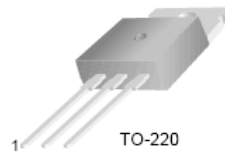


FJP5200

Audio Power Amplifier

Features

- High Current Capability: $I_C = 15A$
- High Power Dissipation
- Wide S.O.A
- Complement to FJP1943



TO-220
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 $\text{W}/^\circ\text{C}$ |
| $R_{\theta JC}$ | 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 | | |
| $V_{CE}(\text{sat})$ | Collector-Emitter Saturation Voltage | $I_C=8\text{A}, I_B=0.8\text{A}$ | | 0.4 | 3.0 | V |
| $V_{BE}(\text{on})$ | 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

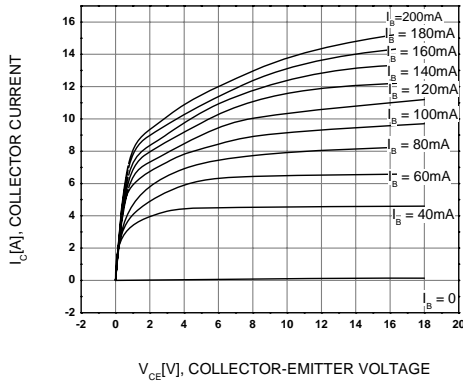


Figure 1. Static Characteristic

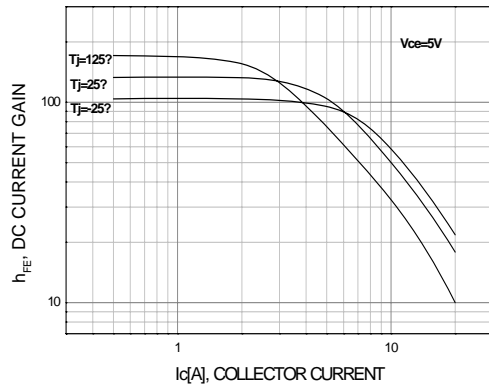


Figure 2. DC current Gain

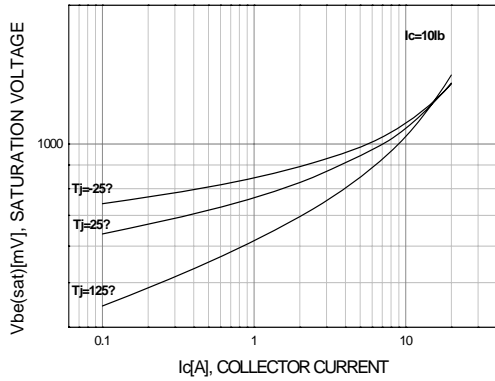


Figure 3. Base-Emitter Saturation Voltage

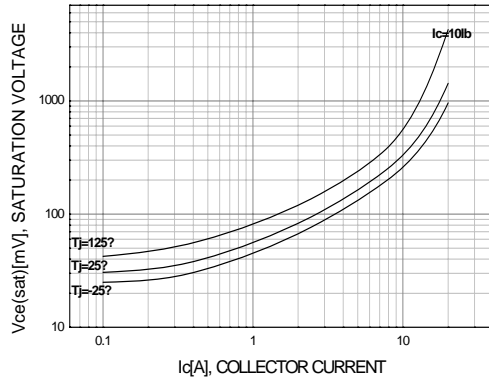


Figure 4. Collector-Emitter Saturation Voltage

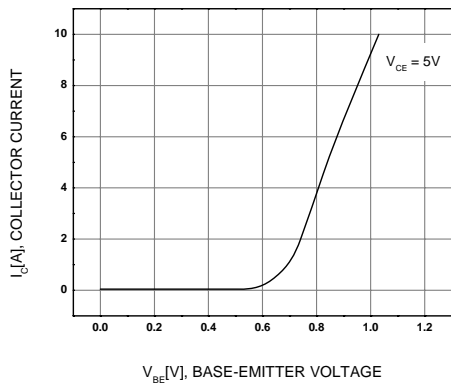


Figure 5. Base-Emitter On Voltage

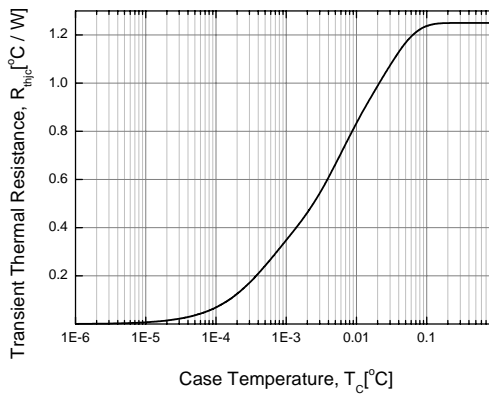


Figure 6. Thermal Resistance



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