

# NPN Epitaxial Silicon Transistor

## KSD882

### Recommended Applications

- Audio Frequency Power Amplifier

### Features

- Low Speed Switching
- Complement to KSB772

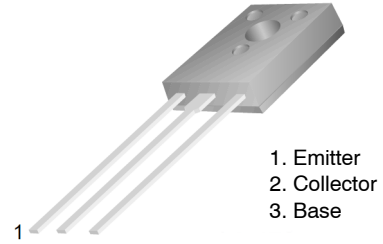
### ABSOLUTE MAXIMUM RATINGS

( $T_A = 25^\circ\text{C}$  unless otherwise noted) (Note 2)

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
$I_{CP}$	Collector Current (Pulse) (Note 3)	7	A
$I_B$	Base Current	0.6	A
$P_D$	Total Device Dissipation, $T_C = 25^\circ\text{C}$ $T_A = 25^\circ\text{C}$	10 1	W
$T_J, T_{STG}$	Junction and Storage Temperature	-55 ~ +150	$^\circ\text{C}$

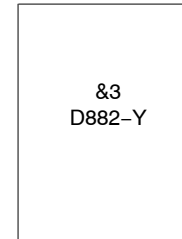
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

2. These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.
3.  $PW \leq 10$  ms, Duty Cycle  $\leq 50\%$ .



TO-126-3LD  
CASE 340AS

### MARKING DIAGRAM



&3 = 3-Digit Date Code  
D882 = Specific Device Code  
Y =  $h_{FE}$  Grade

### ORDERING INFORMATION

Device	Package	Shipping
KSD882YSTU	TO-126-3 (Pb-Free)	1920 Units / Tube

### DISCONTINUED (Note 1)

KSD882YS	TO-126-3 (Pb-Free)	2000 Units / Bulk Bag
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1. **DISCONTINUED:** This device is not recommended for new design. Please contact your **onsemi** representative for information. The most current information on this device may be available on [www.onsemi.com](http://www.onsemi.com).

# KSD882

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Characteristic	Test Condition	Min	Typ.	Max	Unit
$BV_{CBO}$	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 (Note 4)	$V_{CE} = 2 \text{ V}, I_C = 20 \text{ mA}$ $V_{CE} = 2 \text{ V}, I_C = 1 \text{ A}$	30 60	150 160	400	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage (Note 4)	$I_C = 2 \text{ A}, I_B = 0.2 \text{ A}$	-	0.3	0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage (Note 4)	$I_C = 2 \text{ A}, I_B = 0.2 \text{ A}$	-	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

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

4. 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

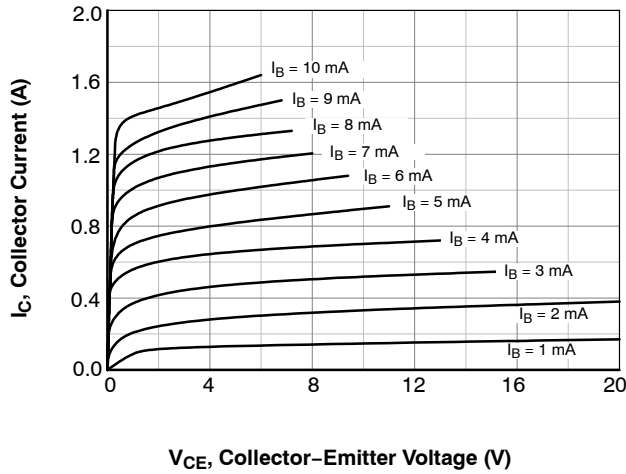


Figure 1. Static Characteristic

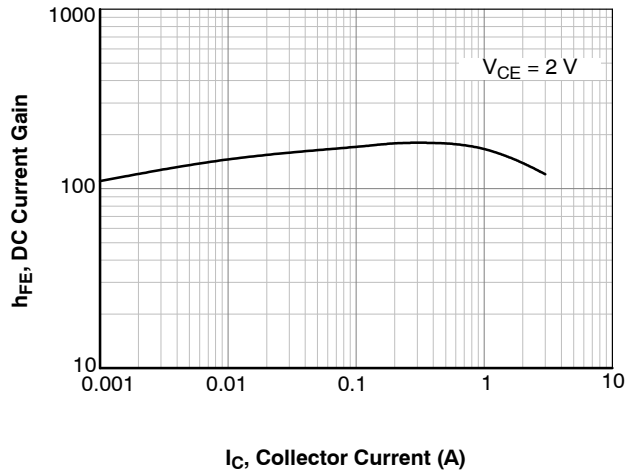


Figure 2. DC Current Gain

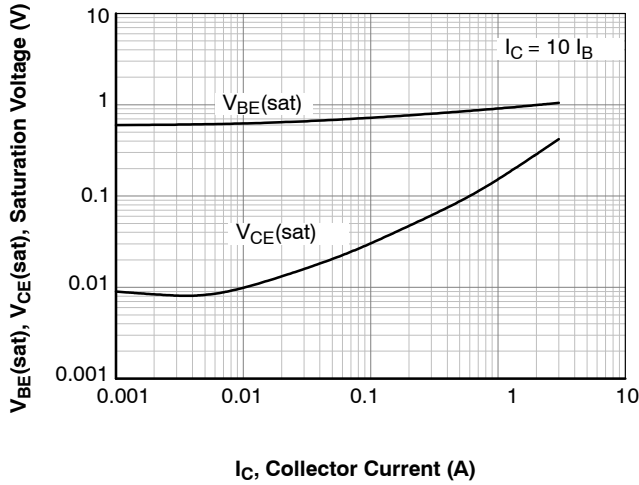


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

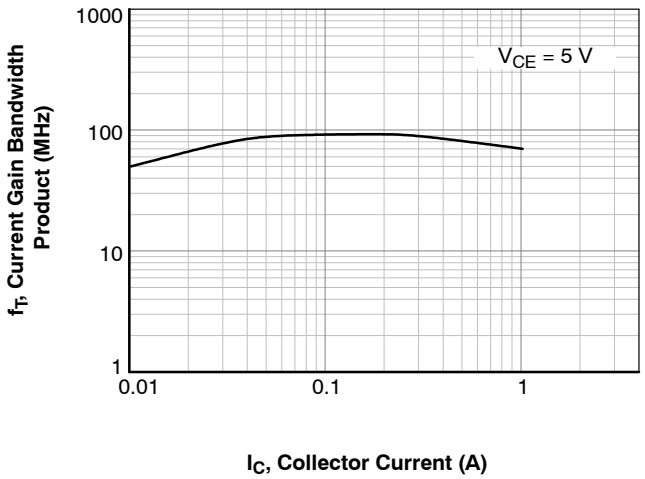


Figure 4. Current Gain Bandwidth Product

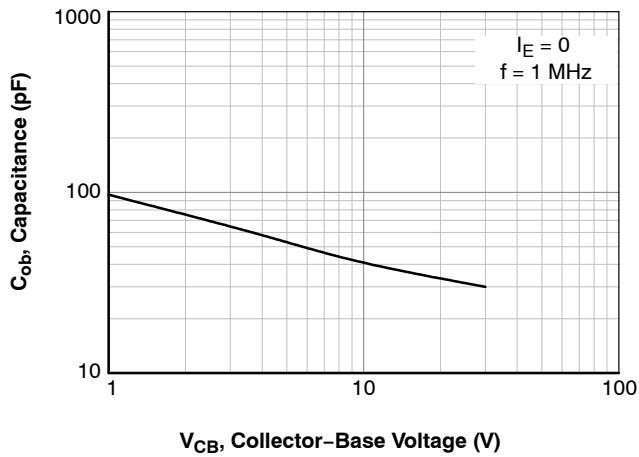


Figure 5. Collector Output Capacitance

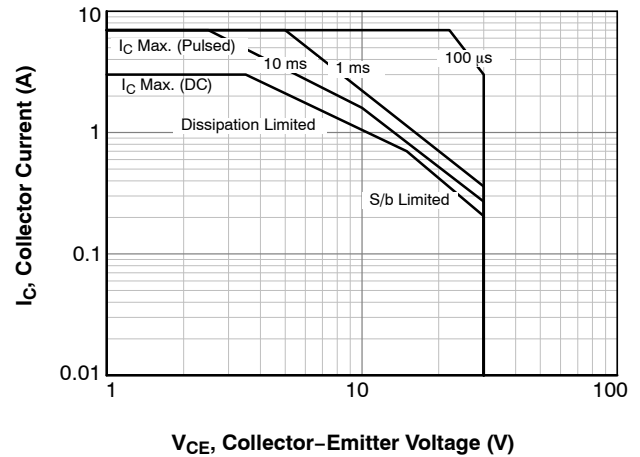


Figure 6. Safe Operating Areas

TYPICAL CHARACTERISTICS (continued)

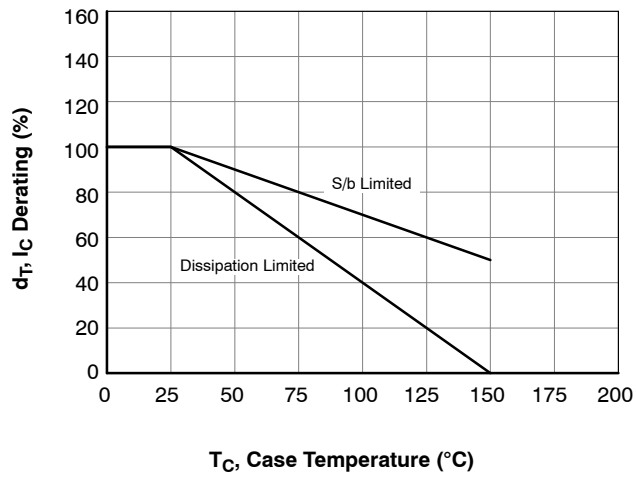


Figure 7. Derating Curve of Safe Operating Areas

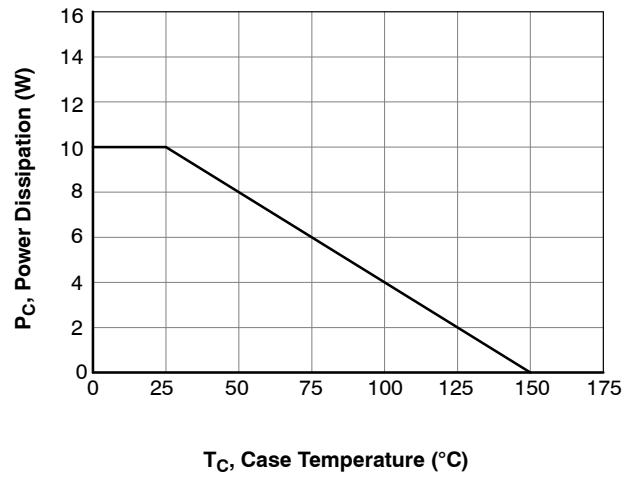


Figure 8. Power Derating

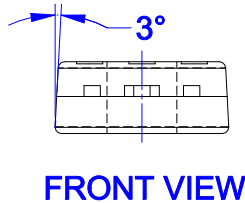
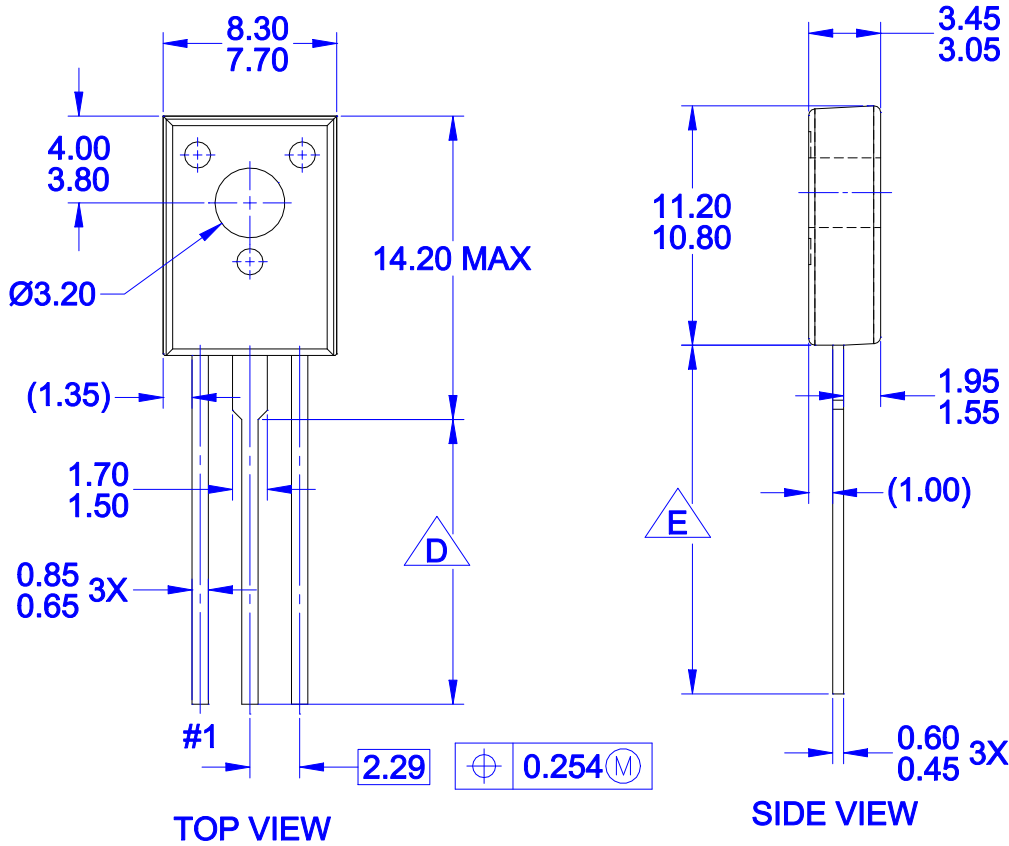
**MECHANICAL CASE OUTLINE**  
**PACKAGE DIMENSIONS**

ON Semiconductor®



TO-126-3LD  
CASE 340AS  
ISSUE 0

DATE 30 SEP 2016



PRODUCTION CODE	TERMINAL LENGTH "D"	TERMINAL LENGTH "E"
TSSTU	3.45 - 4.05	6.45 - 7.45
TSTU	2.36 - 2.96	5.36 - 6.36
NONE (STD LENGTH)	12.76 - 13.36	15.76 - 16.76

**NOTES:**

- A. NO INDUSTRY STANDARD APPLIES TO THIS PACKAGE
- B. ALL DIMENSIONS ARE IN MILLIMETERS
- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR PROTRUSIONS

**△ D FOR TERMINAL LENGTH "D", REFER TO TABLE**

**△ E FOR TERMINAL LENGTH "E", REFER TO TABLE**

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