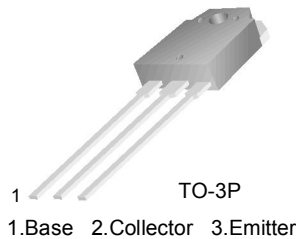


# FJA3835

## NPN Epitaxial Silicon Transistor

- Power Amplifier
- High Current Capability :  $I_C=8A$
- High Power Dissipation
- Wide S.O.A



### Absolute Maximum Ratings\* $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Ratings	Units
$V_{CBO}$	Collector-Base Voltage	200	V
$V_{CEO}$	Collector-Emitter Voltage	120	V
$V_{EBO}$	Emitter-Base Voltage	8	V
$I_C$	Collector Current (DC)	8	A
$I_{CP}$	Collector Current (Pulse)	16	A
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	80	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

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

### Electrical Characteristics\* $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=5\text{mA}, I_E=0$	200			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}, R_{BE}=\infty$	120			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=5\text{mA}, I_C=0$	8			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=80\text{V}, I_E=0$			0.1	mA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=4\text{V}, I_C=0$			0.1	mA
$h_{FE}$	* DC Current Gain	$V_{CE}=4\text{V}, I_C=3\text{A}$	120		250	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3\text{A}, I_B=0.3\text{A}$			0.5	V
$V_{BE(sat)}$	Base-Emitter On Voltage	$I_C=3\text{A}, I_B=0.3\text{A}$			1.2	V
$f_T$	Current Gain Bandwidth Product	$V_{CE}=5\text{V}, I_C=1\text{A}$		30		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=10\text{V}, f=1\text{MHz}$		210		pF
$t_{ON}$	Turn On Time	$V_{CC}=20\text{V},$ $I_C=1\text{A}=10I_{B1}=-10I_{B2}$		0.26		$\mu\text{s}$
$t_F$	Fall Time	$R_L=20\Omega$		0.68		$\mu\text{s}$
$t_{STG}$	Storage Time			6.68		$\mu\text{s}$

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

## Typical Characteristics

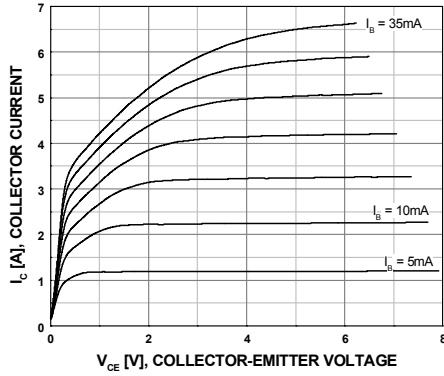


Figure 1. Static Characteristic

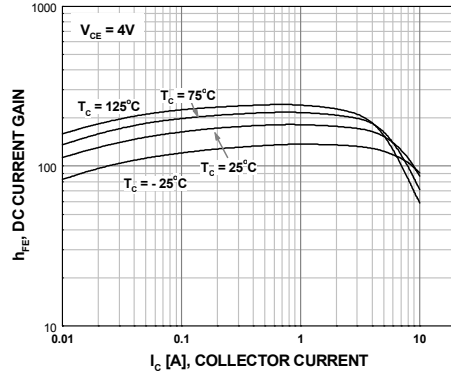


Figure 2. DC current Gain

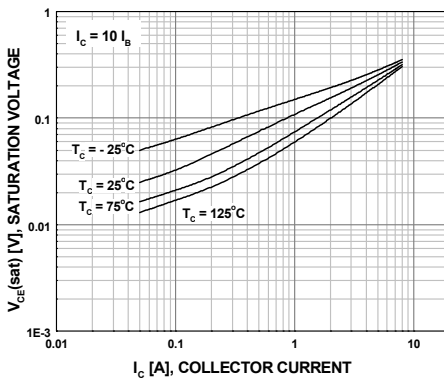


Figure 3. Collector-Emitter Saturation Voltage

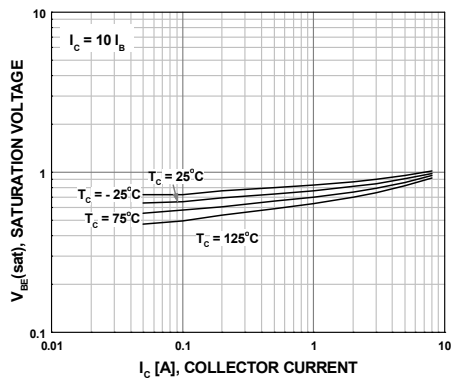


Figure 4. Base-Emitter Saturation Voltage

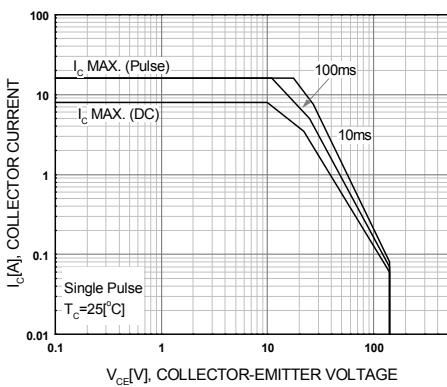


Figure 5. Safe Operating Area

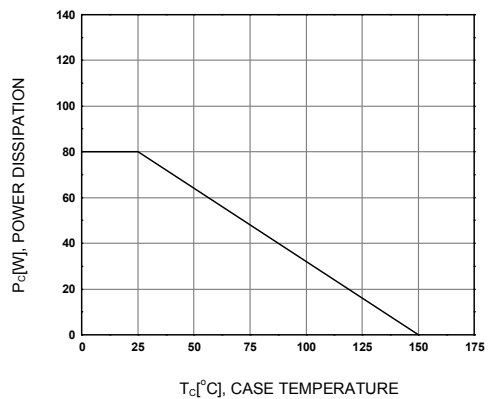
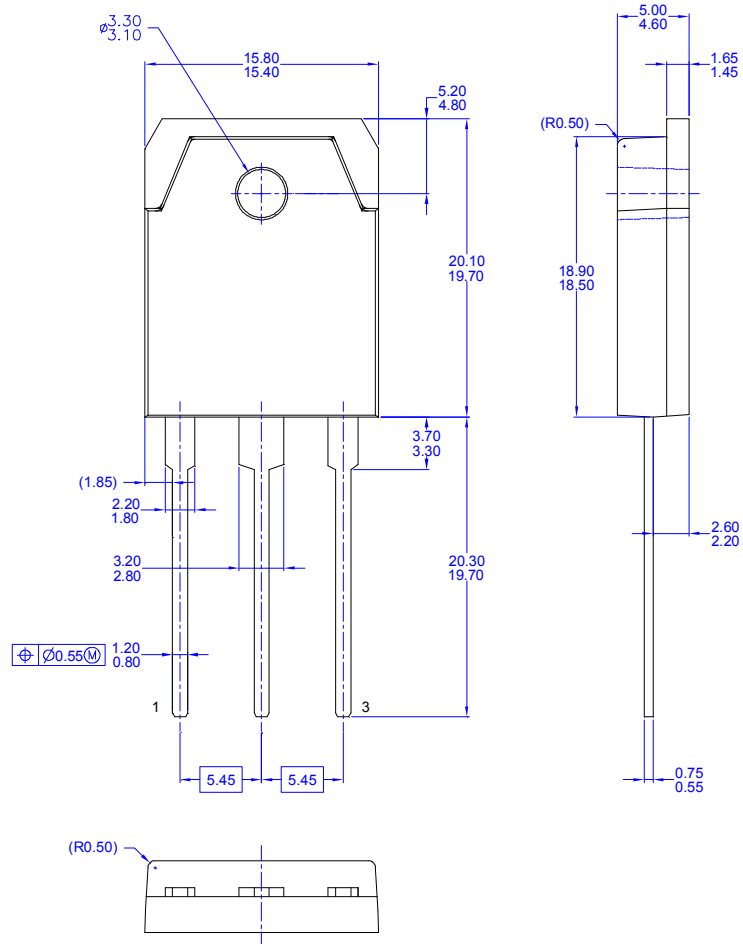


Figure 6. Power Derating

# 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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FRFET®	PDP-SPM™	SuperSOT™-6	
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Rev. I31