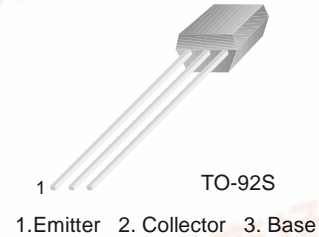


FAIRCHILD
SEMICONDUCTOR®

KSD1021

Audio Frequency Power Amplifier

- Complement to KSB811
- Collector Current : $I_C=1A$
- Collector Dissipation : $P_C=350mW$



NPN Epitaxial Silicon Transistor

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

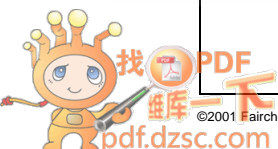
| Symbol | Parameter | Ratings | Units |
|-----------|-----------------------------|-----------|------------|
| V_{CBO} | Collector-Base Voltage | 40 | V |
| V_{CEO} | Collector-Emitter Voltage | 30 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current | 1 | A |
| P_C | Collector Power Dissipation | 350 | mW |
| T_J | Junction Temperature | 150 | $^\circ C$ |
| T_{STG} | Storage Temperature | -55 ~ 150 | $^\circ C$ |

Electrical Characteristics $T_a=25^\circ C$ unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|---------------|--------------------------------------|----------------------------|------|------|------|---------|
| BV_{CBO} | Collector-Base Breakdown Voltage | $I_C=100\mu A, I_E=0$ | 40 | | | V |
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C=10mA, I_B=0$ | 30 | | | V |
| BV_{EBO} | Emitter-Base Breakdown Voltage | $I_E=100\mu A, I_C=0$ | 5 | | | V |
| I_{CBO} | Collector Cut-off Current | $V_{CB}=30V, I_E=0$ | | | 0.1 | μA |
| h_{FE} | DC Current Gain | $V_{CE}=1V, I_C=100mA$ | 70 | | 400 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=1A, I_B=0.1A$ | | | 0.5 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=1A, I_B=0.1A$ | | | 1.2 | V |
| f_T | Current Gain Band Width Product | $V_{CE}=6V, I_C=10mA$ | | 130 | | MHz |
| C_{ob} | Output Capacitance | $V_{CB}=6V, I_E=0, f=1MHz$ | | 16 | | pF |

h_{FE} Classification

| Classification | O | Y | G |
|----------------|----------|-----------|-----------|
| h_{FE} | 70 ~ 140 | 120 ~ 240 | 200 ~ 400 |



Typical Characteristics

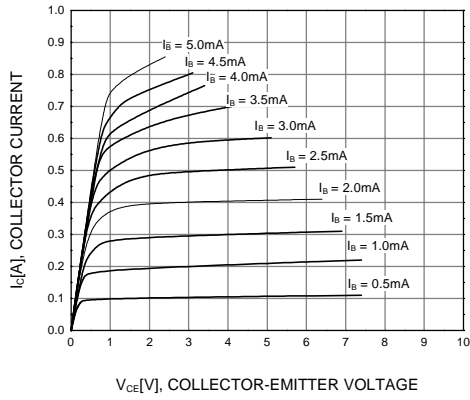


Figure 1. Static Characteristic

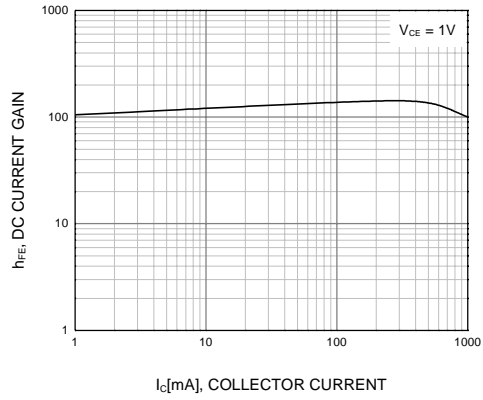


Figure 2. DC current Gain

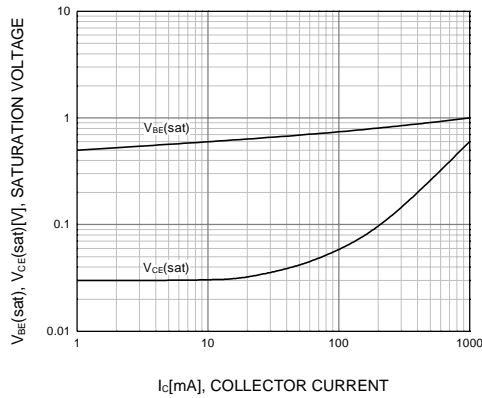


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

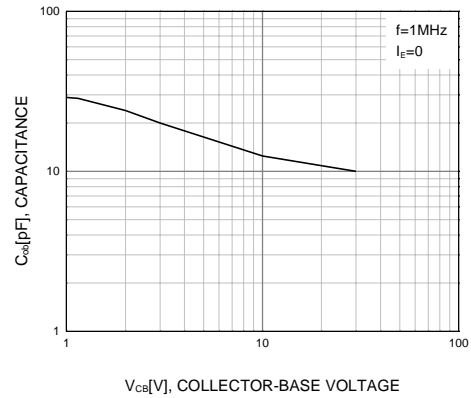


Figure 4. Collector Output Capacitance

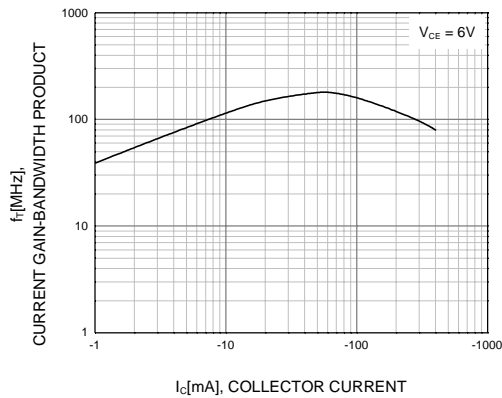


Figure 5. Current Gain Bandwidth Product

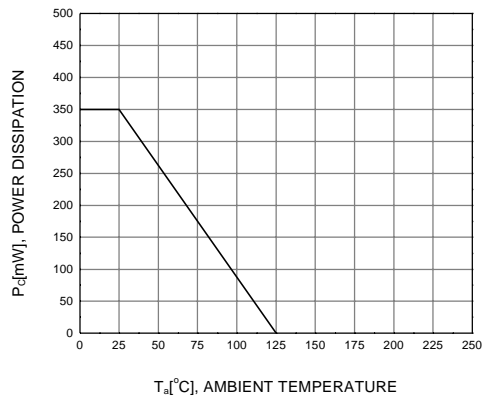
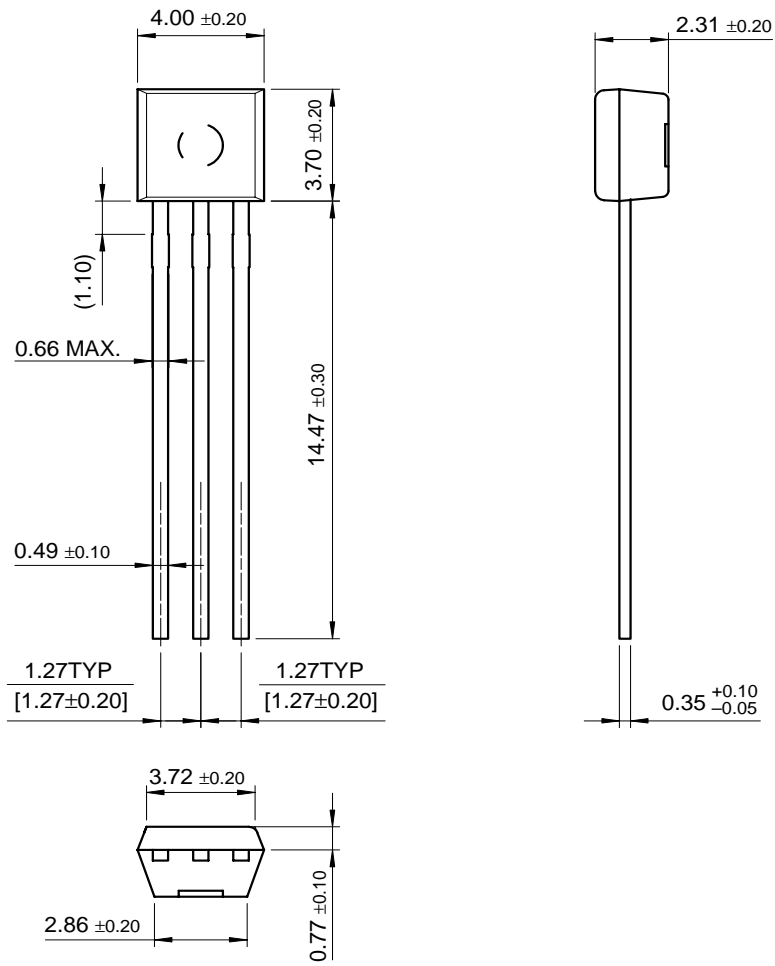


Figure 6. Power Derating

Package Dimensions

TO-92S



Dimensions in Millimeters

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| DenseTrench™ | GTO™ | PowerTrench [®] | SuperSOT™-8 |
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