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SEMICONDUCTOR®

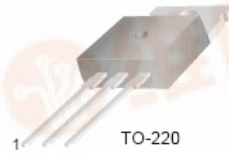
July 2008

FJP1943

Audio Power Amplifier

Features

- High Current Capability: IC = -15A
- High Power Dissipation
- Wide S.O.A
- Complement to FJP5200



1. Base 2. Collector 3. Emitter

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

Symbol	Parameter	Ratings	Units
V_{CBO}	Collector-Base Voltage	-230	V
V_{CEO}	Collector-Emitter Voltage	-230	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-15	A
I_B	Base Current	-1.5	A
T_J, T_{STG}	Junction and Storage Temperature	- 50 ~ +150	$^\circ\text{C}$

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

Thermal Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation($T_C = 25^\circ\text{C}$) Derate above 25°C	100 0.8	W W/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	1.25	$^\circ\text{C}/\text{W}$

* Device mounted on FR-4 PCB 1.6" X 1.6" X 0.06".

* With infinite heatsink.



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	$I_C=-5\text{mA}$, $I_E=0$	-230			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=-10\text{mA}$, $R_{BE}=\infty$	-230			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=-5\text{mA}$, $I_C=0$	-5			V
I_{CBO}	Collector Cut-off Current	$V_{CB}=-230\text{V}$, $I_E=0$			-5.0	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=-5\text{V}$, $I_C=0$			-5.0	μA
h_{FE1}	DC Current Gain*	$V_{CE}=-5\text{V}$, $I_C=-1\text{A}$	55		160	
h_{FE2}	DC Current Gain	$V_{CE}=-5\text{V}$, $I_C=-7\text{A}$	35	60		
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=-8\text{A}$, $I_B=-0.8\text{A}$		-0.4	-3.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE}=-5\text{V}$, $I_C=-7\text{A}$		-1.0	-1.5	V
f_T	Current Gain Bandwidth Product	$V_{CE}=-5\text{V}$, $I_C=-1\text{A}$		30		MHz
C_{ob}	Output Capacitance	$V_{CB}=-10\text{V}$, $f=1\text{MHz}$		360		pF

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

Classification	R	O
h_{FE1}	55 ~ 110	80 ~ 160

Typical Characteristics

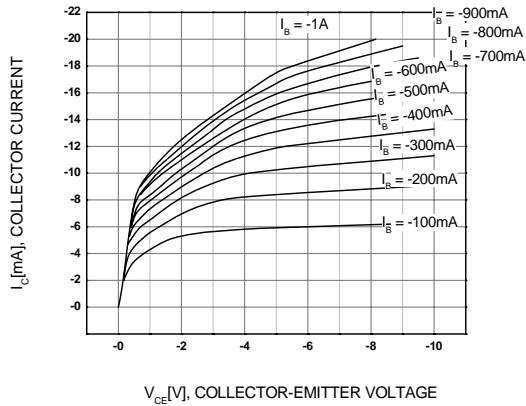


Figure 1. Static Characteristic

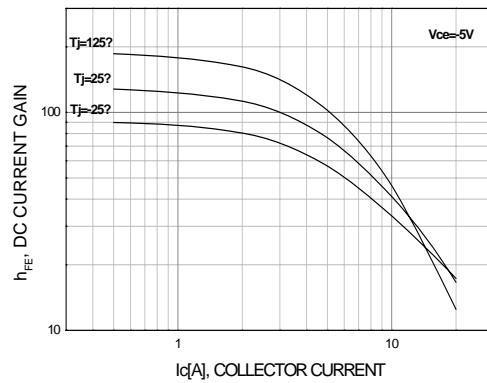


Figure 2. DC current Gain

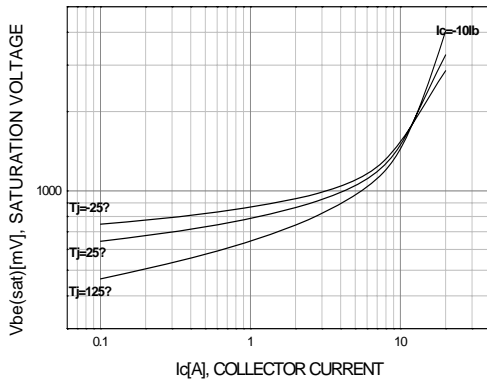


Figure 3. Base-Emitter Saturation Voltage

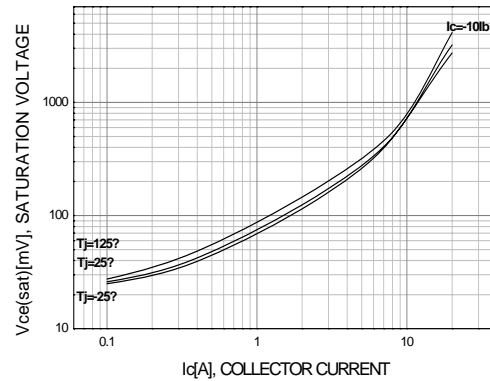


Figure 4. Collector-Emitter Saturation Voltage

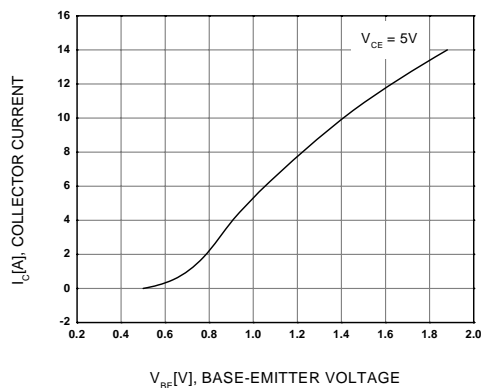


Figure 5. Base-Emitter On Voltage

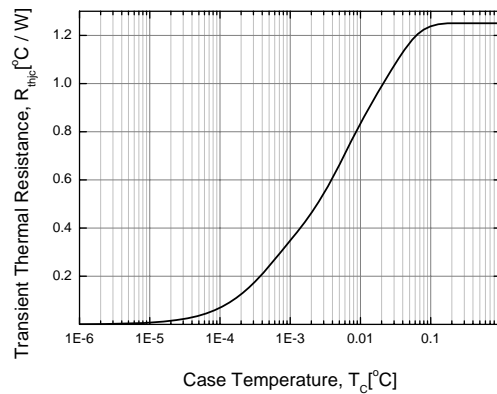
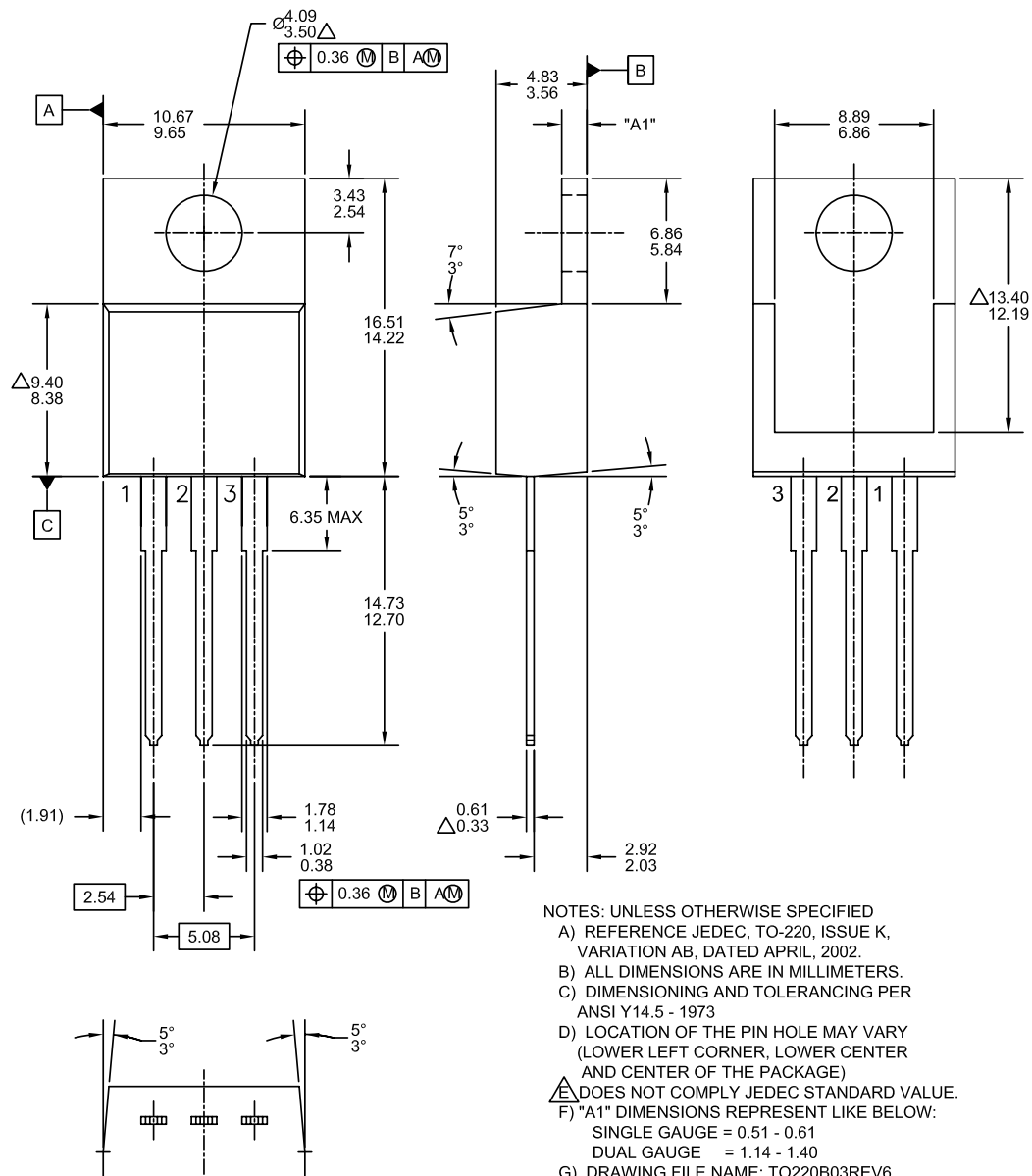


Figure 6. Thermal Resistance

Mechanical Dimensions

TO220






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