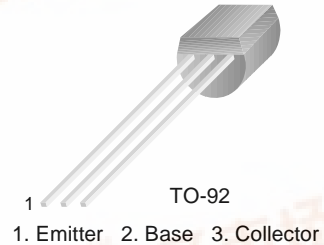


**FAIRCHILD**  
SEMICONDUCTOR®

## KSA643

### Low Frequency Power Amplifier

- Collector Power Dissipation:  $P_C = 500\text{mW}$
- Complement to KSD261
- 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	-40	V
$V_{CEO}$	Collector-Emitter Voltage	-20	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current (DC)	-500	mA
$I_{CP}$	* Collector Current (pulse)	-700	mA
$P_C$	Collector Power Dissipation	500	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

\*  $PW \leq 10\text{ms}$ , 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	$I_C = -100\mu\text{A}$ , $I_E = 0$	-40			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{mA}$ , $I_B = 0$	-20			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -10\mu\text{A}$ , $I_C = 0$	-5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = -25\text{V}$ , $I_E = 0$			-200	nA
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = -3\text{V}$ , $I_C = 0$			-200	nA
$h_{FE}$	* DC Current Gain	$V_{CE} = -1\text{V}$ , $I_C = -100\text{mA}$	40		400	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = -500\text{mA}$ , $I_B = -50\text{mA}$		-0.3	-0.4	V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C = -500\text{mA}$ , $I_B = -50\text{mA}$		-1.0	-1.3	V

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

### $h_{FE}$ Classification

Classification	R	O	Y	G
$h_{FE}$	40 ~ 80	70 ~ 140	120 ~ 240	200 ~ 400

# Typical Characteristics

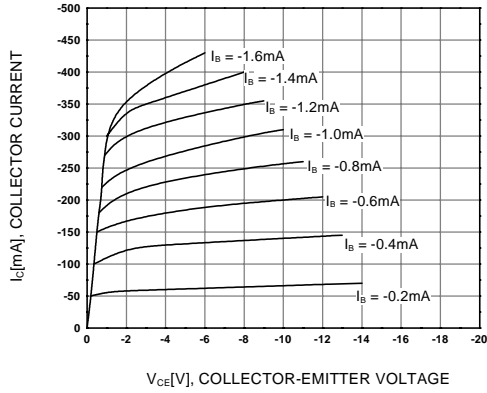


Figure 1. Static Characteristic

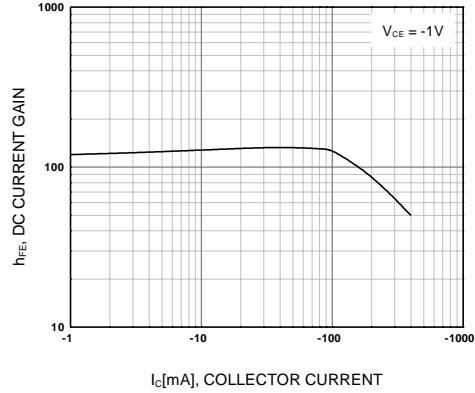


Figure 2. DC current Gain

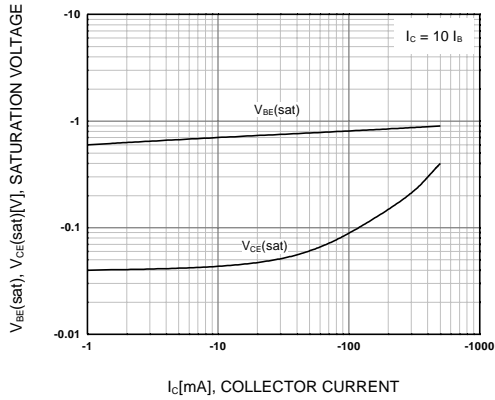


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

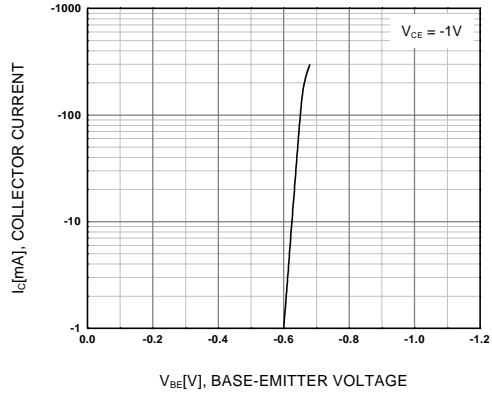


Figure 4. Base-Emitter On Voltage

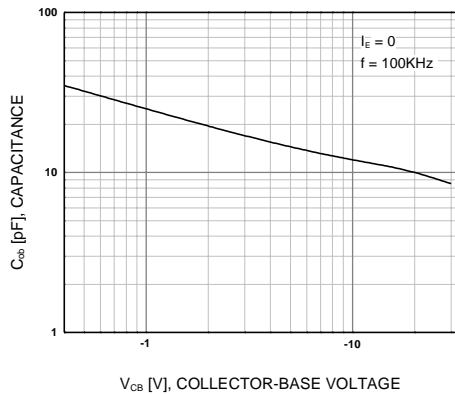
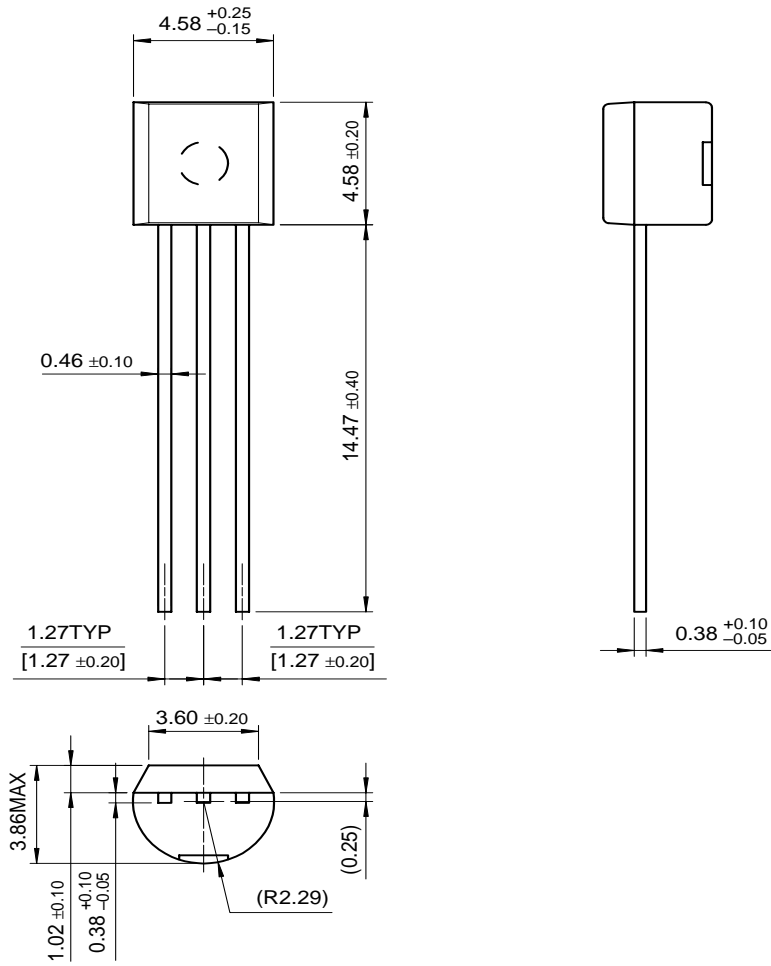


Figure 5. Collector Output Capacitance

# Package Demensions

KSA643

## TO-92



Dimensions in Millimeters

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