

KSA1174

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Audio Frequency Low Noise Amplifier

- Complement to KSC2784



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	-120	V
V_{CEO}	Collector-Emitter Voltage	-120	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-50	mA
I_B	Base Current	-10	mA
P_C	Collector Power Dissipation	300	mW
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
I_{CBO}	Collector Cut-off Current	$V_{CB} = -120\text{V}, I_E = 0$			-50	nA
I_{CEO}	Collector Cut-off Current	$V_{CE} = -100\text{V}, I_B = 0$			-1	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -5\text{V}, I_C = 0$			-50	nA
h_{FE1} h_{FE2}	DC Current Gain	$V_{CE} = -6\text{V}, I_C = -0.1\text{mA}$ $V_{CE} = -6\text{V}, I_C = -1\text{mA}$	150 200	500 500	800	
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE} = -6\text{V}, I_C = -1\text{mA}$	-0.55	-0.61	-0.65	V
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = -10\text{mA}, I_B = -1\text{mA}$		-0.09	-0.3	V
f_T	Current Gain Bandwidth Product	$V_{CE} = -6\text{V}, I_C = -1\text{mA}$	50	100		MHz
C_{ob}	Output Capacitance	$V_{CB} = -30\text{V}, I_E = 0, f = 1\text{MHz}$		2	3	pF
NV	Noise Voltage			25	40	mV

h_{FE2} Classification

Classification	P	F	E
h_{FE2}	200 ~ 400	300 ~ 600	400 ~ 800

Typical Characteristics

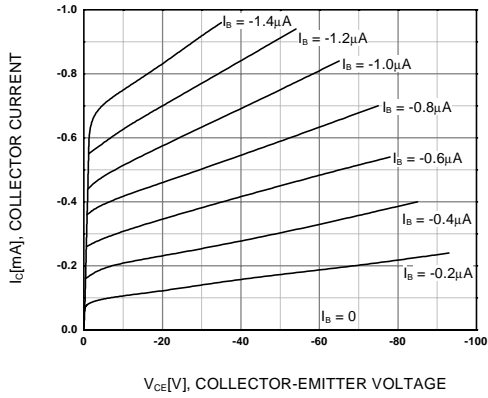


Figure 1. Static Characteristic

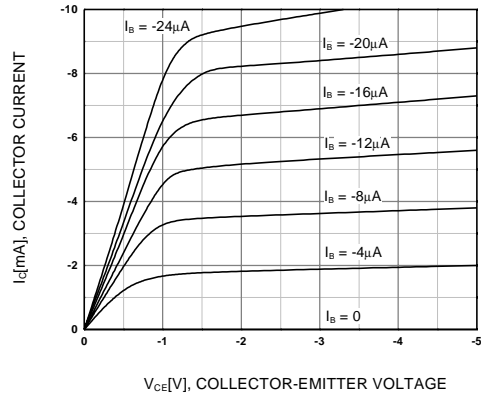


Figure 2. Static Characteristic

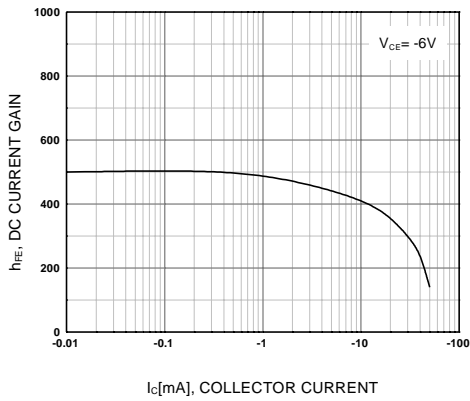


Figure 3. DC current Gain

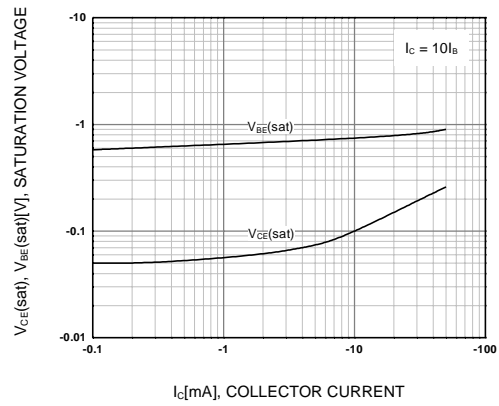


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

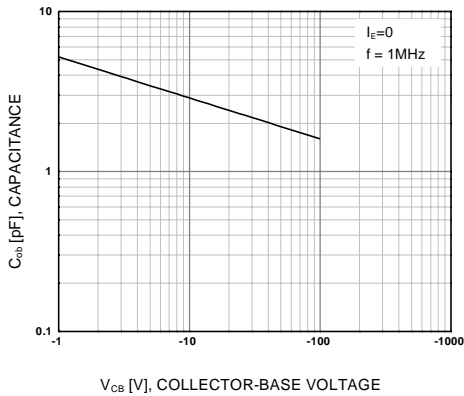


Figure 5. Collector Output Capacitance

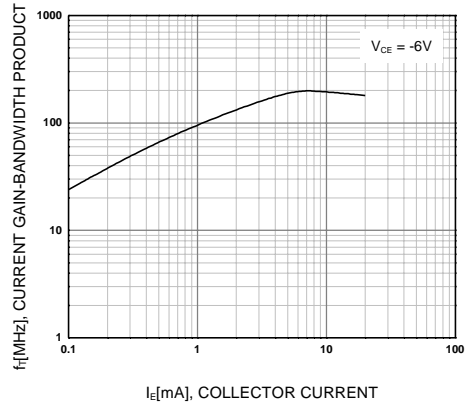


Figure 6. Current Gain Bandwidth Product

Typical Characteristics (Continued)

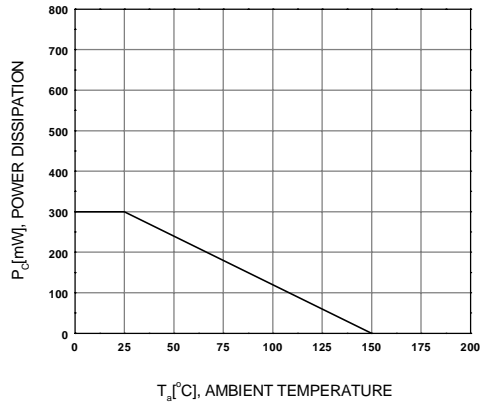
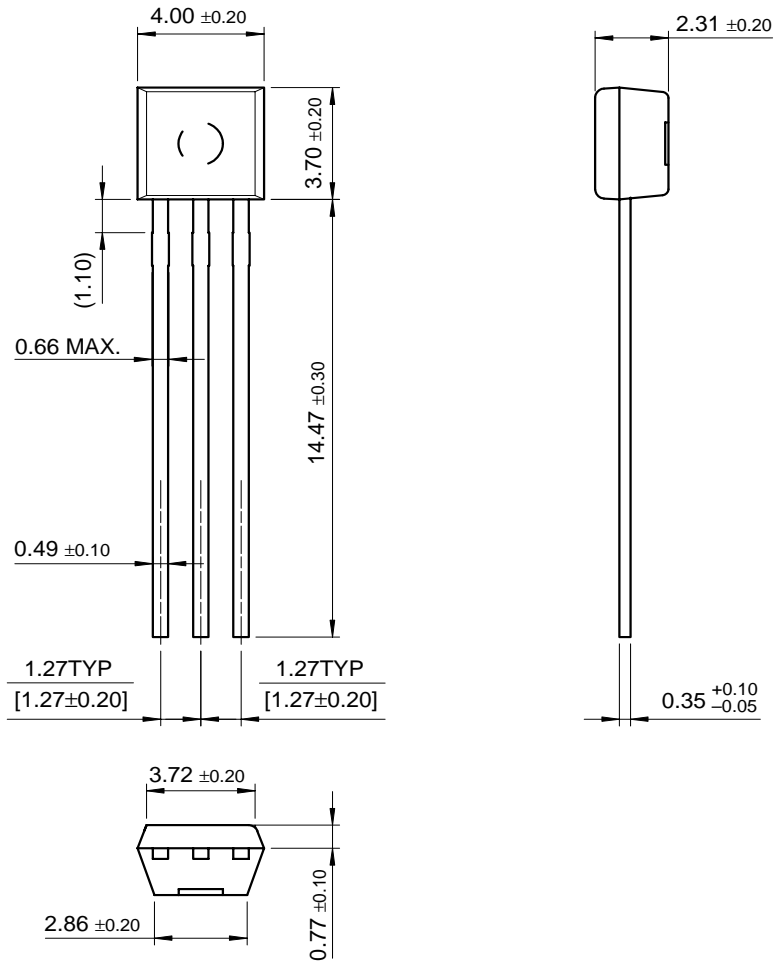


Figure 7. Power Derating

Package Dimensions

TO-92S



Dimensions in Millimeters

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