

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

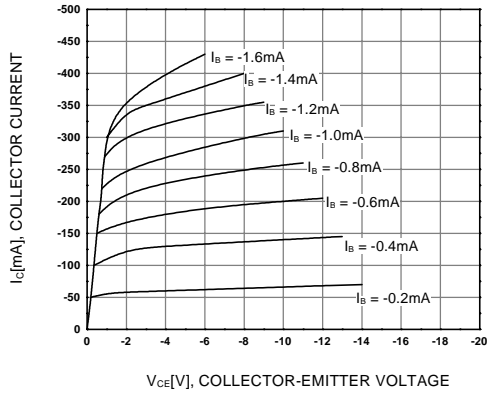


Figure 1. Static Characteristic

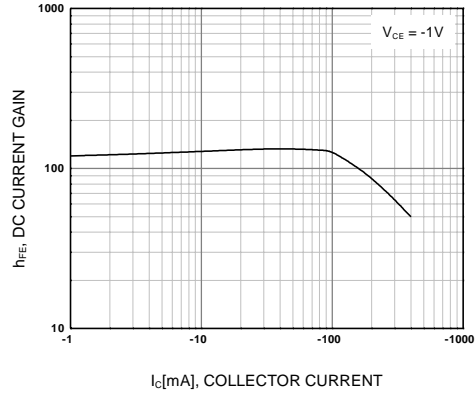


Figure 2. DC current Gain

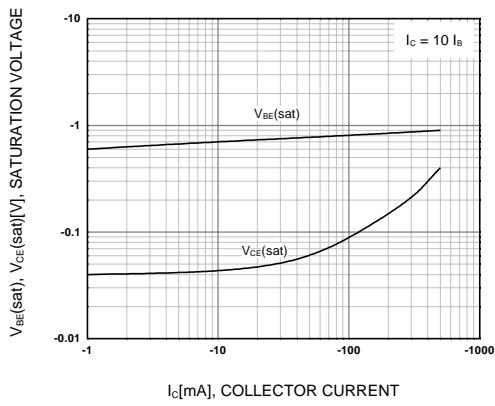


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

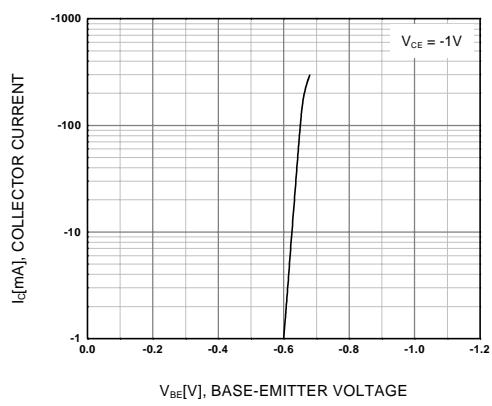


Figure 4. Base-Emitter On Voltage

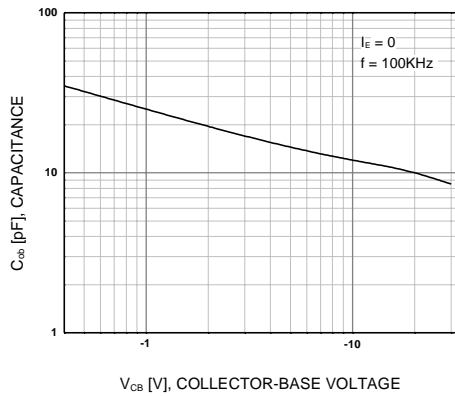


Figure 5. Collector Output Capacitance

Package Dimensions

TO-92



Dimensions in Millimeters

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