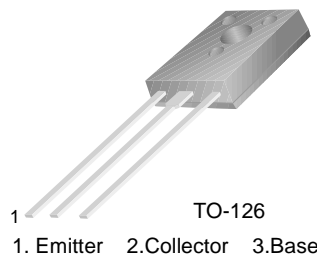


KSD882

Audio Frequency Power Amplifier Low Speed Switching

- Complement to KSB772



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	40	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter- Base Voltage	5	V
I_C	Collector Current (DC)	3	A
I_{CP}	*Collector Current (Pulse)	7	A
I_B	Base Current	0.6	A
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	10	W
P_C	Collector Dissipation ($T_a=25^\circ\text{C}$)	1	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

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

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	$V_{CB} = 30\text{V}$, $I_E = 0$			1	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 3\text{V}$, $I_C = 0$			1	μA
h_{FE1} h_{FE2}	*DC Current Gain	$V_{CE} = 2\text{V}$, $I_C = 20\text{mA}$ $V_{CE} = 2\text{V}$, $I_C = 1\text{A}$	30 60	150 160	400	
$V_{CE(sat)}$	*Collector-Emitter Saturation Voltage	$I_C = 2\text{A}$, $I_B = 0.2\text{A}$		0.3	0.5	V
$V_{BE(sat)}$	*Base-Emitter Saturation Voltage	$I_C = 2\text{A}$, $I_B = 0.2\text{A}$		1.0	2.0	V
f_T	Current Gain Bandwidth Product	$V_{CE} = 5\text{V}$, $I_E = 0.1\text{A}$		90		MHz
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}$, $I_E = 0$ $f = 1\text{MHz}$		45		pF

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

h_{FE} Classification

Classification	R	O	Y	G
h_{FE2}	60 ~ 120	100 ~ 200	160 ~ 320	200 ~ 400

Typical Characteristics

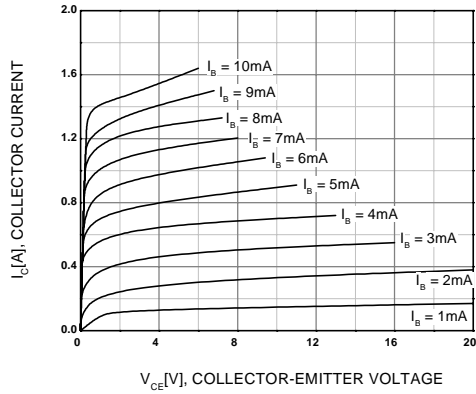


Figure 1. Static Characteristic

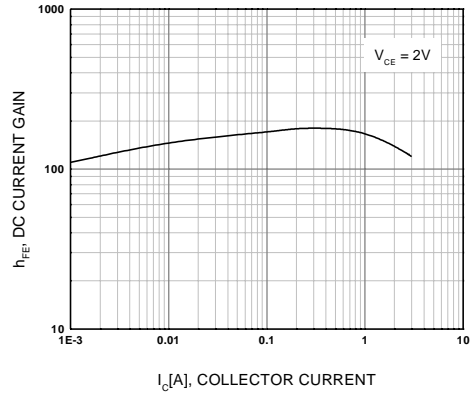


Figure 2. DC current Gain

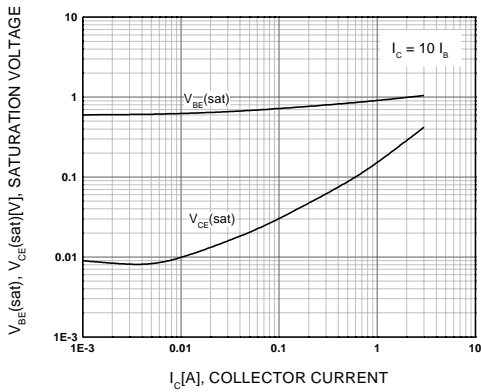


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

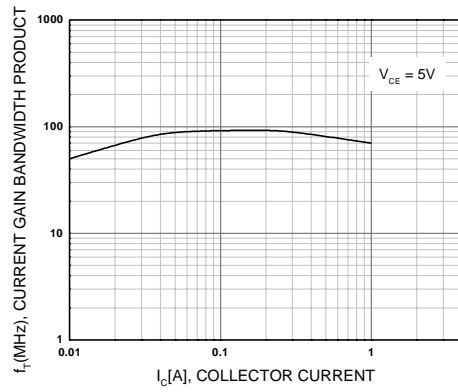


Figure 4. Current Gain Bandwidth Product

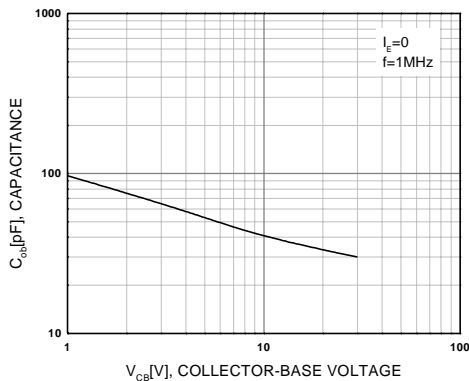


Figure 5. Collector Output Capacitance

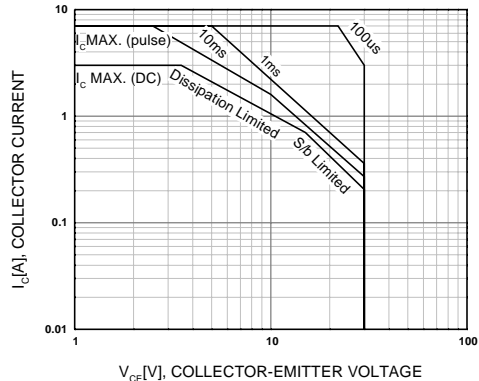


Figure 6. Safe Operating Area

Typical Characteristics (Continued)

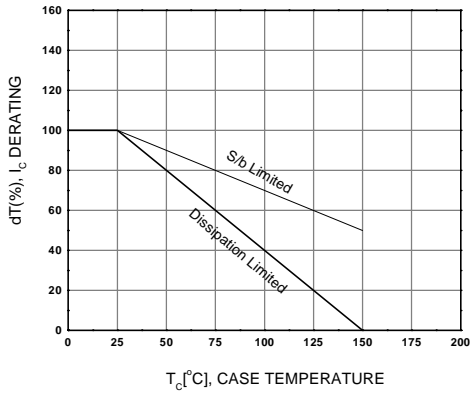


Figure 7. Derating Curve Of Safe Operating Areas

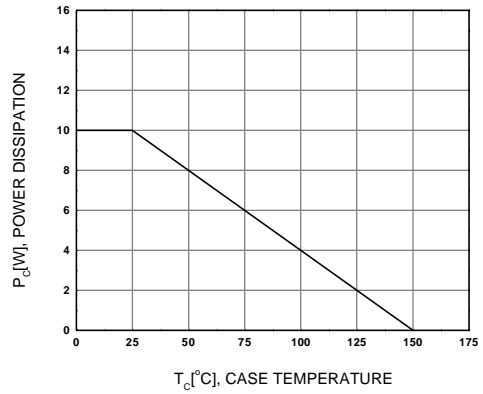


Figure 8. Power Derating

Package Dimensions

KSD882

TO-126



Dimensions in Millimeters

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E ² CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
FACT Quiet Series™	QS™	
FAST®	Quiet Series™	
FASTr™	SuperSOT™-3	
GTO™	SuperSOT™-6	

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