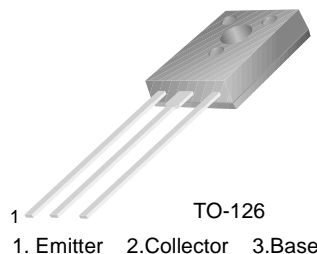


# KSD882

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	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 3\text{V}$ , $I_C = 0$			1	$\mu\text{A}$
$h_{FE1}$ $h_{FE2}$	*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

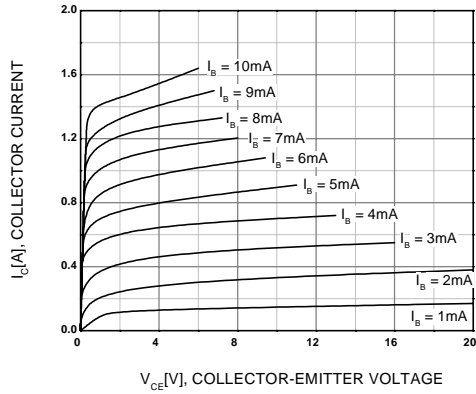


Figure 1. Static Characteristic

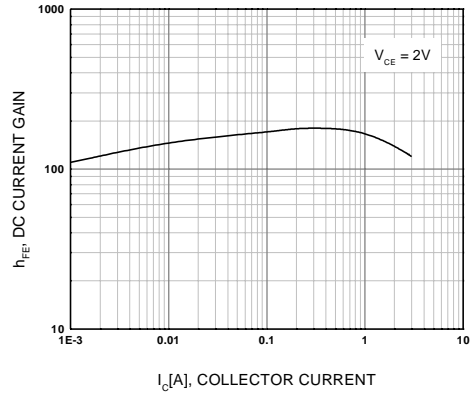


Figure 2. DC current Gain

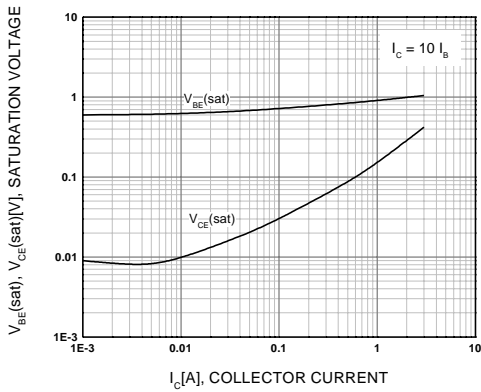


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

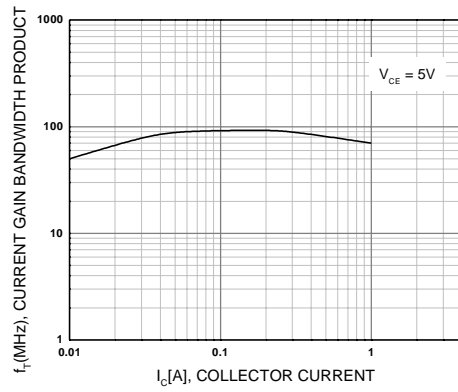


Figure 4. Current Gain Bandwidth Product

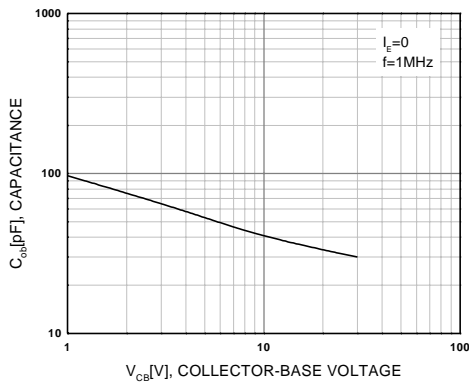


Figure 5. Collector Output Capacitance

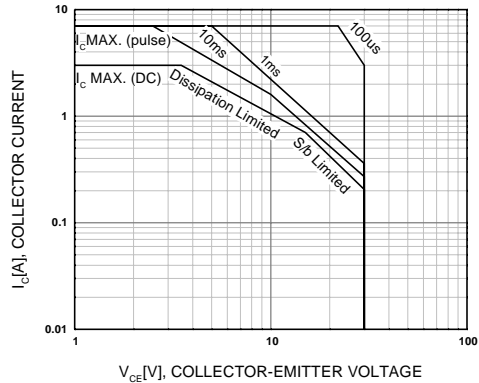


Figure 6. Safe Operating Area

# Typical Characteristics (Continued)

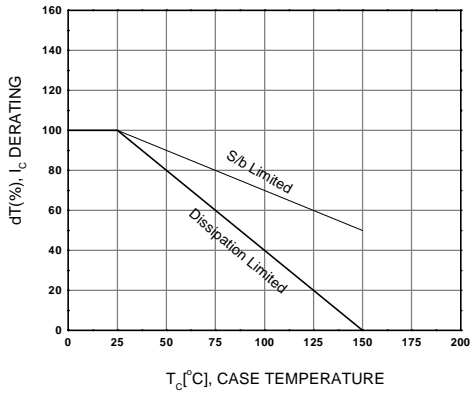


Figure 7. Derating Curve Of Safe Operating Areas

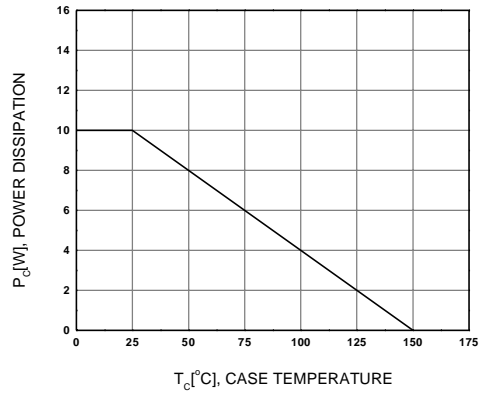


Figure 8. Power Derating

# Package Demensions

## TO-126



Dimensions in Millimeters

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E <sup>2</sup> CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
FACT Quiet Series™	QS™	
FAST®	Quiet Series™	
FAST <sub>r</sub> ™	SuperSOT™-3	
GTO™	SuperSOT™-6	

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