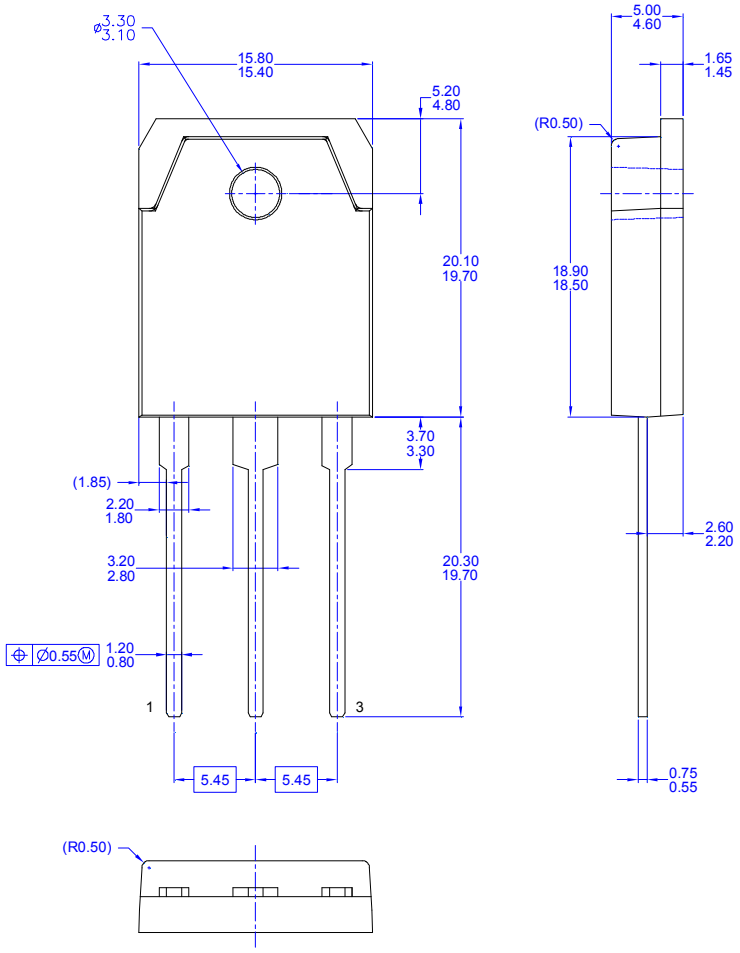


Figure 7. Power Derating

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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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

Rev. I31

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