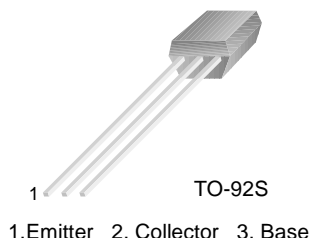


# KSB811

## Audio Frequency Power Amplifier

- Complement to KSD1021
- Collector Current :  $I_C = -1A$
- Collector Power Dissipation :  $P_C = 350mW$



## PNP Epitaxial Silicon Transistor

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

| Symbol    | Parameter                   | Ratings   | Units      |
|-----------|-----------------------------|-----------|------------|
| $V_{CBO}$ | Collector-Base Voltage      | -30       | V          |
| $V_{CEO}$ | Collector-Emitter Voltage   | -25       | V          |
| $V_{EBO}$ | Emitter-Base Voltage        | -5        | V          |
| $I_C$     | Collector Current           | -1.0      | 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     | $I_C = -100\mu A, I_E = 0$        | -30  |      |      | V       |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = -10mA, I_B = 0$            | -25  |      |      | 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 | $\mu A$ |
| $h_{FE}$      | 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 Bandwidth Product       | $V_{CE} = -6V, I_C = -10mA$       |      | 110  |      | MHz     |
| $C_{ob}$      | Output Capacitance                   | $V_{CB} = -6V, I_E = 0, f = 1MHz$ |      | 18   |      | pF      |

### $h_{FE}$ Classification

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

# Typical Characteristics

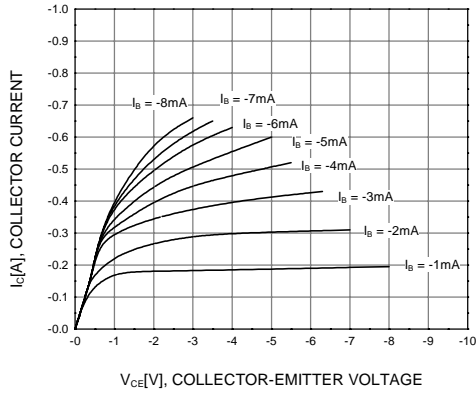


Figure 1. Static Characteristic

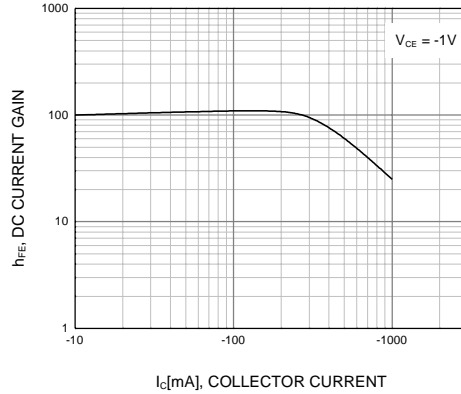


Figure 2. DC current Gain

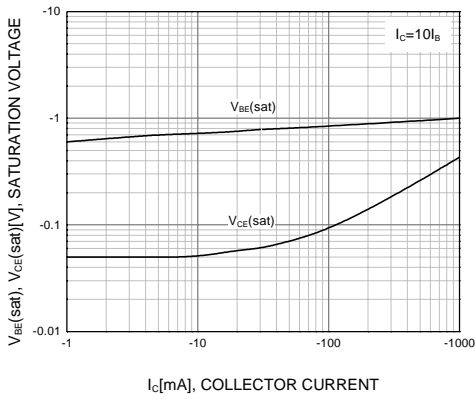


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

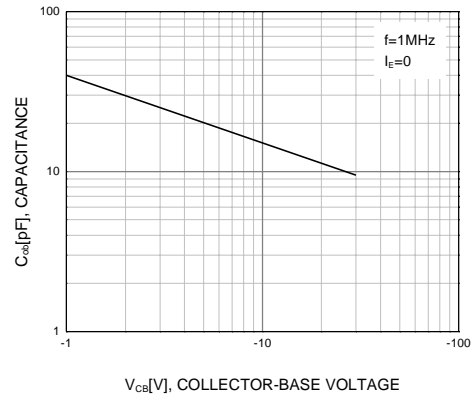


Figure 4. Collector Output Capacitance

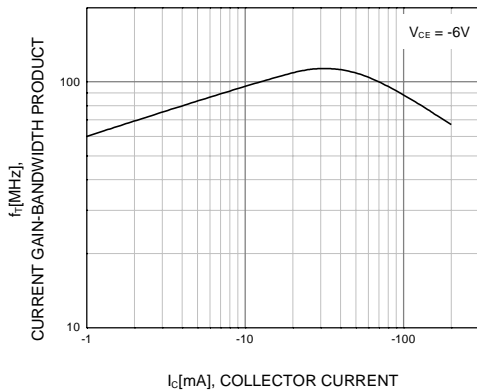


Figure 5. Current Gain Bandwidth Product

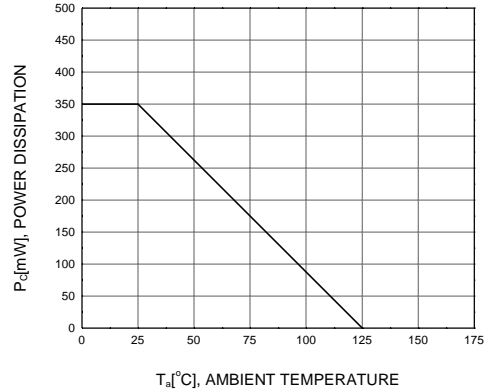
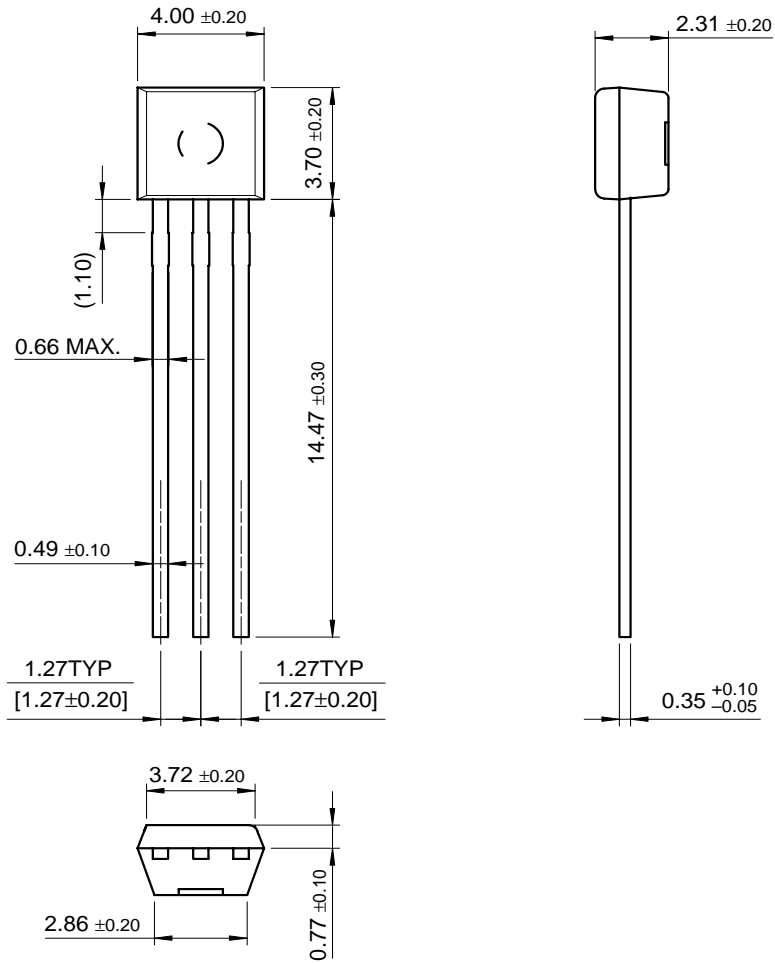


Figure 6. Power Derating

# Package Dimensions

## TO-92S



Dimensions in Millimeters

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| DenseTrench™         | GTO™                | PowerTrench®        | SuperSOT™-8     |
| DOMET™               | HiSeC™              | QFET™               | SyncFET™        |
| EcoSPARK™            | ISOPLANAR™          | QS™                 | TruTranslation™ |
| E <sup>2</sup> CMOS™ | LittleFET™          | QT Optoelectronics™ | TinyLogic™      |
| EnSigna™             | MicroFET™           | Quiet Series™       | UHC™            |
| FACT™                | MICROWIRE™          | SLIENT SWITCHER®    | UltraFET®       |
| FACT Quiet Series™   | OPTOLOGIC™          | SMART START™        | VCX™            |

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