

# KSD882

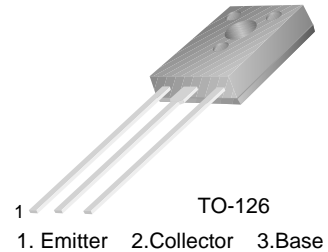
## NPN Epitaxial Silicon Transistor

### Recommended Applications

- Audio Frequency Power Amplifier

### Features

- Low Speed Switching
- Complement to KSB772.



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

Symbol	Parameter	Ratings	Units
$BV_{CBO}$	Collector-Base Voltage	40	V
$BV_{CEO}$	Collector-Emitter Voltage	30	V
$BV_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current(DC)	3	A
$I_C$	Collector Current(Pulse)**	7	A
$I_B$	Base Current	0.6	A
$P_D$	Total Device Dissipation( $T_C=25^\circ\text{C}$ )	10	W
	Total Device Dissipation( $T_a=25^\circ\text{C}$ )	1	W
$T_J, T_{STG}$	Junction and Storage Temperature	- 55 ~ +150	$^\circ\text{C}$

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

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

### Electrical Characteristics. $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C=500\mu\text{A}, I_E=0$	40			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=5\text{mA}, I_B=0$	30			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=500\mu\text{A}, I_C=0$	5			V
$I_{CBO}$	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<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

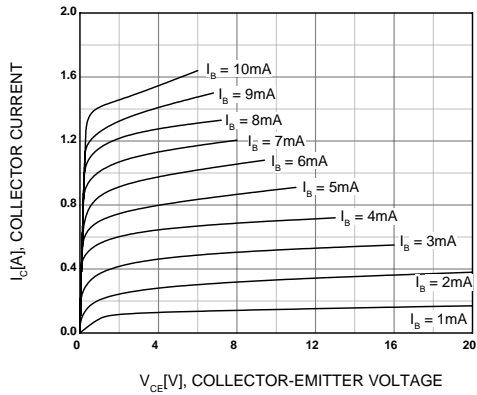


Figure 1. Static Characteristic

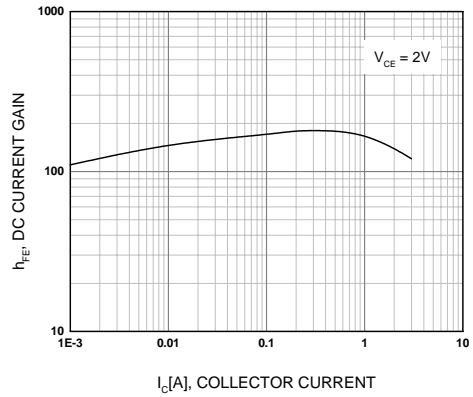


Figure 2. DC current Gain

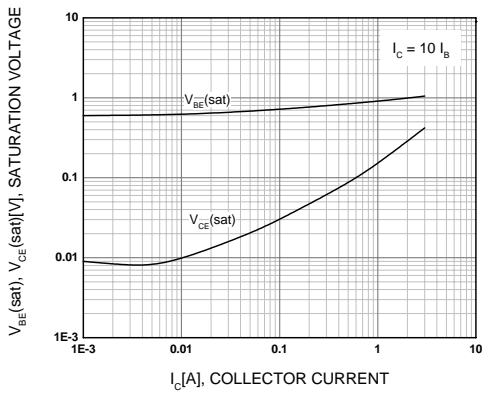


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

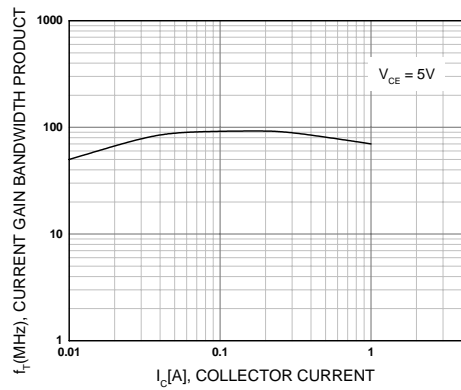


Figure 4. Current Gain Bandwidth Product

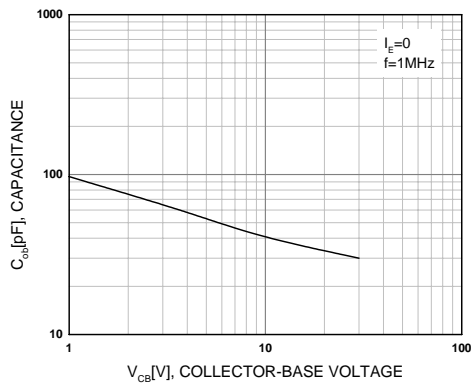


Figure 5. Collector Output Capacitance

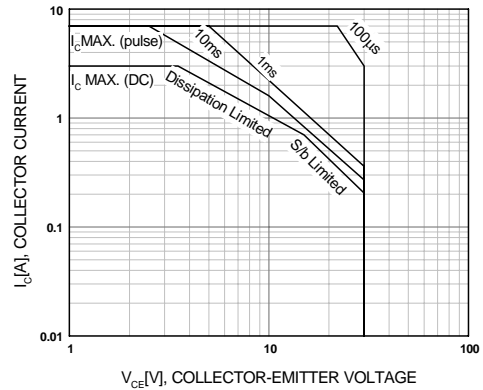


Figure 6. Safe Operating Area

# Typical Characteristics

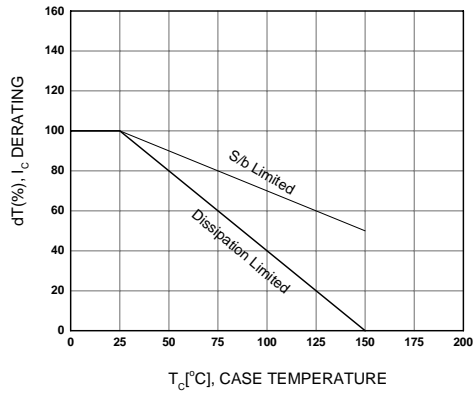


Figure 7. Derating Curve Of Safe Operating Areas

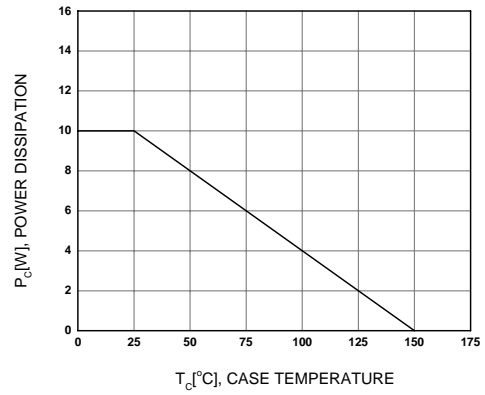



Figure 8. Power Derating



**TRADEMARKS**

The following are registered and unregistered trademarks and service marks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACEx <sup>®</sup>	Green FPS <sup>™</sup>	Power247 <sup>®</sup>	SuperSOT <sup>™</sup> -8
Build it Now <sup>™</sup>	Green FPS <sup>™</sup> e-Series <sup>™</sup>	POWEREDGE <sup>®</sup>	SyncFET <sup>™</sup>
CorePLUS <sup>™</sup>	GTO <sup>™</sup>	Power-SPM <sup>™</sup>	The Power Franchise <sup>®</sup>
CROSSVOLT <sup>™</sup>	<i>i-Lo</i> <sup>™</sup>	PowerTrench <sup>®</sup>	<b>the power</b> franchise
CTL <sup>™</sup>	IntelliMAX <sup>™</sup>	Programmable Active Droop <sup>™</sup>	TinyBoost <sup>™</sup>
Current Transfer Logic <sup>™</sup>	ISOPLANAR <sup>™</sup>	QFET <sup>®</sup>	TinyBuck <sup>™</sup>
EcoSPARK <sup>®</sup>	MegaBuck <sup>™</sup>	QS <sup>™</sup>	TinyLogic <sup>®</sup>
<b>F</b> <sup>®</sup>	MICROCOUPLER <sup>™</sup>	QT Optoelectronics <sup>™</sup>	TINYOPTO <sup>™</sup>
Fairchild <sup>®</sup>	MicroFET <sup>™</sup>	Quiet Series <sup>™</sup>	TinyPower <sup>™</sup>
Fairchild Semiconductor <sup>®</sup>	MicroPak <sup>™</sup>	RapidConfigure <sup>™</sup>	TinyPWM <sup>™</sup>
FACT Quiet Series <sup>™</sup>	Motion-SPM <sup>™</sup>	SMART START <sup>™</sup>	TinyWire <sup>™</sup>
FACT <sup>®</sup>	OPTOLOGIC <sup>®</sup>	SPM <sup>®</sup>	μSerDes <sup>™</sup>
FAST <sup>®</sup>	OPTOPLANAR <sup>®</sup>	STEALTH <sup>™</sup>	UHC <sup>®</sup>
FastvCore <sup>™</sup>	 <sup>®</sup>	SuperFET <sup>™</sup>	UniFET <sup>™</sup>
FPS <sup>™</sup>	PDP-SPM <sup>™</sup>	SuperSOT <sup>™</sup> -3	VCX <sup>™</sup>
FRFET <sup>®</sup>	Power220 <sup>®</sup>	SuperSOT <sup>™</sup> -6	
Global Power Resource <sup>SM</sup>			

**DISCLAIMER**

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION, OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

**LIFE SUPPORT POLICY**

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION.

As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

**PRODUCT STATUS DEFINITIONS**

**Definition of Terms**

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

Rev. I30



## Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

### Наши контакты:

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331