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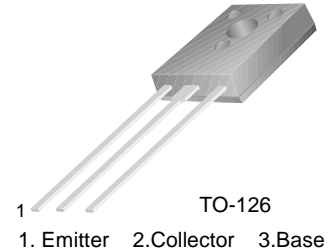


KSB772

KSB772

Audio Frequency Power Amplifier

- Low Speed Switching
- Complement to KSD882



PNP Epitaxial Silicon Transistor

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

| Symbol | Parameter | Value | 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 (DC) | - 3 | A |
| I_{CP} | *Collector Current (Pulse) | - 7 | A |
| I_B | Base Current (DC) | - 0.6 | A |
| P_C | Collector Dissipation ($T_C=25^\circ\text{C}$) | 10 | W |
| | Collector Dissipation ($T_a=25^\circ\text{C}$) | 1 | W |
| $R_{\theta ja}$ | Junction to Ambient | 132 | $^\circ\text{C}/\text{W}$ |
| $R_{\theta jc}$ | Junction to Case | 13.5 | $^\circ\text{C}/\text{W}$ |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | - 55 ~ 150 | $^\circ\text{C}$ |

* $PW \leq 10\text{ms}$, Duty Cycle $\leq 50\%$

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|---------------|--|---|------|-------|-------|---------------|
| I_{CBO} | Collector Cut-off Current | $V_{CB} = - 30\text{V}, I_E = 0$ | | | - 1 | μA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = - 3\text{V}, I_C = 0$ | | | - 1 | μA |
| h_{FE1} | * DC Current Gain | $V_{CE} = - 2\text{V}, I_C = - 20\text{mA}$ | 30 | 220 | | |
| h_{FE2} | | $V_{CE} = - 2\text{V}, I_C = - 1\text{A}$ | 60 | 160 | 400 | |
| $V_{CE(sat)}$ | * Collector-Emitter Saturation Voltage | $I_C = - 2\text{A}, I_B = - 0.2\text{A}$ | | - 0.3 | - 0.5 | V |
| $V_{BE(sat)}$ | * Base-Emitter Saturation Voltage | $I_C = - 2\text{A}, I_B = - 0.2\text{A}$ | | - 1.0 | - 2.0 | V |
| f_T | Current Gain Bandwidth Product | $V_{CE} = - 5\text{V}, I_E = - 0.1\text{A}$ | | 80 | | MHz |
| C_{ob} | Output Capacitance | $V_{CB} = - 10\text{V}, I_E = 0$ $f = 1\text{MHz}$ | | 55 | | pF |

* Pulse Test: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$

h_{FE} Classification

| Classification | R | O | Y | G |
|----------------|----------|-----------|-----------|-----------|
| h_{FE2} | 60 ~ 120 | 100 ~ 200 | 160 ~ 320 | 200 ~ 400 |

Typical Characteristics

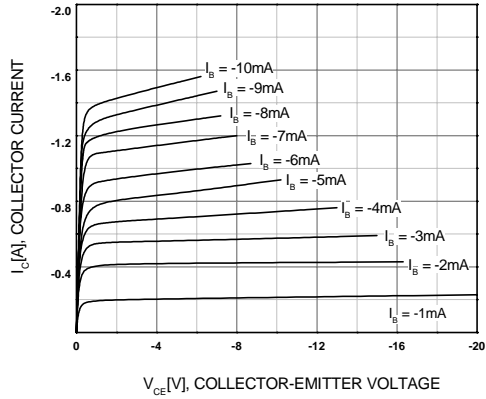


Figure 1. Static Characteristic

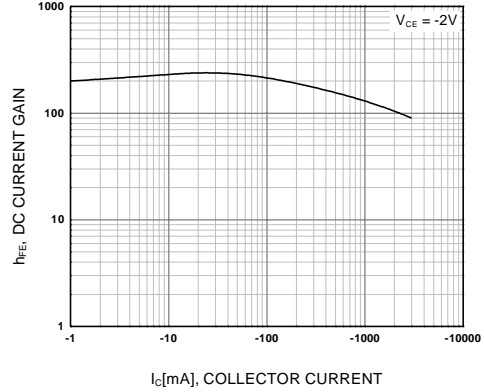


Figure 2. DC current Gain

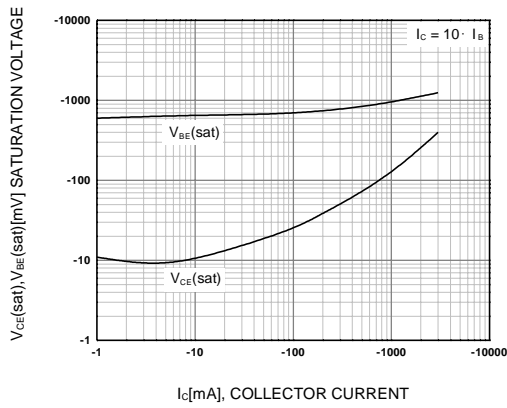


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

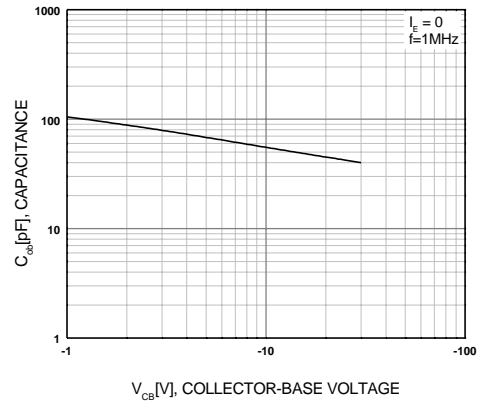


Figure 4. Collector Output Capacitance

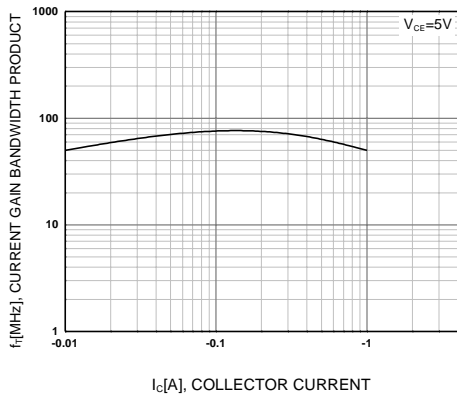


Figure 5. Current Gain Bandwidth Product

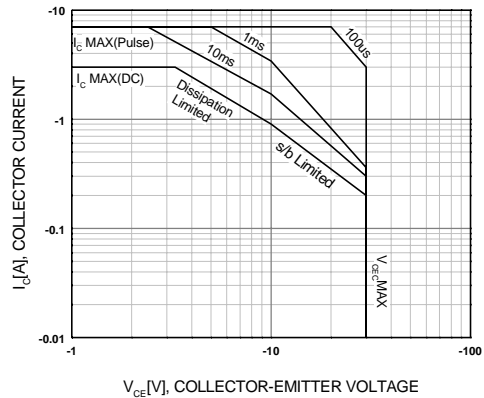


Figure 6. Safe Operating Area

Typical Characteristics (Continued)

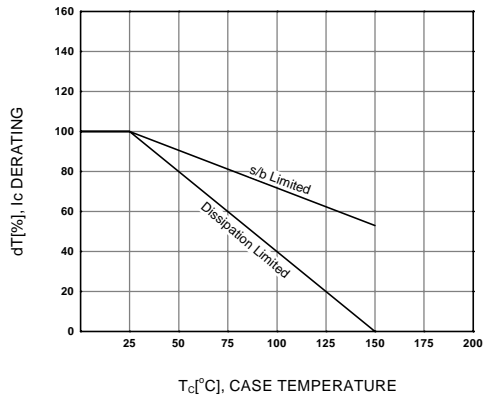


Figure 7. Derating Curve of Safe Operating Areas

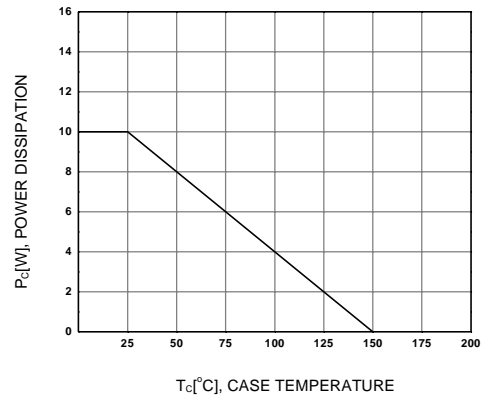
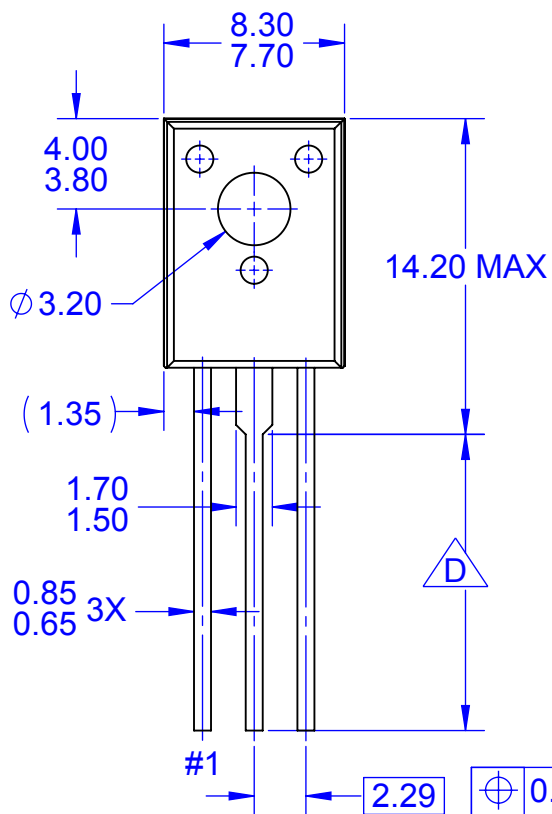
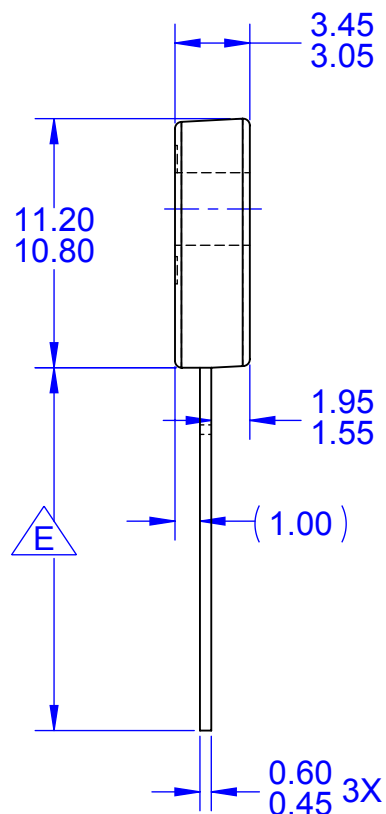


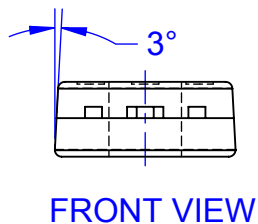
Figure 8. Power Derating



TOP VIEW



SIDE VIEW



FRONT VIEW

| PRODUCTION CODE | TERMINAL LENGTH "D" | TERMINAL LENGTH "E" |
|-------------------|---------------------|---------------------|
| TSSTU | 3.45 - 4.05 | 6.45-7.45 |
| TSTU | 2.36 - 2.96 | 5.36-6.36 |
| NONE (STD LENGTH) | 12.76 - 13.36 | 15.76-16.76 |

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- A. NO INDUSTRY STANDARD APPLIES TO THIS PACKAGE
- B. ALL DIMENSIONS ARE IN MILLIMETERS
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR PROTRUSIONS

 FOR TERMINAL LENGTH "D", REFER TO TABLE

 FOR TERMINAL LENGTH "E", REFER TO TABLE

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