

KSC2682

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Audio Frequency Power Amplifier

- Complement to KSA1142



NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	180	V
V_{CEO}	Collector-Emitter Voltage	180	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	100	mA
P_C	Collector Dissipation ($T_a=25^\circ\text{C}$)	1.2	W
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	8	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
I_{CBO}	Collector Cut-off Current	$V_{CB} = 180\text{V}, I_E = 0$			1.0	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 3\text{V}, I_C = 0$			1.0	μA
h_{FE1} h_{FE2}	* DC Current Gain	$V_{CE} = 5\text{V}, I_C = 1\text{mA}$ $V_{CE} = 5\text{V}, I_C = 10\text{mA}$	90 100	190 200	320	
$V_{CE(sat)}$	* Collector-Emitter Saturation Voltage	$I_C = 50\text{mA}, I_B = 5\text{mA}$		0.12	0.5	V
$V_{BE(sat)}$	* Base-Emitter Saturation Voltage	$I_C = 50\text{mA}, I_B = 5\text{mA}$		0.8	1.5	V
f_T	Current Gain Bandwidth Product	$V_{CE} = 10\text{V}, I_C = 20\text{mA}$		200		MHz
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}, I_E = 0$ $f = 1\text{MHz}$		3.2	5.0	pF
NF	Noise Figure	$V_{CE} = 10\text{V}, I_C = 1\text{mA}$ $R_S = 10\text{K}\Omega, f = 1\text{kHz}$		4		dB

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

h_{FE} Classification

Classification	O	Y
h_{FE2}	100 ~ 200	160 ~ 320

Typical Characteristics

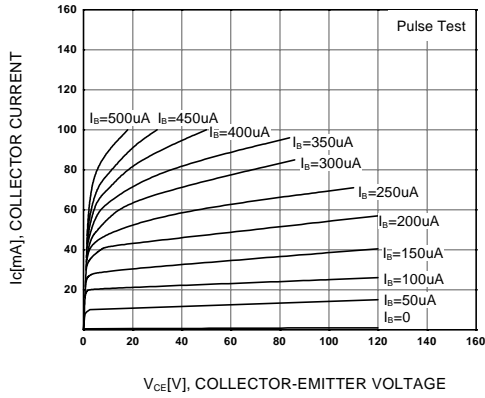


Figure 1. Static Characteristic

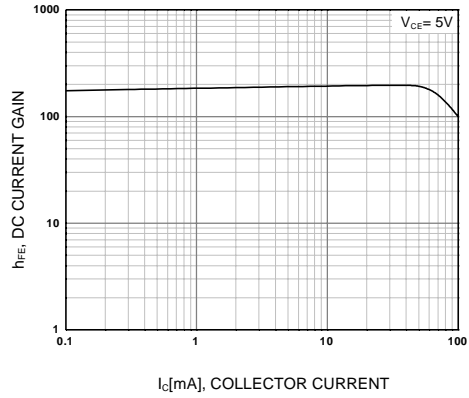


Figure 2. DC current Gain

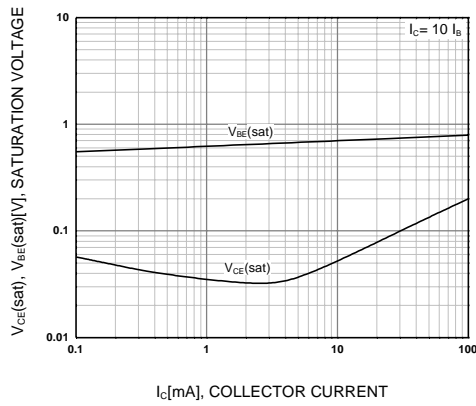


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

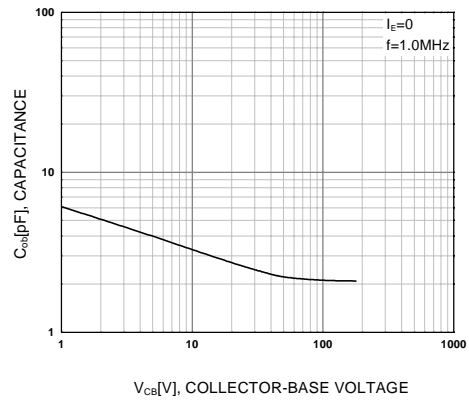


Figure 4. Collector Output Capacitance

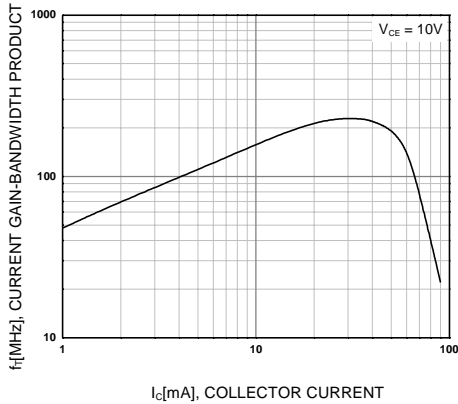


Figure 5. Current Gain Bandwidth Product

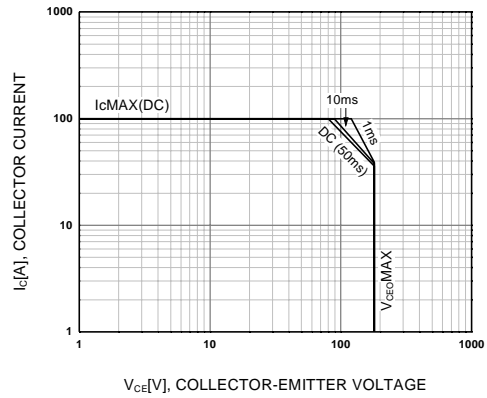


Figure 6. Safe Operating Area

Typical Characteristics (Continued)

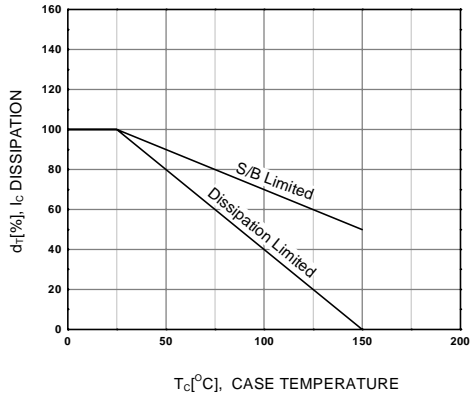


Figure 7. Derating Curve of Safe Operating Area

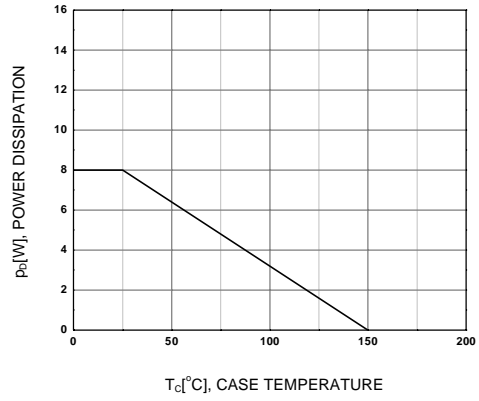


Figure 8. Power Derating

Package Dimensions

KSC2682

TO-126



Dimensions in Millimeters

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