

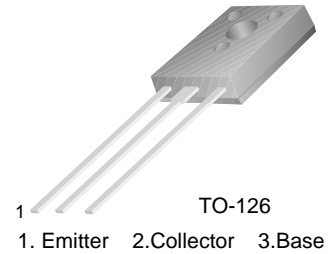
# KSD882 NPN Epitaxial Silicon Transistor

## Recommended Applications

- Audio Frequency Power Amplifier

## Features

- Low Speed Switching
- Complement to KSB772.



## Absolute Maximum Ratings\* T<sub>a</sub> = 25°C unless otherwise noted

Symbol	Parameter	Ratings	Units
BV <sub>CBO</sub>	Collector-Base Voltage	40	V
BV <sub>CEO</sub>	Collector-Emitter Voltage	30	V
BV <sub>EBO</sub>	Emitter-Base Voltage	5	V
I <sub>C</sub>	Collector Current(DC)	3	A
I <sub>C</sub>	Collector Current(Pulse)**	7	A
I <sub>B</sub>	Base Current	0.6	A
P <sub>D</sub>	Total Device Dissipation(T <sub>C</sub> =25°C)	10	W
	Total Device Dissipation(T <sub>a</sub> =25°C)	1	W
T <sub>J</sub> , T <sub>STG</sub>	Junction and Storage Temperature	- 55 ~ +150	°C

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

\*\* PW≤10ms, Duty Cycle≤50%

## Electrical Characteristics. T<sub>a</sub>=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV <sub>CBO</sub>	Collector-Base Breakdown Voltage	I <sub>C</sub> =500uA, I <sub>E</sub> =0	40			V
BV <sub>CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> =5mA, I <sub>B</sub> =0	30			V
BV <sub>EBO</sub>	Emitter-Base Breakdown Voltage	I <sub>E</sub> =500uA, I <sub>C</sub> =0	5			V
I <sub>CBO</sub>	Collector Cut-off Current	V <sub>CB</sub> = 30V, I <sub>E</sub> = 0			1	μA
I <sub>EBO</sub>	Emitter Cut-off Current	V <sub>EB</sub> = 3V, I <sub>C</sub> = 0			1	μA
h <sub>FE1</sub> h <sub>FE2</sub>	*DC Current Gain	V <sub>CE</sub> = 2V, I <sub>C</sub> = 20mA V <sub>CE</sub> = 2V, I <sub>C</sub> = 1A	30 60	150 160	400	
V <sub>CE(sat)</sub>	*Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2A, I <sub>B</sub> = 0.2A		0.3	0.5	V
V <sub>BE(sat)</sub>	*Base-Emitter Saturation Voltage	I <sub>C</sub> = 2A, I <sub>B</sub> = 0.2A		1.0	2.0	V
f <sub>T</sub>	Current Gain Bandwidth Product	V <sub>CE</sub> = 5V, I <sub>E</sub> = 0.1A		90		MHz
C <sub>ob</sub>	Output Capacitance	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0 f = 1MHz		45		pF

\* Pulse Test: PW≤350μs, Duty Cycle≤2% Pulsed

### **h<sub>FE</sub> Classification**

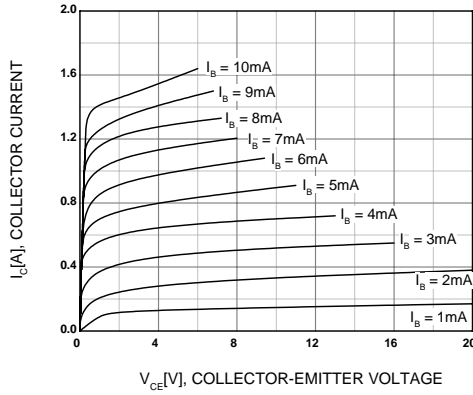
Classification	R	O	Y	G
h <sub>FE2</sub>	60 ~ 120	100 ~ 200	160 ~ 320	200 ~ 400

### **Ordering Information**

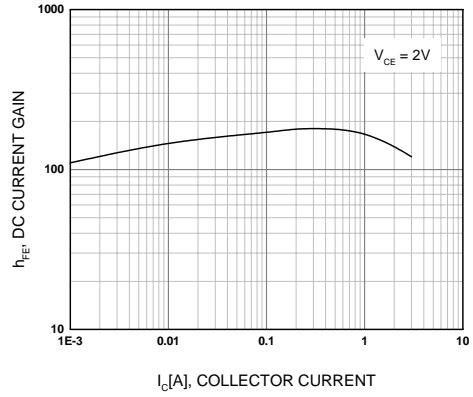
Part Number	Marking	Package	Packing Method	Remarks
KSD882OSTU	D882O	TO-126	TUBE	hFE1 R grade
KSD882RSTU	D882R	TO-126	TUBE	hFE1 O grade
KSD882YSTU	D882Y	TO-126	TUBE	hFE1 Y grade
KSD882GSTU	D882G	TO-126	TUBE	hFE1 G grade

- \* 1. Affix "-S-" means the standard TO126 Package. If the affix is "-STS-" instead of "-S-", that means the short-lead TO126 package.
- 2. Suffix "-TU" means the tube packing. The Suffix "TU" could be replaced to other suffix character as packing method.

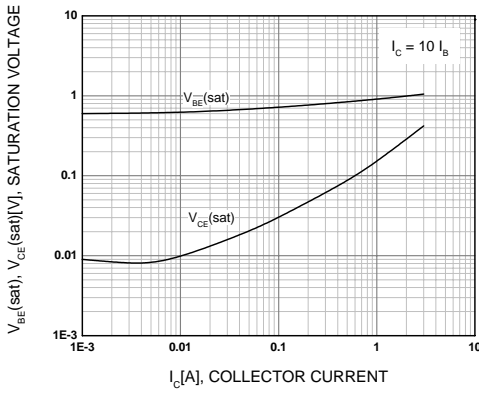
# Typical Characteristics



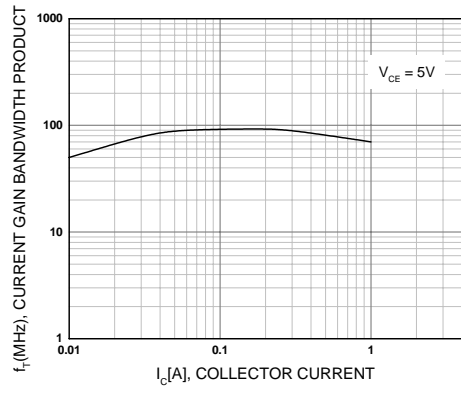
**Figure 1. Static Characteristic**



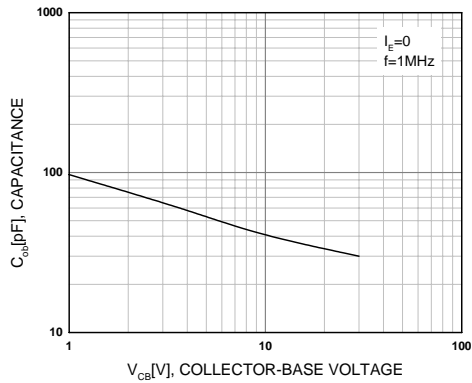
**Figure 2. DC current Gain**



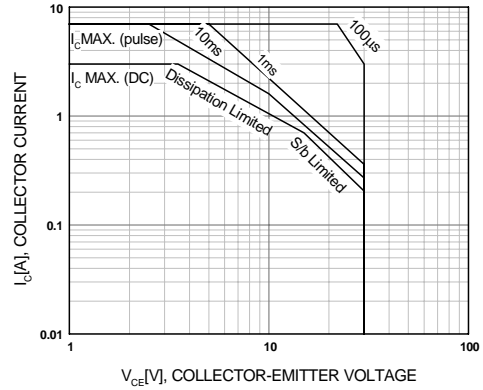
**Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage**



**Figure 4. Current Gain Bandwidth Product**



**Figure 5. Collector Output Capacitance**



**Figure 6. Safe Operating Area**

## Typical Characteristics

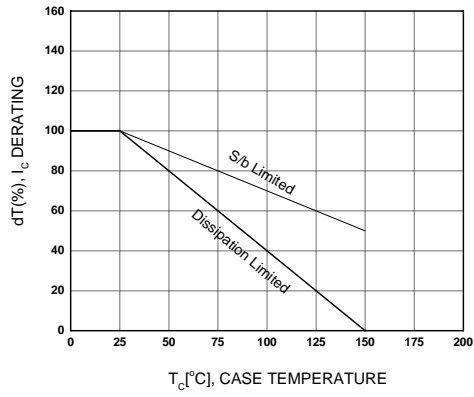


Figure 7. Derating Curve Of Safe Operating Areas

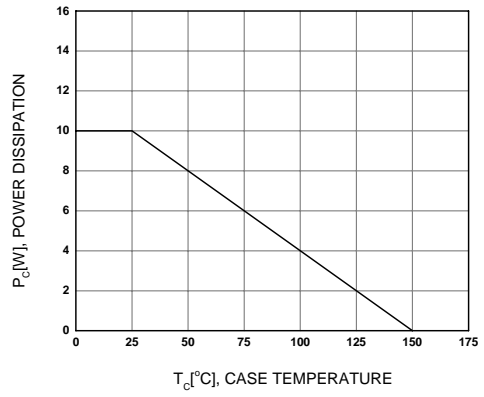


Figure 8. Power Derating



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