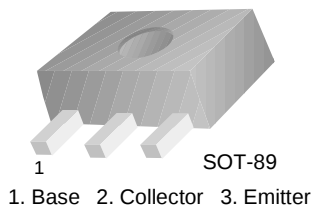


# KSB798

KSB798

## Audio Frequency Power Amplifier

- Collector Current :  $I_C = -1A$
- Collector Power Dissipation :  $P_C = 2W$



1. Base 2. Collector 3. Emitter

## 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 (DC)      | -1.0      | A          |
| $I_{CP}$  | * Collector Current (Pulse) | -1.5      | A          |
| $P_C$     | Collector Power Dissipation | 2.0       | W          |
| $T_J$     | Junction Temperature        | 150       | $^\circ C$ |
| $T_{STG}$ | Storage Temperature         | -55 ~ 150 | $^\circ C$ |

\*  $PW \leq 10ms$ , Duty cycle  $\leq 50\%$

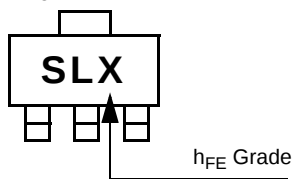
### Electrical Characteristics $T_a = 25^\circ C$ unless otherwise noted

| 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  | $I_C = -1mA$ , $I_B = 0$                                         | -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 | $\mu A$ |
| $I_{EBO}$              | Emitter Cut-off Current              | $V_{EB} = -5V$ , $I_C = 0$                                       |          |      | -0.1 | $\mu A$ |
| $h_{FE1}$<br>$h_{FE2}$ | DC Current Gain                      | $V_{CE} = -1V$ , $I_C = -0.1A$<br>$V_{CE} = -1V$ , $I_C = -1.0A$ | 90<br>50 |      | 400  |         |
| $V_{CE(sat)}$          | Collector-Emitter Saturation Voltage | $I_C = -1.0A$ , $I_B = -0.1A$                                    |          |      | -0.4 | V       |
| $V_{BE(sat)}$          | Base-Emitter Saturation Voltage      | $I_C = -1.0A$ , $I_B = -0.1A$                                    |          |      | -1.2 | V       |
| $V_{BE(on)}$           | Base-Emitter On Voltage              | $V_{CE} = -6V$ , $I_C = -10mA$                                   | -0.6     |      | -0.7 | 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         |
|----------------|----------|-----------|-----------|
| $h_{FE1}$      | 90 ~ 180 | 135 ~ 270 | 200 ~ 400 |

Marking



# Typical Characteristics

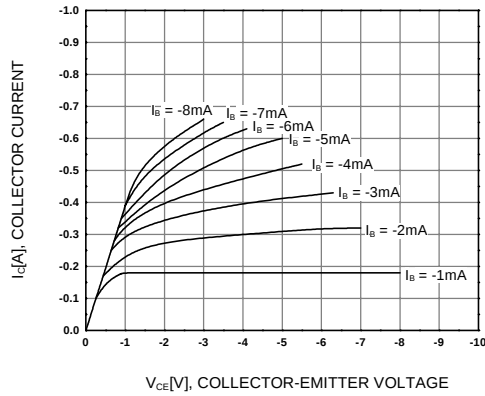


Figure 1. Static Characteristic

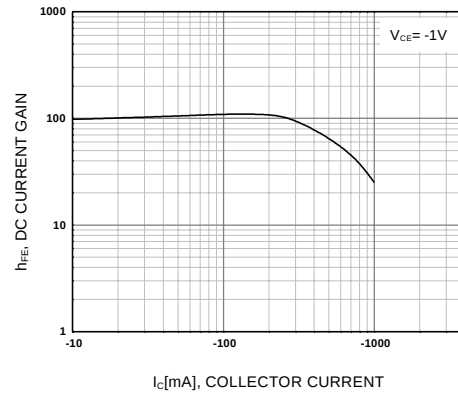


Figure 2. DC current Gain

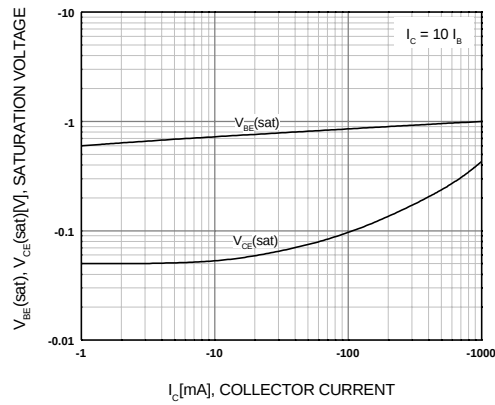


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

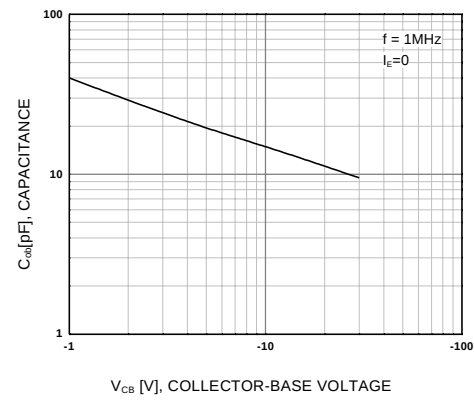


Figure 4. Collector Output Capacitance

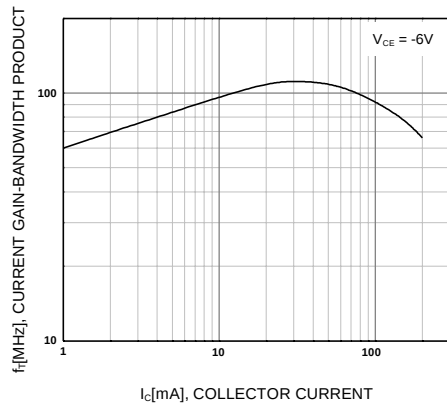


Figure 5. Current Gain Bandwidth Product

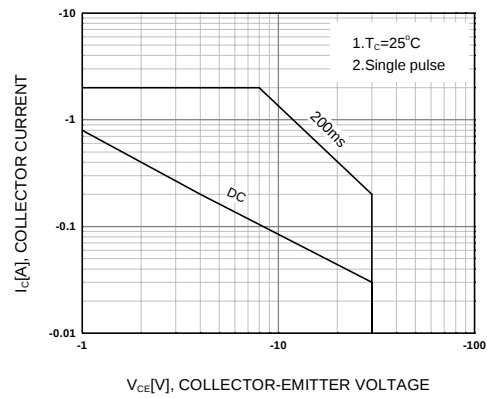
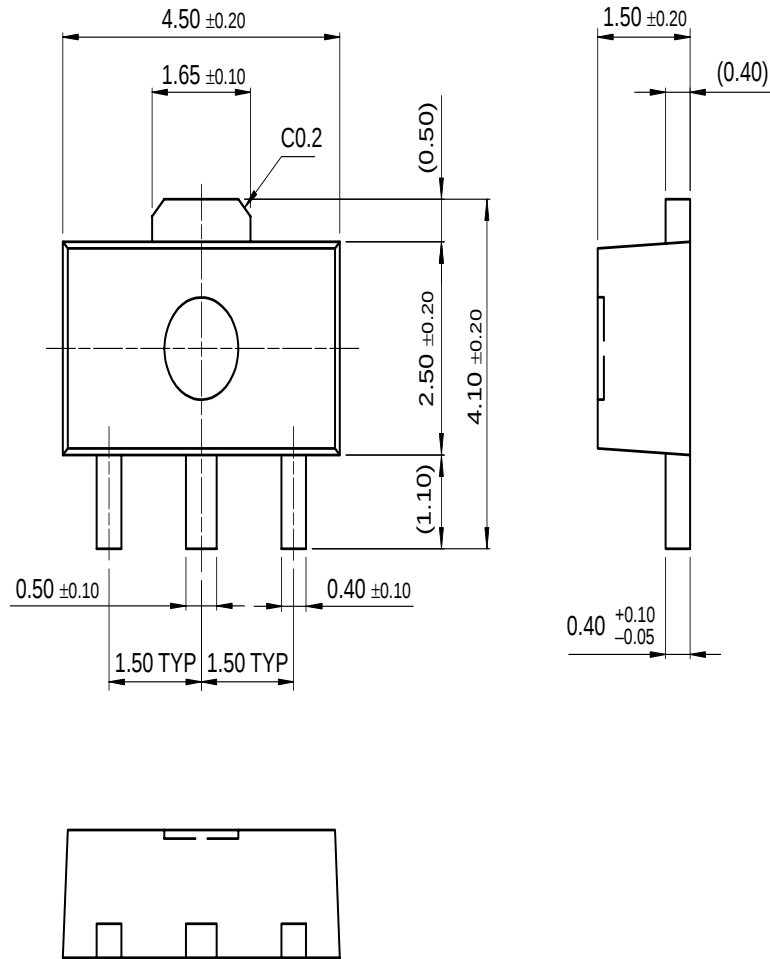


Figure 6. Safe Operating Area

# Package Dimensions

## SOT-89



Dimensions in Millimeters

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| DenseTrench <sup>TM</sup>         | GTO <sup>TM</sup>                | PowerTrench <sup>®</sup>         | SuperSOT <sup>TM</sup> -8    |
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