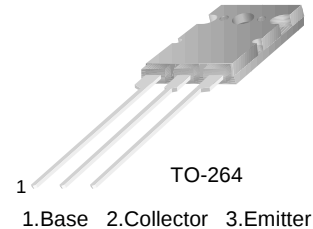


# KSA1943

KSA1943

## Audio Power Amplifier

- High Current Capability  $I_C = -13A$
- High Power Dissipation
- Wide S.O.A
- Complement to KSC5200



## PNP Epitaxial Silicon Transistor

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

| Symbol    | Parameter                                  | Ratings    | Units      |
|-----------|--------------------------------------------|------------|------------|
| $V_{CBO}$ | Collector-Base Voltage                     | -230       | V          |
| $V_{CEO}$ | Collector-Emitter Voltage                  | -230       | V          |
| $V_{EBO}$ | Emitter-Base Voltage                       | -5         | V          |
| $I_C$     | Collector Current                          | -13        | A          |
| $I_B$     | Base Current                               | -1.5       | A          |
| $P_C$     | Collector Dissipation ( $T_C=25^\circ C$ ) | 130        | W          |
| $T_J$     | Junction Temperature                       | 150        | $^\circ C$ |
| $T_{STG}$ | Storage Temperature                        | - 50 ~ 150 | $^\circ C$ |

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

| Symbol        | Parameter                            | Test Condition             | Min. | Typ. | Max. | Units   |
|---------------|--------------------------------------|----------------------------|------|------|------|---------|
| $BV_{CBO}$    | Collector-Base Breakdown Voltage     | $I_C=-5mA, I_E=0$          | -230 |      |      | V       |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C=-10mA, R_{BE}=\infty$ | -230 |      |      | V       |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage       | $I_E=-5mA, I_C=0$          | -5   |      |      | V       |
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CB}=-230V, I_E=0$      |      |      | -5.0 | $\mu A$ |
| $I_{EBO}$     | Emitter Cut-off Current              | $V_{EB}=-5V, I_C=0$        |      |      | -5.0 | $\mu A$ |
| $h_{FE1}$     | * DC Current Gain                    | $V_{CE}=-5V, I_C=-1A$      | 55   |      | 160  |         |
| $h_{FE2}$     | DC Current Gain                      | $V_{CE}=-5V, I_C=-7A$      | 35   | 60   |      |         |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=-8A, I_B=-0.8A$       |      | -0.4 | -3.0 | V       |
| $V_{BE(on)}$  | Base-Emitter ON Voltage              | $V_{CE}=-5V, I_C=-7A$      |      | -1.0 | -1.5 | V       |
| $f_T$         | Current Gain Bandwidth Product       | $V_{CE}=-5V, I_C=-1A$      |      | 30   |      | MHz     |
| $C_{ob}$      | Output Capacitance                   | $V_{CB}=-10V, f=1MHz$      |      | 360  |      | pF      |

\* Pulse Test : PW=20us

## \* $h_{FE}$ Classification

| Classification | R        | O        |
|----------------|----------|----------|
| $h_{FE1}$      | 55 ~ 110 | 80 ~ 160 |

## Typical Characteristics

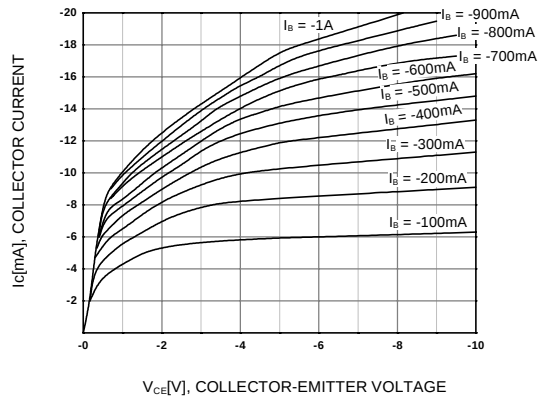


Figure 1. Static Characteristic

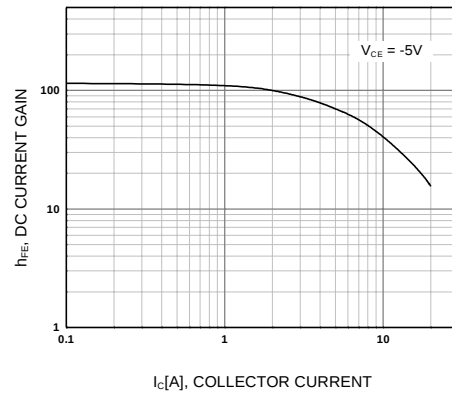


Figure 2. DC current Gain

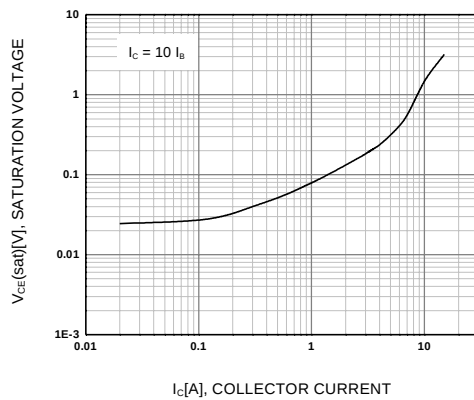


Figure 3. Collector-Emitter Saturation Voltage

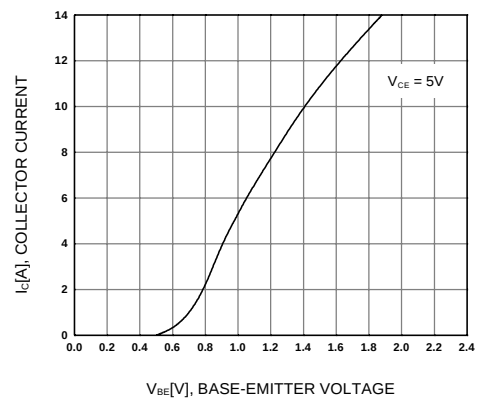


Figure 4. Collector-Emitter Saturation Voltage

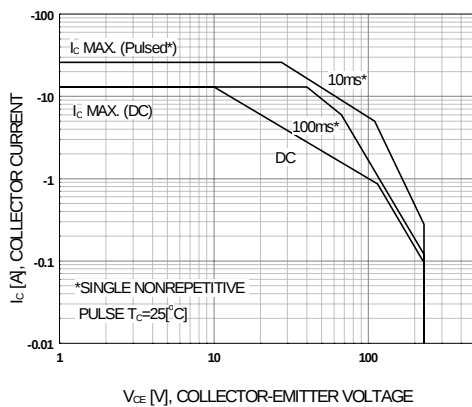


Figure 5. Safe Operating Area

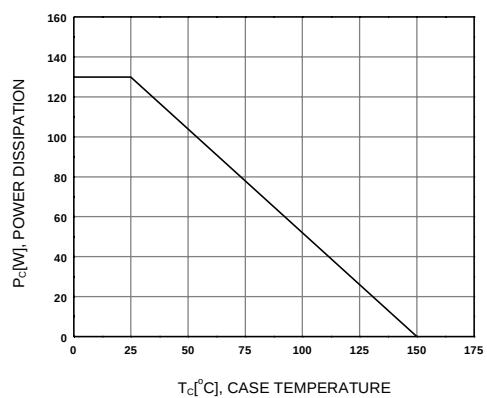
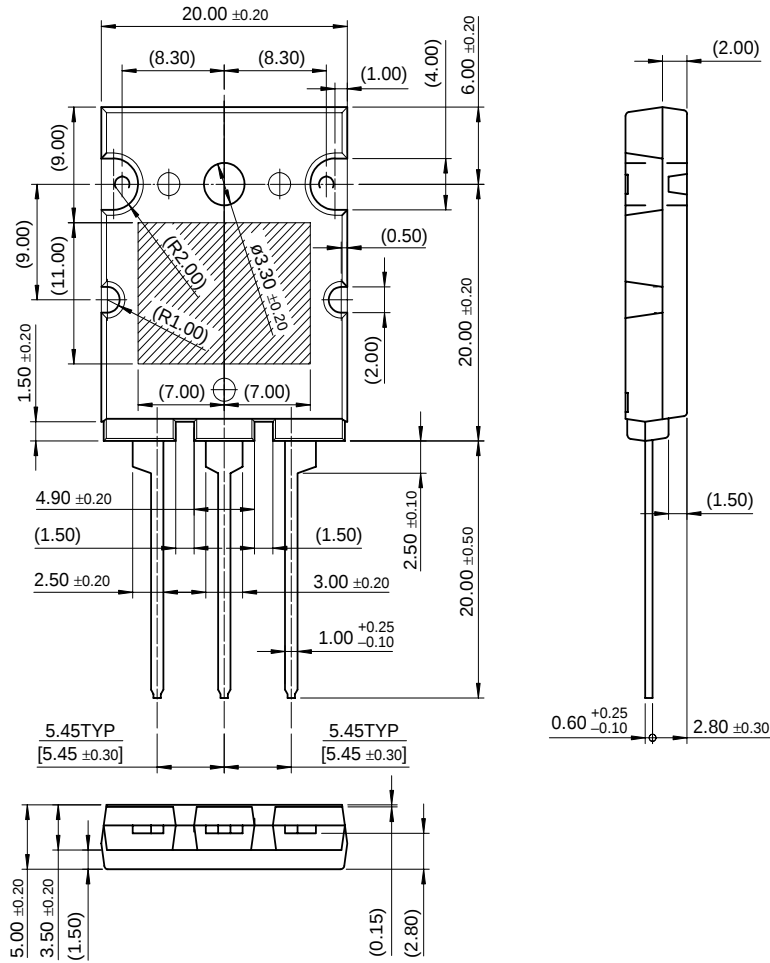


Figure 6. Power Derating

# Package Dimensions

## TO-264



Dimensions in Millimeters

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