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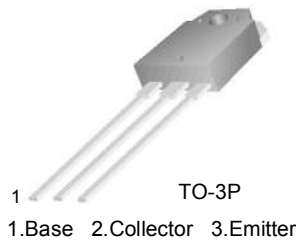
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# FJA4310

## NPN Epitaxial Silicon Transistor

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



### Absolute Maximum Ratings\* $T_a = 25^\circ C$ 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 ( $T_C=25^\circ C$ )	100	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ C$

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

### 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	$V_{CB}=10V, f=1MHz$		250		pF
$f_T$	Current Gain Bandwidth Product	$V_{CE}=5V, I_C=1A$		30		MHz

\* Pulse Test: Pulse Width $\leq 300\mu s$ , Duty Cycle $\leq 2\%$

### $h_{FE}$ Classification

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

## Typical Characteristics

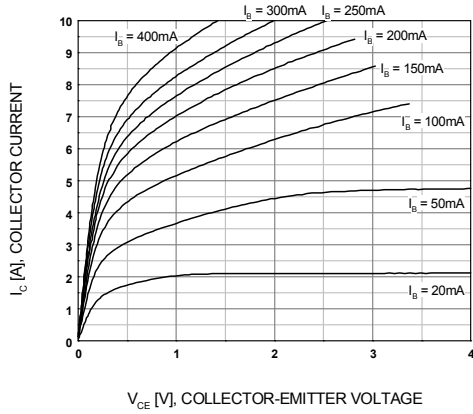


Figure 1. Static Characteristic

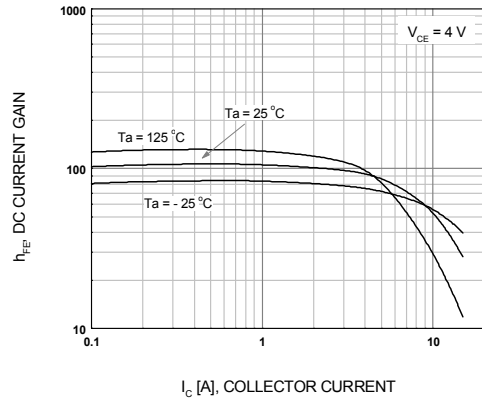


Figure 2. DC current Gain

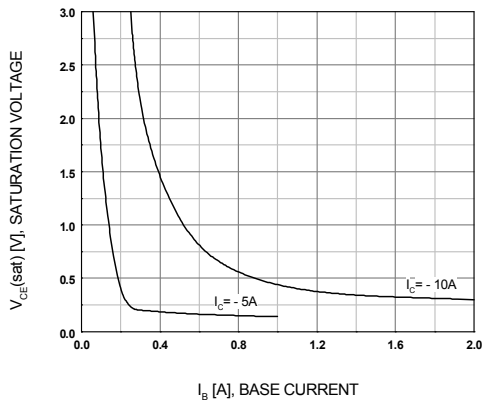


Figure 3.  $V_{CE(sat)}$  vs.  $I_B$  Characteristics

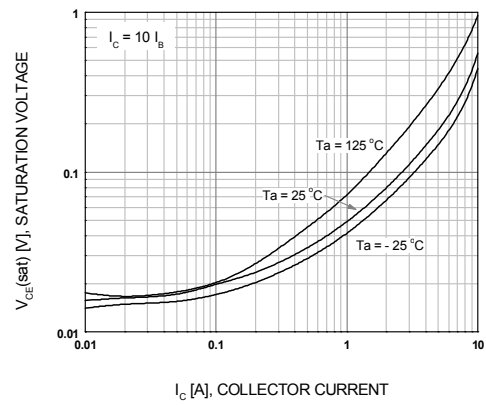


Figure 4. Collector-Emitter Saturation Voltage

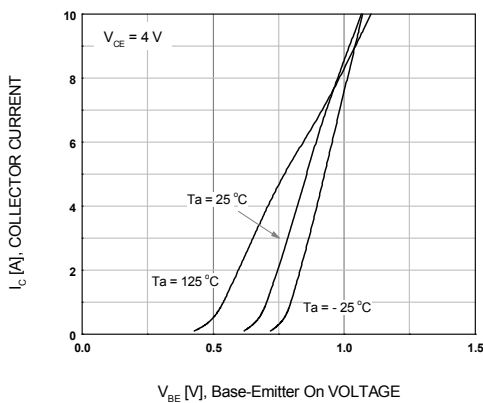


Figure 5. Base-Emitter On Voltage

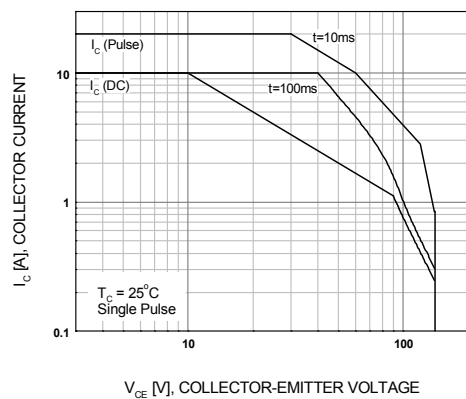


Figure 6. Forward Bias Safe Operating Area

### Typical Characteristics (Continued)

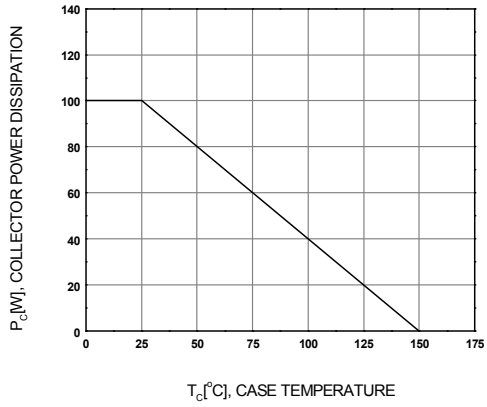
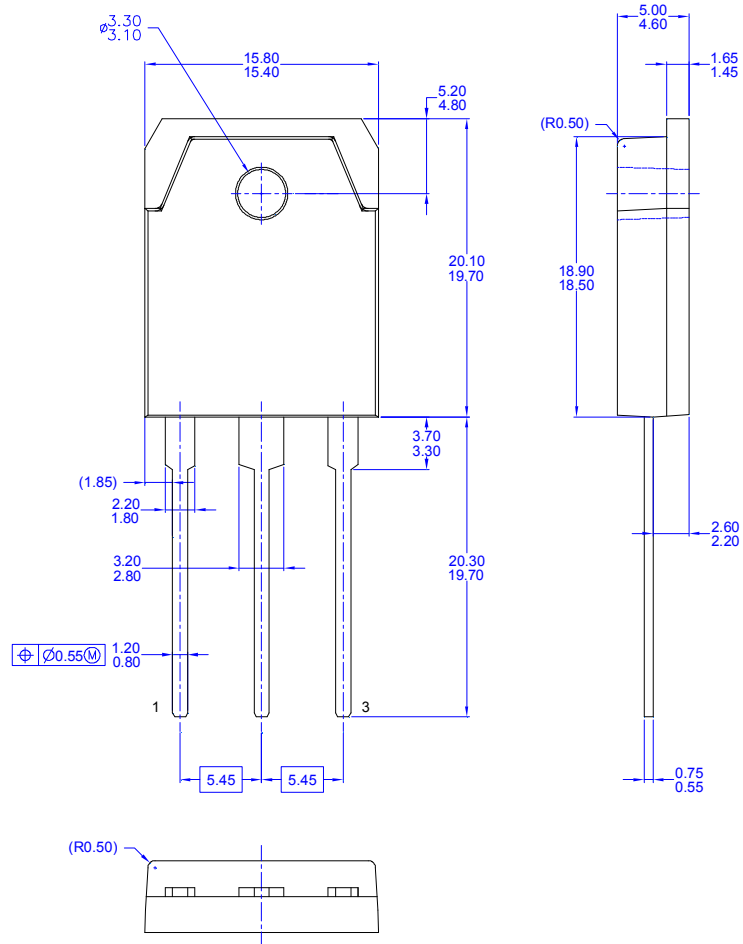


Figure 7. Power Derating

# Package Dimension (TO-3P)






- NOTES:
- A) THIS PACKAGE CONFORMS TO EIAJ SC-65 PACKAGING STANDARD.
  - 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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