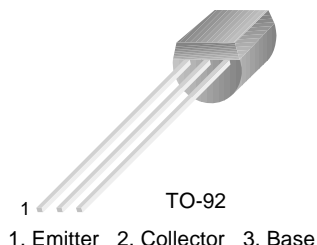


# KSA992

## Audio Frequency Low Noise Amplifier

- Complement to KSC1845



## PNP Epitaxial Silicon Transistor

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

Symbol	Parameter	Ratings	Units
$V_{CB0}$	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	500	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 Cur-off Current	$V_{CE} = -100\text{V}, I_B = 0$			-1	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -5\text{mA}, I_C = 0$			-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	$V_{CE} = -5.0\text{V}, I_C = -1.0\text{mA},$ $R_G = 100\text{KW}, G_V = 80\text{dB},$ $f = 10\text{Hz to } 1.0\text{KHz}$		25	40	mV

### $h_{FE2}$ Classification

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

# Typical Characteristics

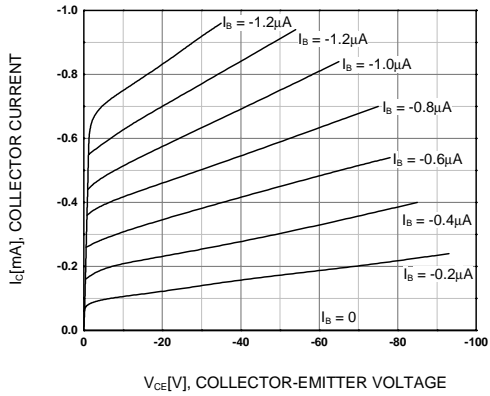


Figure 1. Static Characteristic

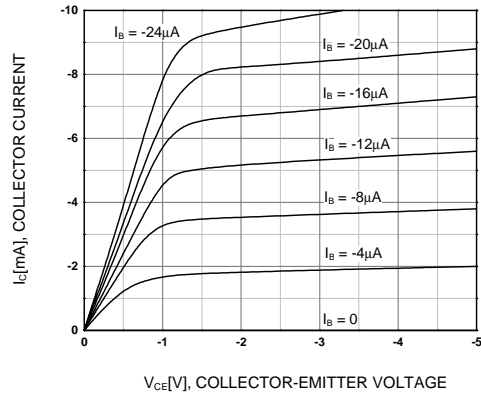


Figure 2. Static Characteristic

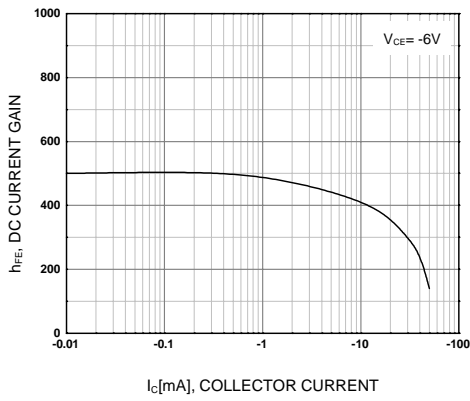


Figure 3. DC current Gain

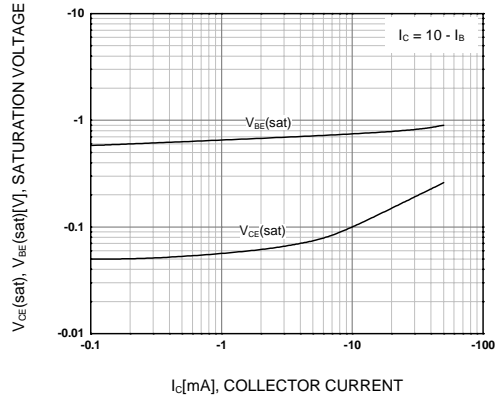


Figure 4. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

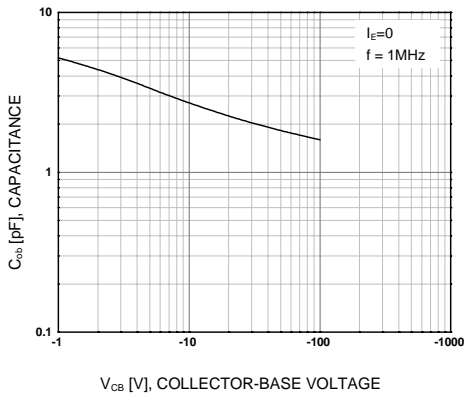


Figure 5. Collector Output Capacitance

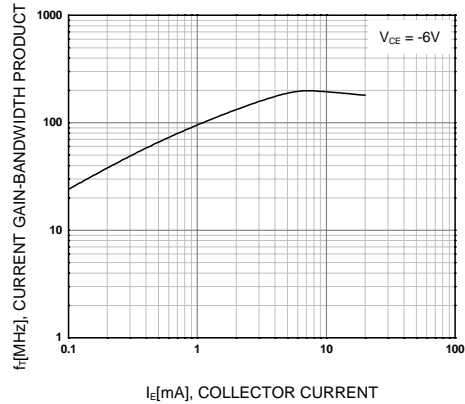


Figure 6. Current Gain Bandwidth Product

# Typical Characteristics (Continued)

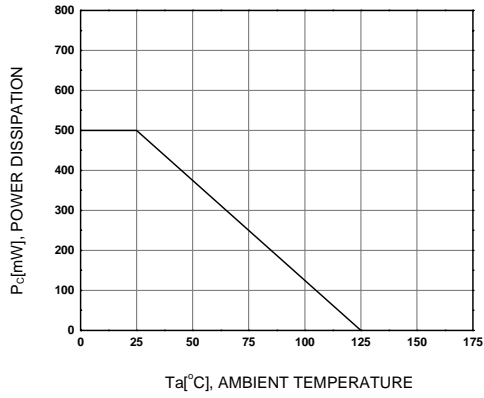
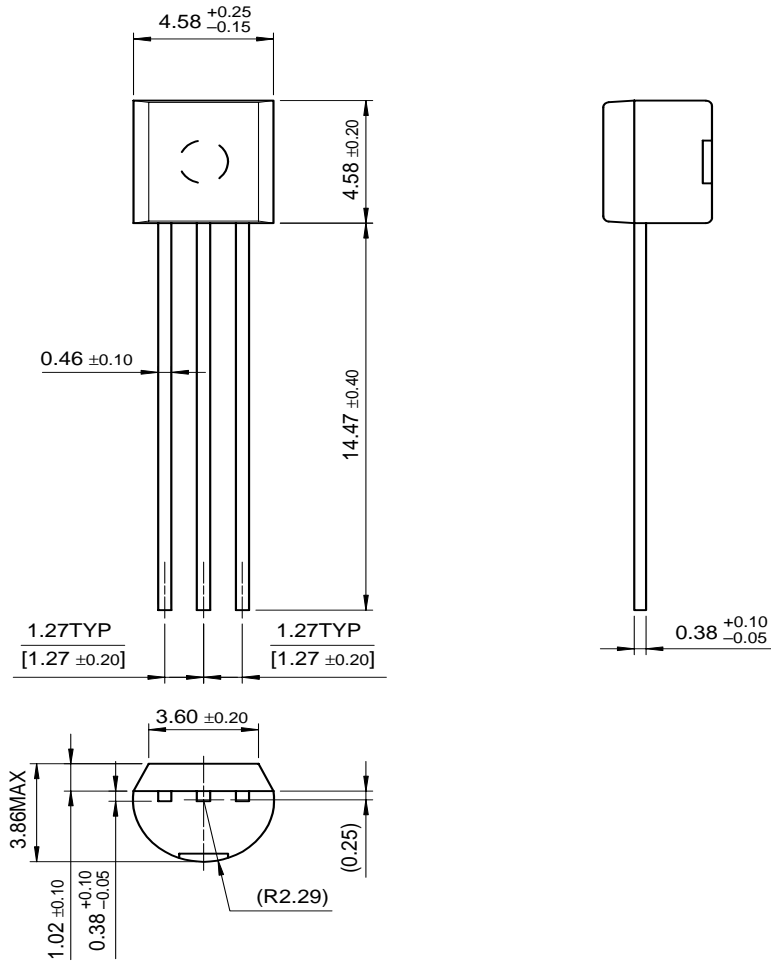


Figure 7. Power Derating

# Package Dimensions

## TO-92



Dimensions in Millimeters

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Bottomless <sup>TM</sup>	FPS <sup>TM</sup>	MICROCOUPLER <sup>TM</sup>	PowerTrench <sup>®</sup>	SuperSOT <sup>TM</sup> -6
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Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

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PNP Epitaxial Silicon Transistor

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### Features

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Product	Product status	Pb-free Status	Pricing*	Package type	Leads	Packing method	Package Marking Convention**
KSA992FBU	Full Production	Full Production	\$0.0265	<a href="#">TO-92</a>	3	BULK	Line 1: A992 Line 3: F-&3
KSA992FTA	Full Production	Full Production	\$0.0265	<a href="#">TO-92</a>	3	AMMO	Line 1: A992 Line 3: F-&3
KSA992PBU	Full Production	Full Production	\$0.0265	<a href="#">TO-92</a>	3	BULK	Line 1: A992 Line 3: P-&3
KSA992PTA	Full Production		\$0.0265	<a href="#">TO-92</a>	3	AMMO	Line 1: A992 Line 3: P-&3



\* Fairchild 1,000 piece Budgetary Pricing

\*\* A sample button will appear if the part is available through Fairchild's on-line samples program. If there is no sample button, please contact a [Fairchild distributor](#) to obtain samples



Indicates product with Pb-free second-level interconnect. For more information [click here](#).

Package marking information for product KSA992 is available. [Click here for more information](#).

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### Models

Package & leads	Condition	Temperature range	Vcc range	Software version	Revision date
<b>PSPICE</b>					
TO-92-3	<a href="#">Electrical/Thermal</a>	-55°C to 150°C	0V to -90V	9.2	Jan 3, 2003

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### Qualification Support

Click on a product for detailed qualification data

Product
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<a href="#">KSA992FTA</a>
<a href="#">KSA992PBU</a>
<a href="#">KSA992PTA</a>

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