

# KSA1281

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## Audio Power Amplifier

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



## PNP Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Ratings	Units
$V_{CBO}$	Collector-Base Voltage	-50	V
$V_{CEO}$	Collector-Emitter Voltage	-50	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	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ +150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -100, I_E = 0$	-50			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}, I_B = 0$	-50			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -1\text{mA}, I_C = 0$	-5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -50\text{V}, I_E = 0$			-100	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -5\text{V}, I_C = 0$			-100	nA
$h_{FE1}$ $h_{FE2}$	DC Current Gain	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$ $V_{CE} = -2\text{V}, I_C = -1.5\text{A}$	70 40		240	
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C = -1\text{A}, I_B = -0.05\text{mA}$			-1.2	V
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = -1\text{A}, I_B = -0.05\text{mA}$			-0.5	V
$C_{ob}$	Output Capacitance	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		40		pF
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$		100		MHz

### $h_{FE1}$ Classification

Classification	O	Y
$h_{FE1}$	70 ~ 140	120 ~ 240

# Typical Characteristics

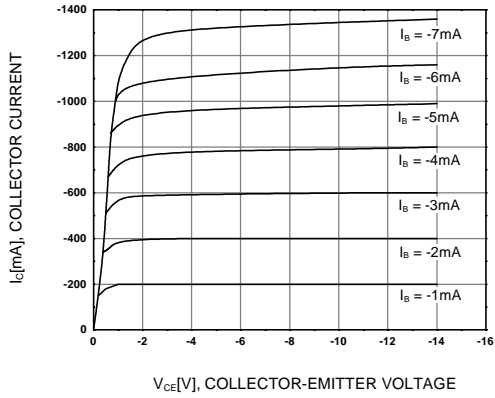


Figure 1. Static Characteristic

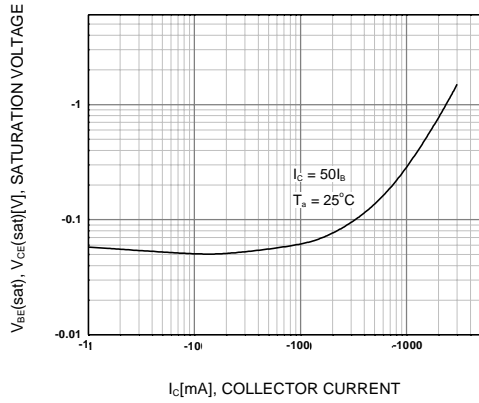


Figure 2. Base-Emitter Saturation Voltage

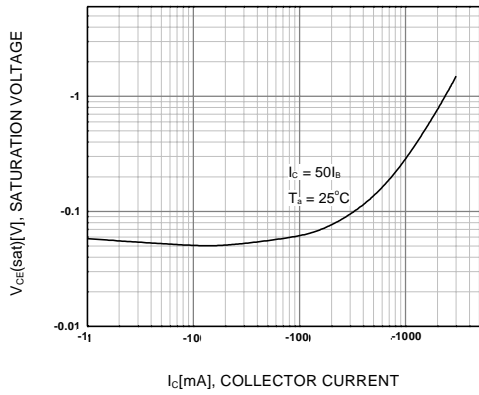


Figure 3. Collector-Emitter Saturation Voltage

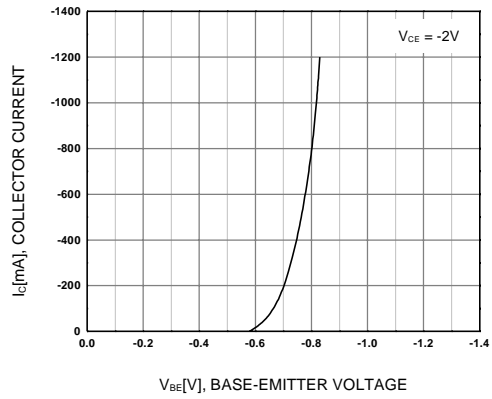


Figure 4. Base-Emitter On Voltage

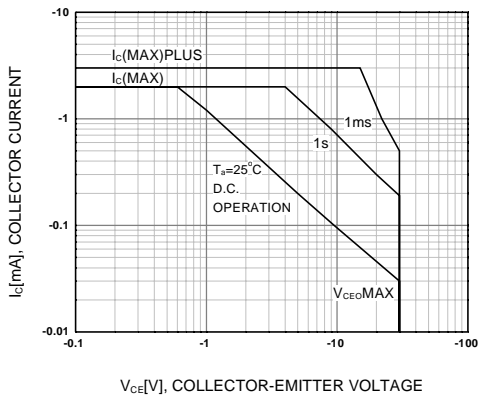


Figure 5. Safe Operating Area

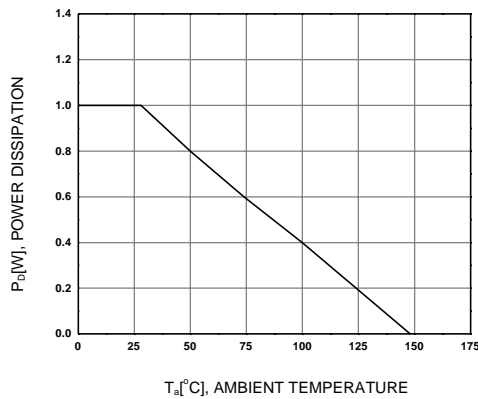
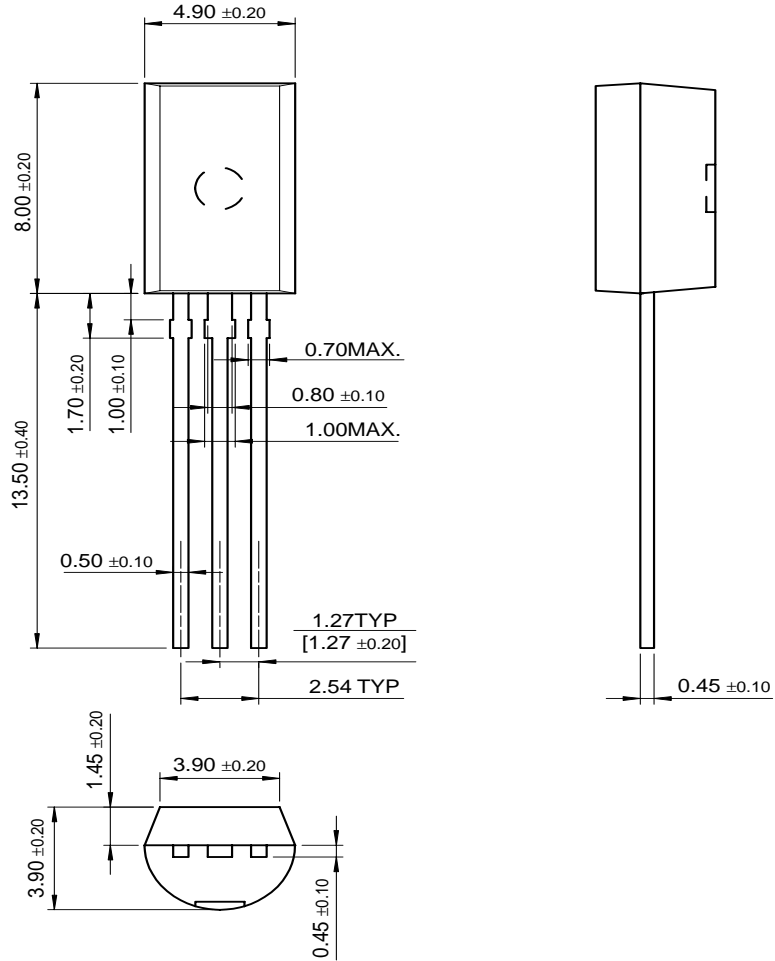


Figure 6. Power Derating

# Package Dimensions

KSA1281

## TO-92L



Dimensions in Millimeters

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