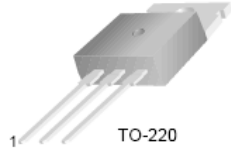
FAIRCHILD SEMICONDUCTOR®

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°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	°C

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

Thermal Characteristics T_a=25°C unless otherwise noted

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

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

* With infinite heatsink.

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

* Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%

*h_{FE} Classification

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

Typical Characteristics

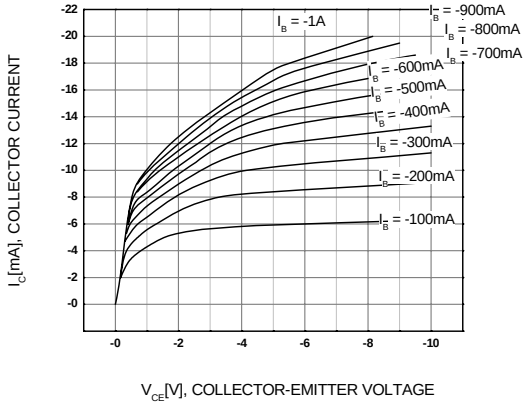


Figure 1. Static Characteristic

Figure 2. DC current Gain

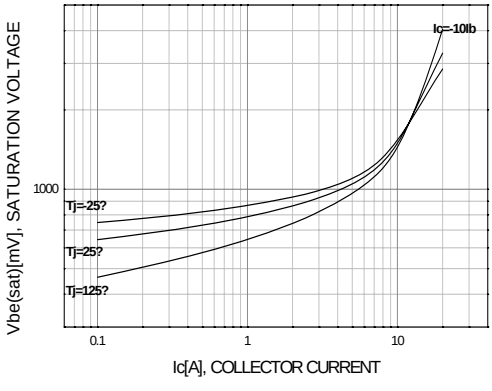


Figure 3. Base-Emitter Saturation Voltage

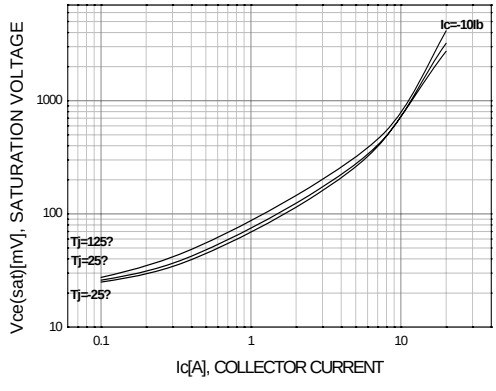


Figure 4. Collector-Emitter Saturation Voltage

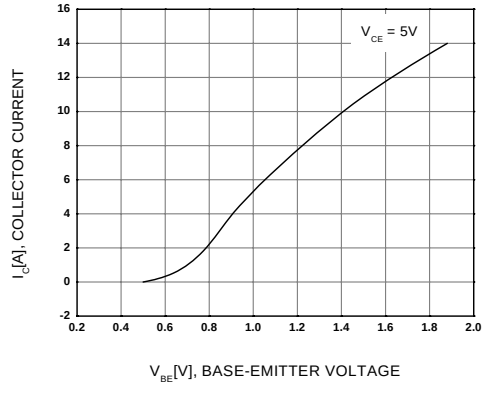


Figure 5. Base-Emitter On Voltage

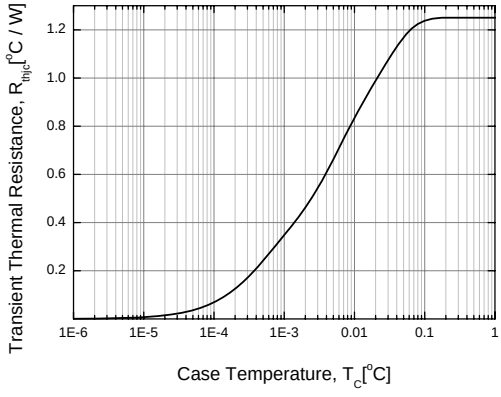
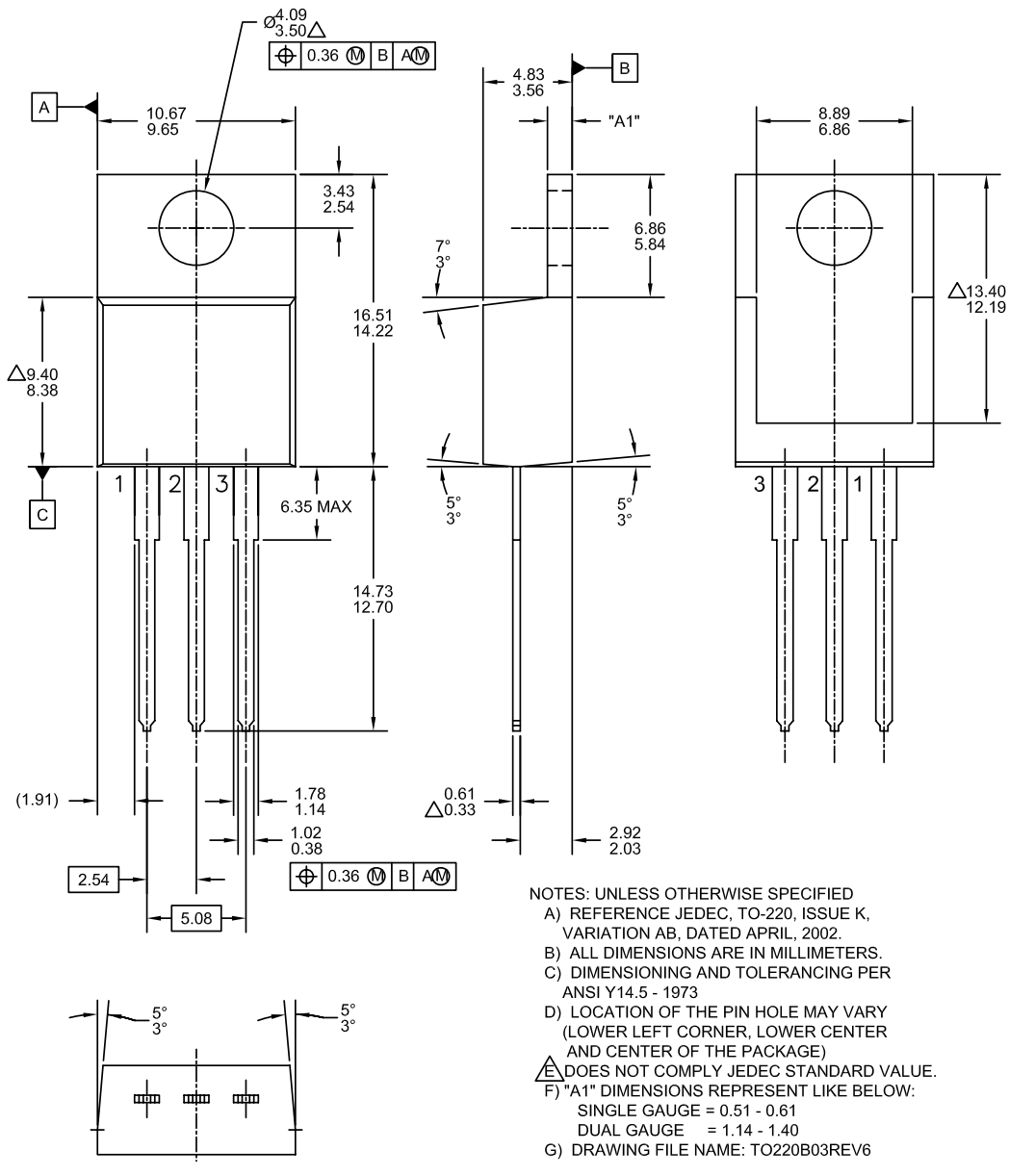


Figure 6. Thermal Resistance

Mechanical Dimensions

TO220



NOTES: UNLESS OTHERWISE SPECIFIED

A) REFERENCE JEDEC, TO-220, ISSUE K, VARIATION AB, DATED APRIL, 2002.

B) ALL DIMENSIONS ARE IN MILLIMETERS.

C) DIMENSIONING AND TOLERANCING PER ANSI Y14.5 - 1973

D) LOCATION OF THE PIN HOLE MAY VARY (LOWER LEFT CORNER, LOWER CENTER AND CENTER OF THE PACKAGE)

△E DOES NOT COMPLY JEDEC STANDARD VALUE.

F) "A1" DIMENSIONS REPRESENT LIKE BELOW:
SINGLE GAUGE = 0.51 - 0.61
DUAL GAUGE = 1.14 - 1.40

G) DRAWING FILE NAME: TO220B03REV6

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