FAIRCHILD SEMICONDUCTOR®

# KSC2328A

## Audio Power Amplifier Applications

- Complement to KSA928A
- Collector Power Dissipation : $P_C$=1W
- 3 Watt Output Application


TO-92L

1. Emitter 2. Collector 3. Base

## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a$=25°C unless otherwise noted

| Symbol | Parameter | Ratings | Units |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 30 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 30 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current | 2 | A |
| $P_C$ | Collector Power Dissipation | 1 | W |
| $T_J$ | Junction Temperature | 150 | °C |
| $T_{STG}$ | Storage Temperature | -55 ~ 150 | °C |

### Electrical Characteristics $T_a$=25°C unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| $BV_{CBO}$ | Collector-Base Breakdown Voltage | $I_C$=100μA, $I_E$=0 | 30 | | | V |
| $BV_{CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$=10mA, $I_B$=0 | 30 | | | V |
| $BV_{EBO}$ | Emitter-Base Breakdown Voltage | $I_E$=1mA, $I_C$=0 | 5 | | | V |
| $I_{CBO}$ | Collector Cut-off Current | $V_{CB}$=30V, $I_E$=0 | | | 100 | nA |
| $I_{EBO}$ | Emitter Cut-off Current | $V_{EB}$=5V, $I_C$=0 | | | 100 | nA |
| $h_{FE}$ | DC Current Gain | $V_{CE}$=2V, $I_C$=500mA | 100 | | 320 | |
| $V_{BE}$ (on) | Base-Emitter On Voltage | $V_{CE}$=2V, $I_C$=500mA | | | 1.0 | V |
| $V_{CE}$ (sat) | Collector-Emitter Saturation Voltage | $I_C$=1.5A, $I_B$=0.03A | | | 2.0 | V |
| $f_T$ | Current Gain Bandwidth Product | $V_{CE}$=2V, $I_C$=500mA | | 120 | | MHz |
| $C_{ob}$ | Collector Output Capacitance | $V_{CB}$=10V,$I_E$=0, f=1MHz | | 30 | | pF |

### $h_{FE}$ Classification

| Classification | O | Y |
|---|---|---|
| $h_{FE}$ | 100 ~ 200 | 160 ~ 320 |

# Typical Characteristics

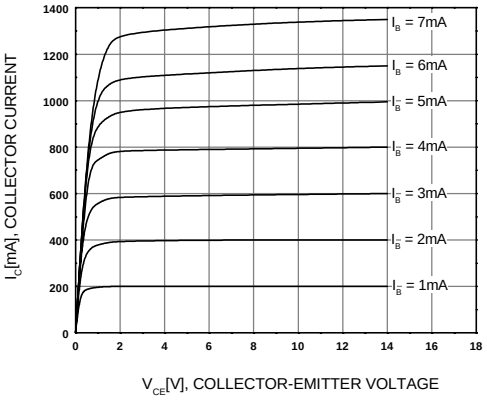



**Figure 1. Static Characteristic**

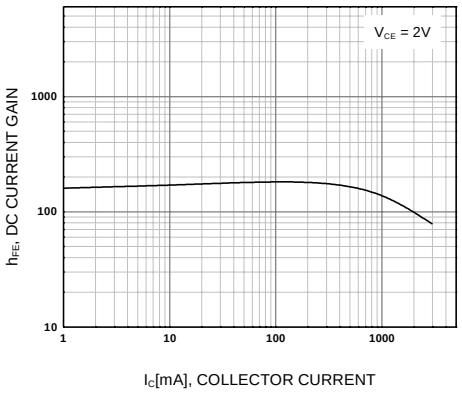



**Figure 2. DC current Gain**

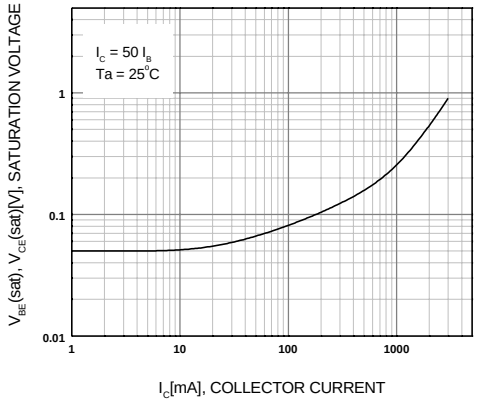



**Figure 3. Collector-Emitter Saturation Voltage**

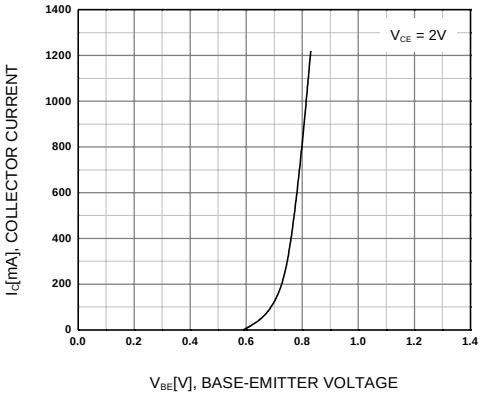



**Figure 4. Base-Emitter On Voltage**

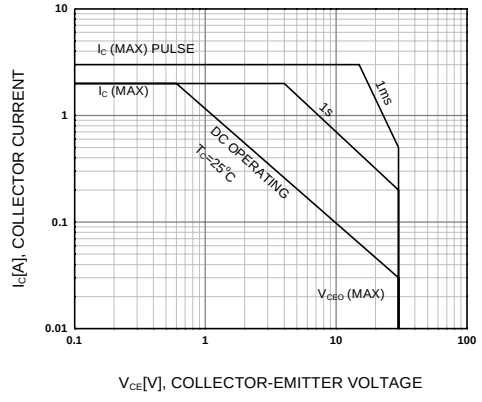



**Figure 5. Safe Operating Area**

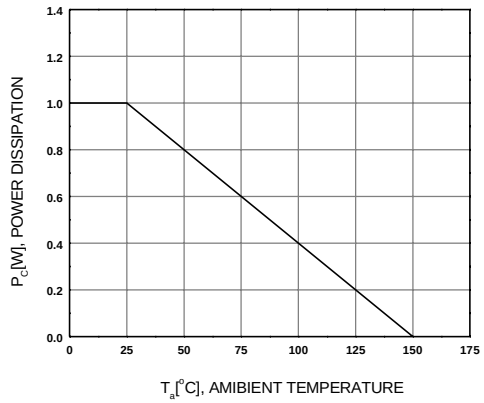
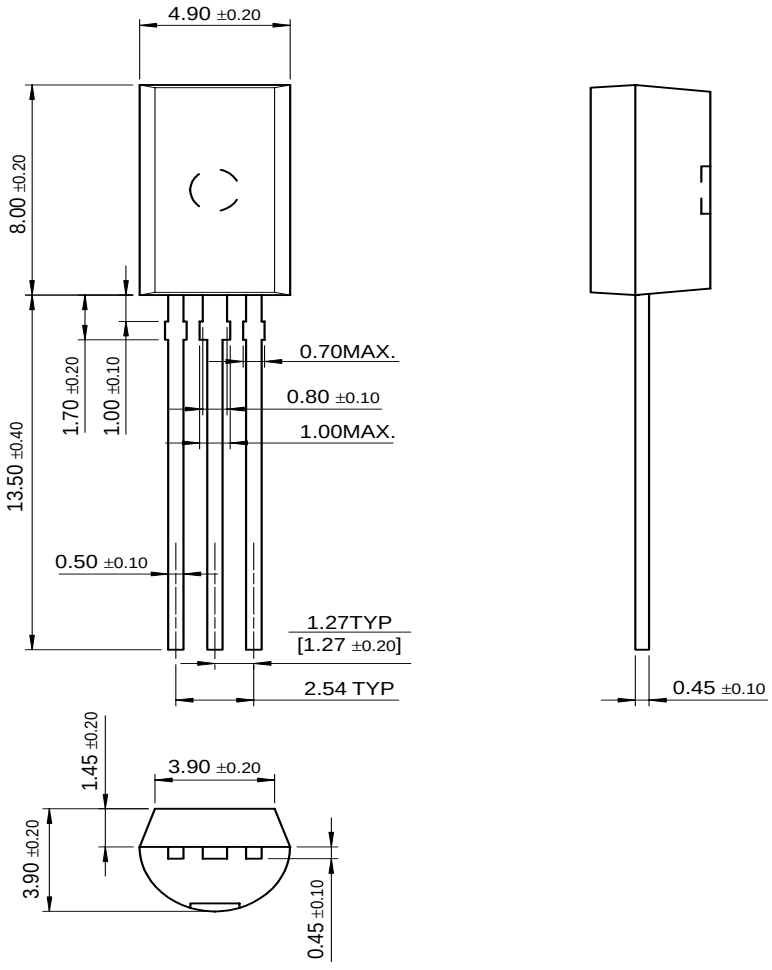



**Figure 6. Power Derating**

## Package Dimensions

TO-92L




Dimensions in Millimeters

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