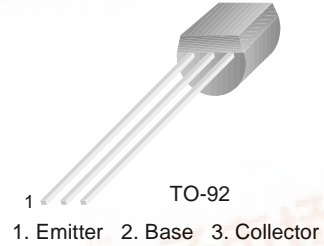


**FAIRCHILD**  
SEMICONDUCTOR®

## KSA642

### Low Frequency Power Amplifier

- Complement to KSD227
- Collector Power Dissipation :  $P_C = 400\text{mW}$
- Suffix "-C" means Center Collector (1. Emitter 2. Collector 3. Base)



### 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	-30	V
$V_{CEO}$	Collector-Emitter Voltage	-25	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current (DC)	-300	mA
$I_{CP}$	* Collector Current (Pulse)	-500	mA
$P_C$	Collector Power Dissipation	400	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

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

#### 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	$I_C = -100\mu\text{A}$ , $I_E = 0$	-30			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}$ , $I_B = 0$	-25			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -10\mu\text{A}$ , $I_C = 0$	-5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -25\text{V}$ , $I_E = 0$			-100	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -3\text{V}$ , $I_C = 0$			-100	nA
$h_{FE}$	* DC Current Gain	$V_{CE} = -1\text{V}$ , $I_C = -50\text{mA}$	70		400	
$V_{CE}(\text{sat})$	* Collector-Emitter Saturation Voltage	$I_C = -300\text{mA}$ , $I_B = -30\text{mA}$		-0.35	-0.6	V

\* Pulse Test:  $PW \leq 350\mu\text{s}$ , Duty cycle  $\leq 2\%$

### $h_{FE}$ Classification

Classification	O	Y	G
$h_{FE}$	70 ~ 140	120 ~ 240	200 ~ 400



## Typical Characteristics

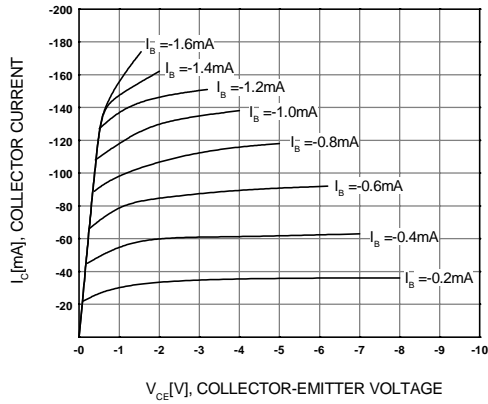


Figure 1. Static Characteristic

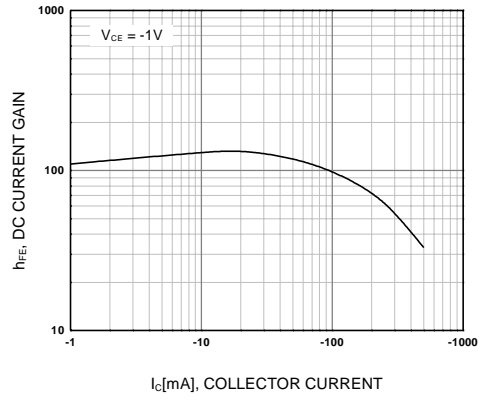


Figure 2. DC current Gain

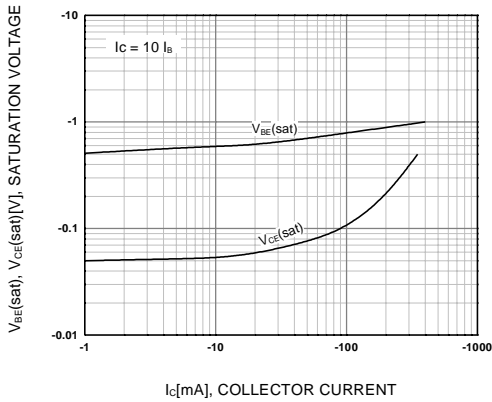


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

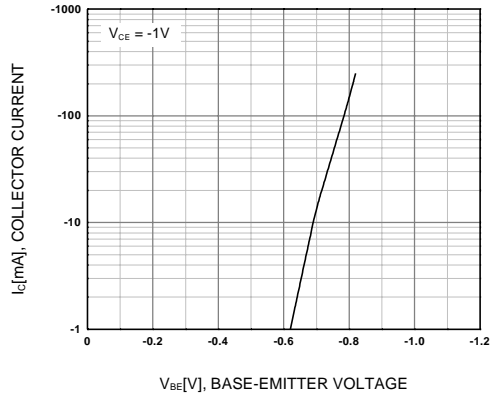


Figure 4. Base-Emitter On Voltage

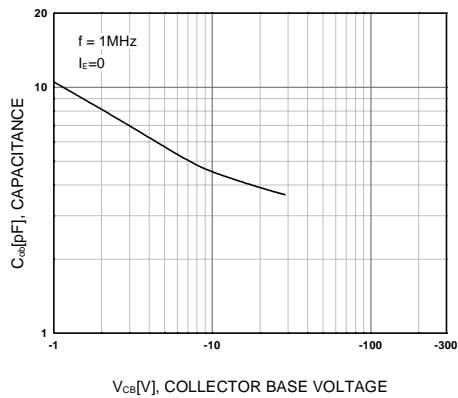
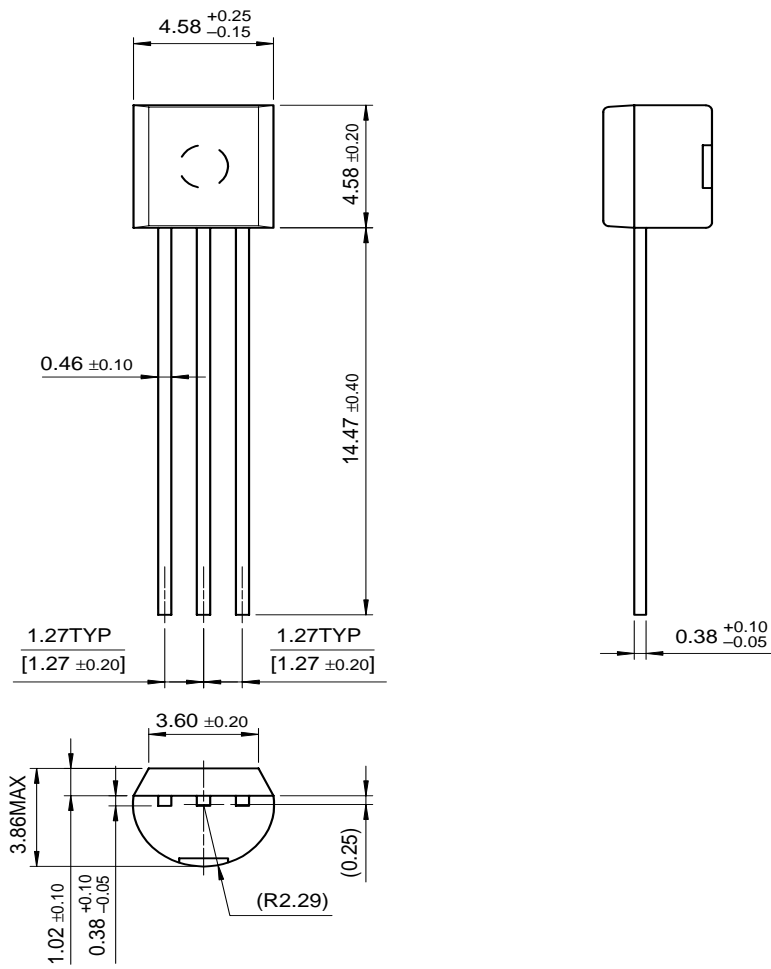


Figure 5. Collector Output Capacitance

# Package Demensions

KSA642

## TO-92



Dimensions in Millimeters

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DO <sup>ME</sup> <sup>TM</sup>	HiSeC <sup>TM</sup>	QFET <sup>TM</sup>	SyncFET <sup>TM</sup>
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