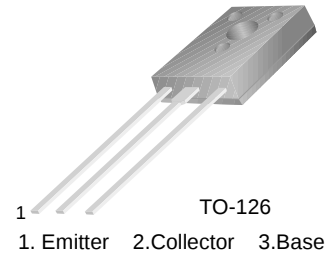


KSC2682

KSC2682

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

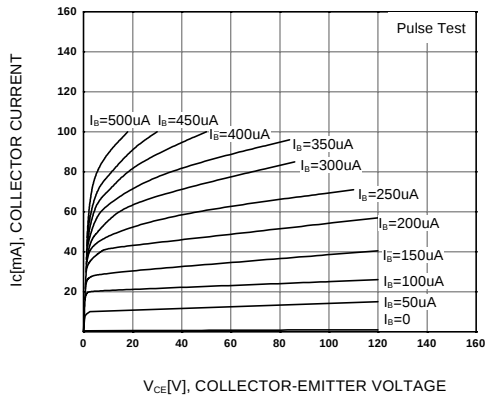


Figure 1. Static Characteristic

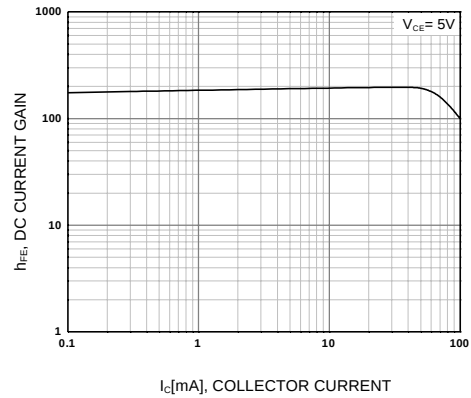


Figure 2. DC current Gain

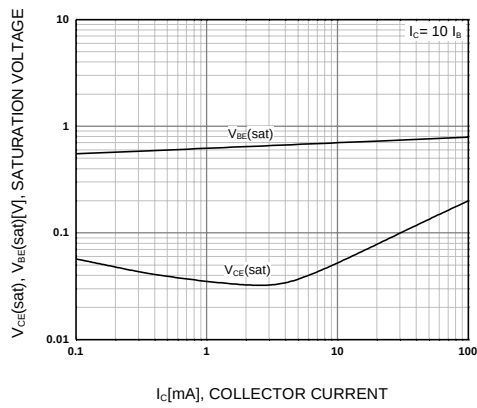


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

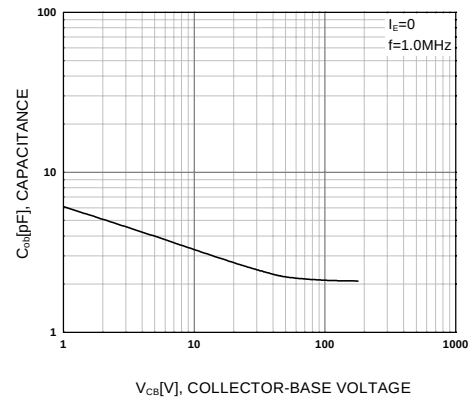


Figure 4. Collector Output Capacitance

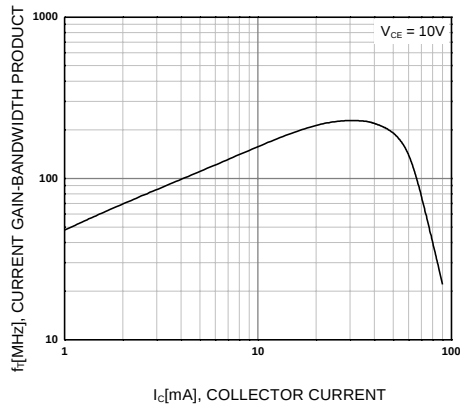


Figure 5. Current Gain Bandwidth Product

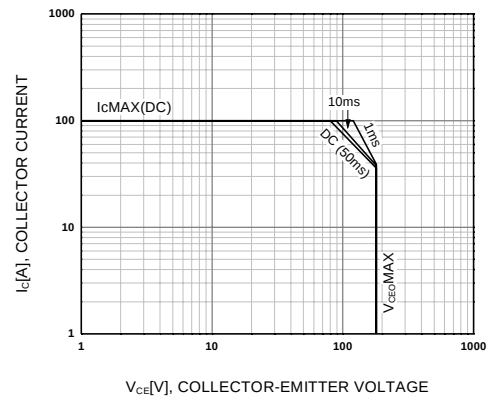
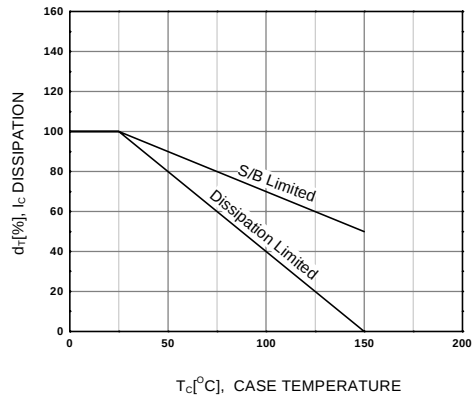
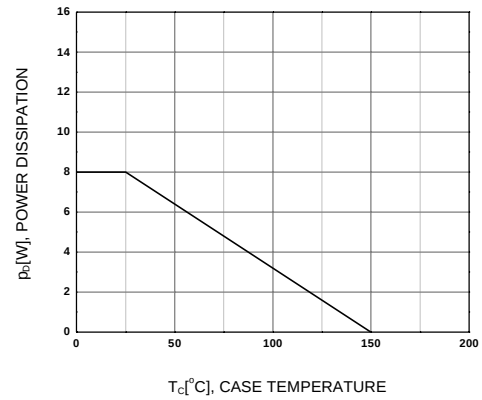


Figure 6. Safe Operating Area

Typical Characteristics (Continued)**Figure 7. Derating Curve of Safe Operating Area****Figure 8. Power Derating**

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