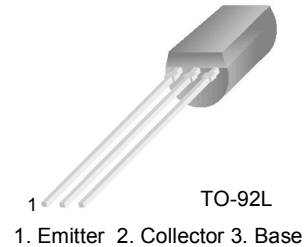


# KSA1281

## Audio Power Amplifier

- Collector Power Dissipation : PC=1W
- 3 Watt Output Application



### Absolute Maximum Ratings\* T<sub>a</sub>=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V <sub>CB0</sub>	Collector-Base Voltage	-50	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-50	V
V <sub>EBO</sub>	Emitter-Base Voltage	-5	V
I <sub>C</sub>	Collector Current (DC)	-2	A
P <sub>C</sub>	Collector Dissipation (T <sub>C</sub> =25°C)	1	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>STG</sub>	Storage Temperature	-55 ~ 150	°C

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

#### NOTES:

- 1) These ratings are based on a maximum junction temperature of 150°C.
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Electrical Characteristics\* T<sub>a</sub> = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Units
BV <sub>CB0</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> = -100, I <sub>E</sub> = 0	-50			V
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = -10mA, I <sub>B</sub> = 0	-50			V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> = -1mA, I <sub>C</sub> = 0	-5			V
I <sub>CB0</sub>	Collector Cut-off Current	V <sub>CB</sub> = -50V, I <sub>E</sub> = 0			-100	nA
I <sub>EBO</sub>	Emitter Cut-off Current	V <sub>EB</sub> = -5V, I <sub>C</sub> = 0			-100	nA
h <sub>FE1</sub> h <sub>FE2</sub>	DC Current Gain	V <sub>CE</sub> = -2V, I <sub>C</sub> = -500mA V <sub>CE</sub> = -2V, I <sub>C</sub> = -1.5A	70 40		240	
V <sub>BE (sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -1A, I <sub>B</sub> = -0.05A			-1.2	V
V <sub>CE (sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -1A, I <sub>B</sub> = -0.05A			-0.5	V
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> = -10V, I <sub>E</sub> = 0, f = 1MHz		40		pF
f <sub>T</sub>	Current Gain Bandwidth Product	V <sub>CE</sub> = -2V, I <sub>C</sub> = -500mA		100		MHz

\* Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%

### h<sub>FE</sub> Classification

Classification	O	Y
h <sub>FE</sub>	70 ~ 140	120 ~ 240

# Typical Characteristics

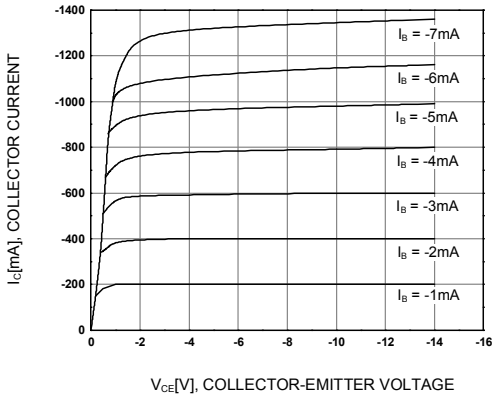


Figure 1. Static Characteristic

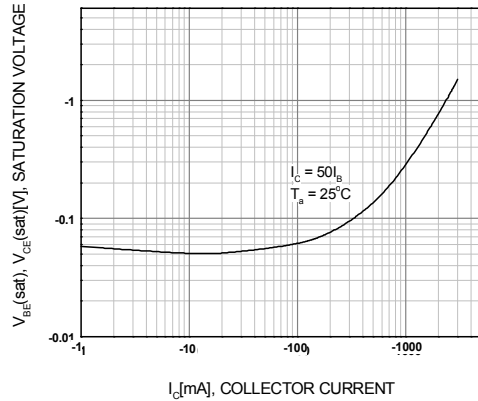


Figure 2. Base-Emitter Saturation Voltage

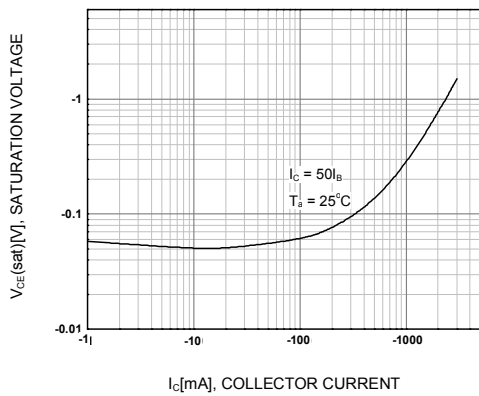


Figure 3. Collector-Emitter Saturation Voltage

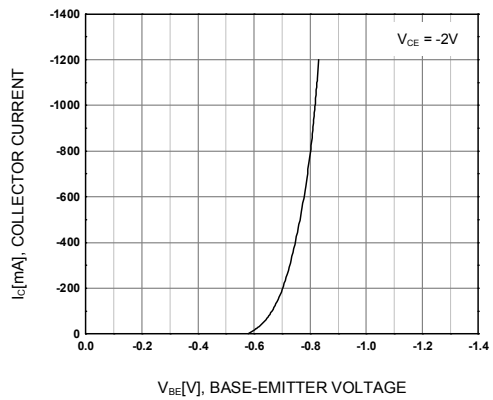


Figure 4. Base-Emitter On Voltage

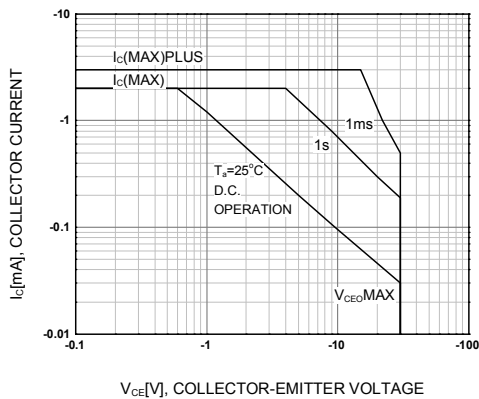


Figure 5. Safe Operating Area

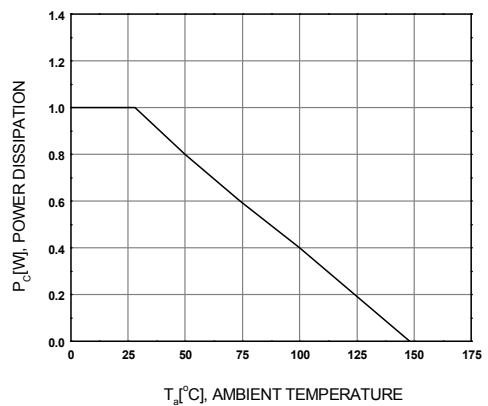


Figure 6. Power Derating



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