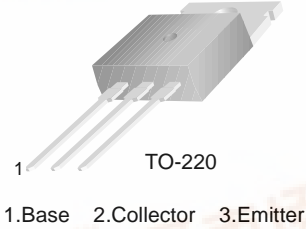


**FAIRCHILD**  
SEMICONDUCTOR®

## FJP3835

### Power Amplifier

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



### NPN Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_C=25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	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 ( $T_C=25^\circ C$ )	50	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ C$

#### Electrical Characteristics $T_C=25^\circ C$ 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	$I_C=10mA, R_{BE}=\infty$	120			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=5mA, I_C=0$	8			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=80V, I_E=0$			0.1	mA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB}=4V, I_C=0$			0.1	mA
$h_{FE}$	* DC Current Gain	$V_{CE}=4V, I_C=3A$	120		250	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=3A, I_B=0.3A$			0.5	V
$V_{BE(sat)}$	Base-Emitter On Voltage	$I_C=3A, I_B=0.3A$			1.2	V
$f_T$	Current Gain Bandwidth Product	$V_{CE}=5V, I_C=1A$		30		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=10V, f=1MHz$		210		pF
$t_{ON}$	Turn On Time	$V_{CC}=20V,$		0.26		$\mu s$
$t_F$	Fall Time	$I_C=1A=10I_{B1}=-10I_{B2}$		0.68		$\mu s$
$t_{STG}$	Storage Time	$R_L=20\Omega$		6.68		$\mu s$

\* Pulse Test :  $PW=20\mu s$

# Typical Characteristics

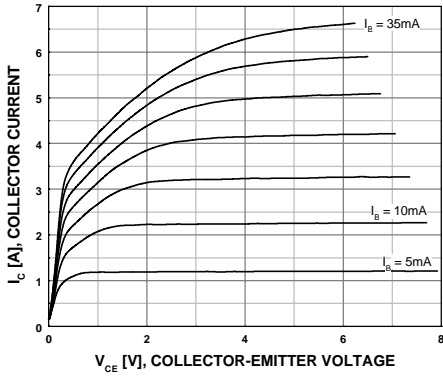


Figure 1. Static Characteristic

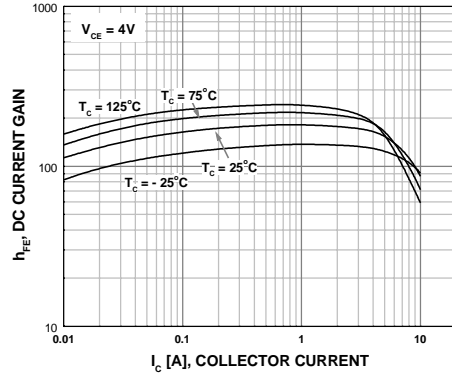


Figure 2. DC current Gain

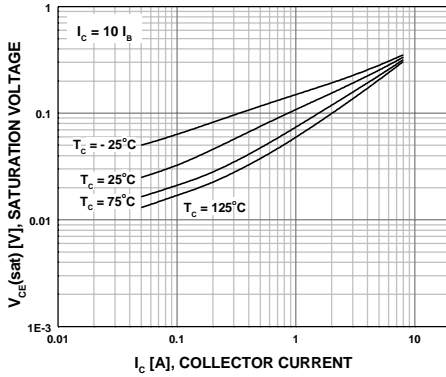


Figure 3. Collector-Emitter Saturation Voltage

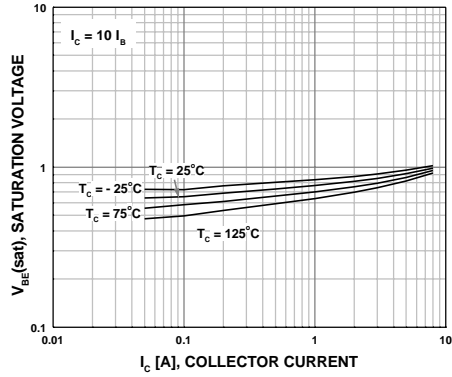


Figure 4. Base-Emitter Saturation Voltage

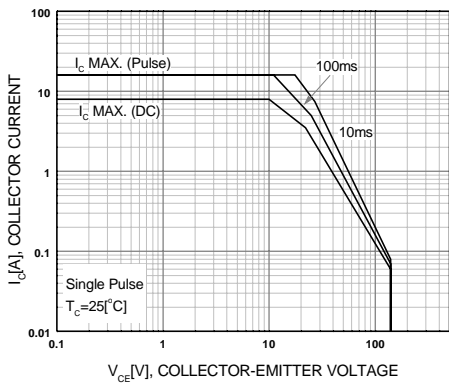


Figure 5. Safe Operating Area

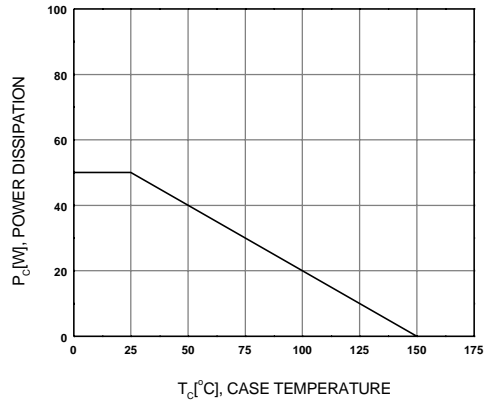
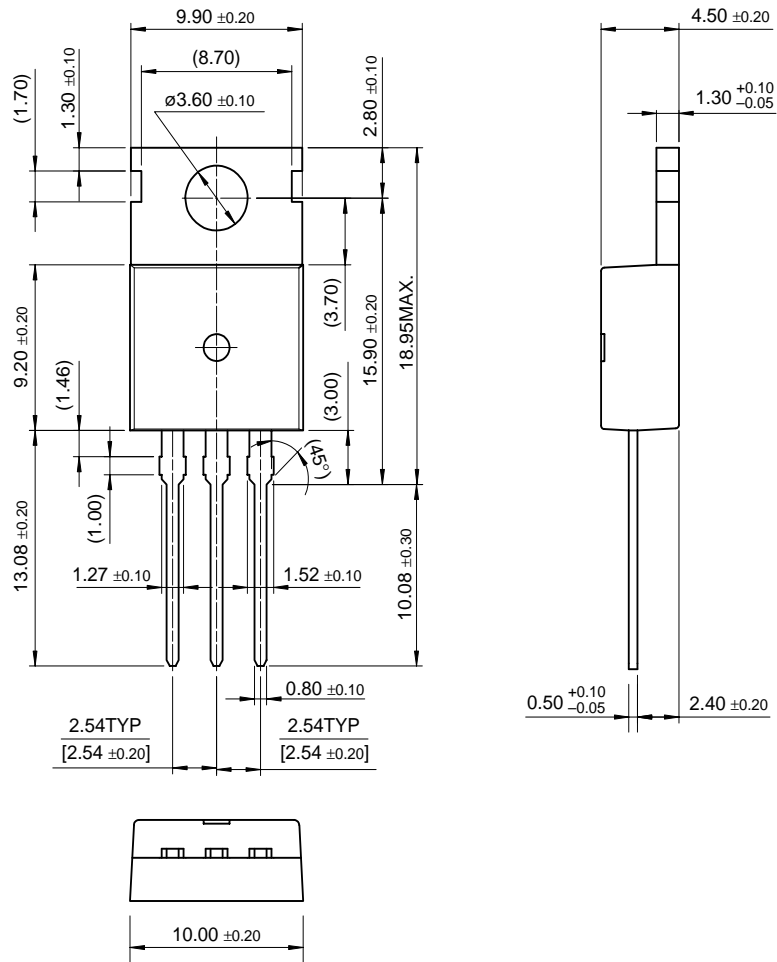


Figure 6. Power Derating

# Package Dimensions

## TO-220



Dimensions in Millimeters

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CoolFET™	FRFET™	MicroPak™	QS™	SyncFET™
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E <sup>2</sup> CMOS™	IC™	OCX™	RapidConnect™	UHC™
EnSigna™	ImpliedDisconnect™	OCXPro™	SILENT SWITCHER®	UltraFET®
FACT™	ISOPLANAR™	OPTOLOGIC®	SMART START™	VCX™
Across the board. Around the world.™	OPTOPLANAR™	SPM™		
The Power Franchise™	PACMAN™	Stealth™		
Programmable Active Droop™	POP™	SuperFET™		

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