

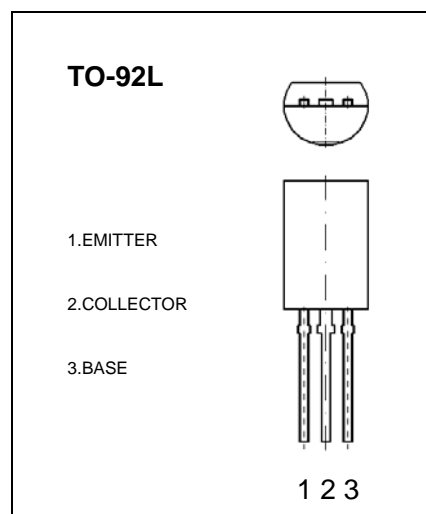


# TO-92L Plastic-Encapsulate Transistors

## KSA928A TRANSISTOR ( PNP )

### FEATURE

- Audio power amplifier
- Complement to Application



### MAXIMUM RATINGS\* $T_A=25^{\circ}\text{C}$ unless otherwise noted

| Symbol         | Parameter                        | Value       | 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 -Continuous    | -2          | A                  |
| $P_C$          | Collector Dissipation            | 1           | W                  |
| $T_J, T_{stg}$ | Junction and Storage Temperature | -55 to +150 | $^{\circ}\text{C}$ |

### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                                    | MIN | TYPE | MAX  | UNIT          |
|--------------------------------------|---------------|--|-----|------|------|---------------|
| Collector-base breakdown voltage     | $V(BR)_{CBO}$ | $I_C = -100 \mu\text{A}, I_E = 0$                  | -30 |      |      | V             |
| Collector-emitter breakdown voltage  | $V(BR)_{CEO}$ | $I_C = -10 \text{mA}, I_B = 0$                     | -30 |      |      | V             |
| Emitter-base breakdown voltage       | $V(BR)_{EBO}$ | $I_E = -1 \text{mA}, I_C = 0$                      | -5  |      |      | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -30 \text{V}, I_E = 0$                   |     |      | -0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -5 \text{V}, I_C = 0$                    |     |      | -0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE}$      | $V_{CE} = -2 \text{V}, I_C = -500 \text{mA}$       | 100 |      | 320  |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -1.5 \text{A}, I_B = -0.03 \text{A}$        |     |      | -2   | V             |
| Base-emitter voltage                 | $V_{BE}$      | $I_C = -500 \text{mA}, V_{CE} = -2 \text{V}$       |     |      | -1   | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = -2 \text{V}, I_C = -500 \text{mA}$       |     | 120  |      | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = -10 \text{V}, I_E = 0, f = 1 \text{MHz}$ |     | 48   |      | pF            |

### CLASSIFICATION OF $h_{FE}$

| Rank  | O       | Y       |
|-------|---------|---------|
| Range | 100-200 | 160-320 |

# Typical Characteristics

# KSA928A

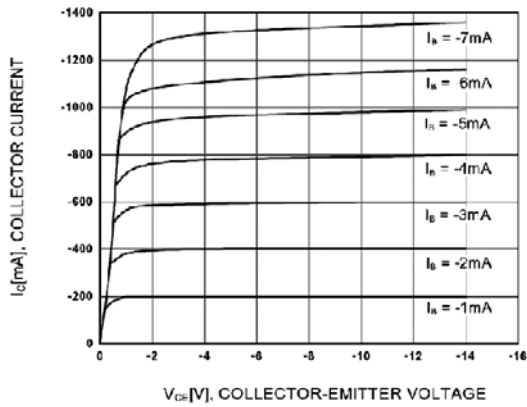


Figure 1. Static Characteristic

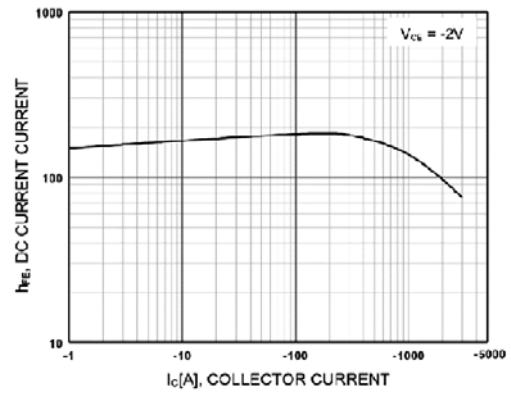


Figure 2. DC current Gain

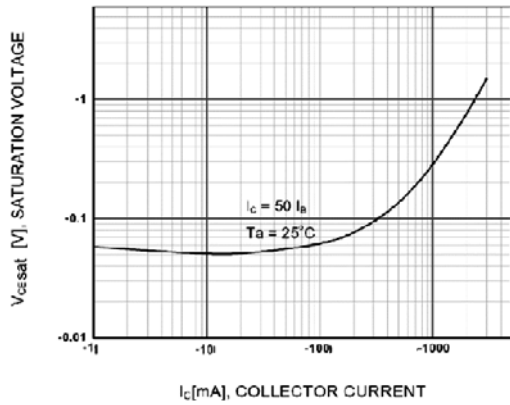


Figure 3. Collector-Emitter Saturation Voltage

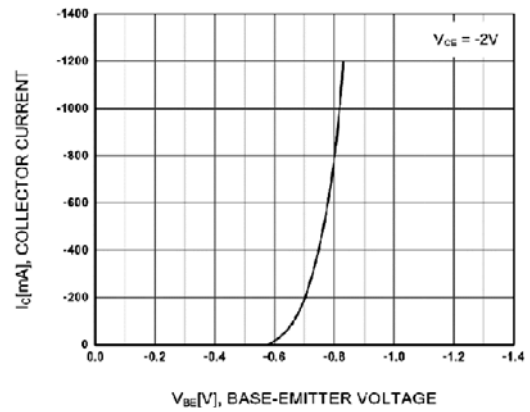


Figure 4. Base-Emitter On Voltage

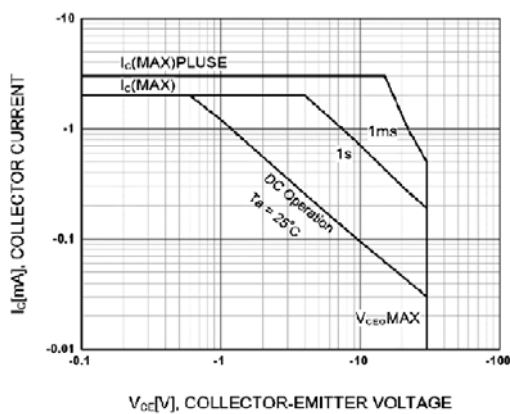


Figure 5. Safe Operating Area

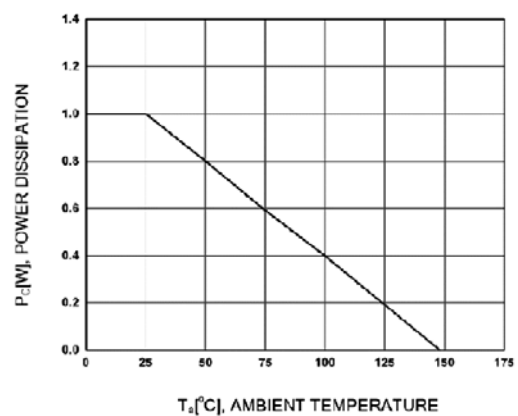


Figure 6. Power Derating