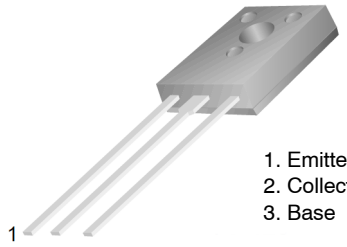
NPN Epitaxial Silicon Transistor

KSD882



1. Emitter
2. Collector
3. Base

TO−126−3LD
CASE 340AS

Recommended Applications

- Audio Frequency Power Amplifier

Features

- Low Speed Switching
- Complement to KSB772

ABSOLUTE MAXIMUM RATINGS

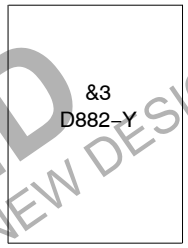
(T_A = 25°C unless otherwise noted) (Note 1)

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 2)	7	A
I_B	Base Current	0.6	A
P_D	Total Device Dissipation, T_C = 25°C T_A = 25°C	10 1	W
T_J, T_{STG}	Junction and Storage Temperature	−55 ~ +150	°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.

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

MARKING DIAGRAM



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

ORDERING INFORMATION

Device	Package	Shipping
KSD882YS	TO−126−3 (Pb−Free)	2000 Units / Bulk Bag
KSD882YSTU	TO−126−3 (Pb−Free)	1920 Units / Tube

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Symbol	Characteristic	Test Condition	Min	Typ.	Max	Unit
BV_{CBO}	Collector−Base Breakdown Voltage	I_C = 500 μA, I_E = 0	40	–	–	V
BV_{CEO}	Collector−Emitter Breakdown Voltage	I_C = 5 mA, I_B = 0	30	–	–	V
BV_{EBO}	Emitter−Base Breakdown Voltage	I_E = 500 μA, I_C = 0	5	–	–	V
I_{CBO}	Collector Cut−off Current	V_{CB} = 30 V, I_E = 0	–	–	1	μA
I_{EBO}	Emitter Cut−off Current	V_{EB} = 3 V, I_C = 0	–	–	1	μA
h_{FE1} h_{FE2}	DC Current Gain (Note 3)	V_{CE} = 2 V, I_C = 20 mA V_{CE} = 2 V, I_C = 1 A	30 60	150 160	 400	
V_{CE}(sat)	Collector−Emitter Saturation Voltage (Note 3)	I_C = 2 A, I_B = 0.2 A	–	0.3	0.5	V
V_{BE}(sat)	Base−Emitter Saturation Voltage (Note 3)	I_C = 2 A, I_B = 0.2 A	–	1.0	2.0	V
f_T	Current Gain Bandwidth Product	V_{CE} = 5 V, I_E = 0.1 A	–	90	–	MHz
C_{ob}	Output Capacitance	V_{CB} = 10 V, I_E = 0, f = 1 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.

3. Pulse Test: PW ≤ 350 μs, Duty Cycle ≤ 2% Pulsed.

h_{FE} CLASSIFICATION

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

TYPICAL CHARACTERISTICS

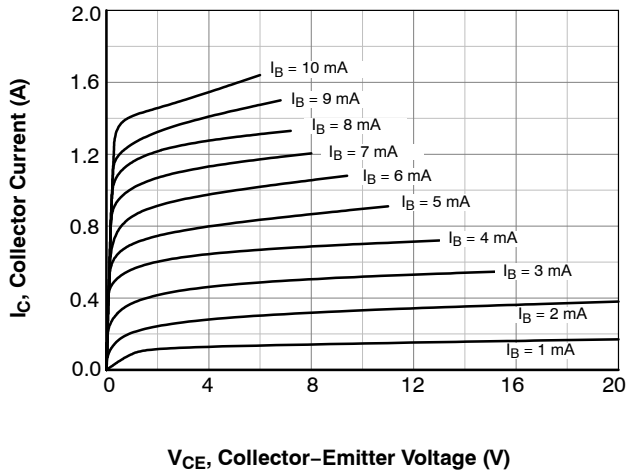


Figure 1. Static Characteristic

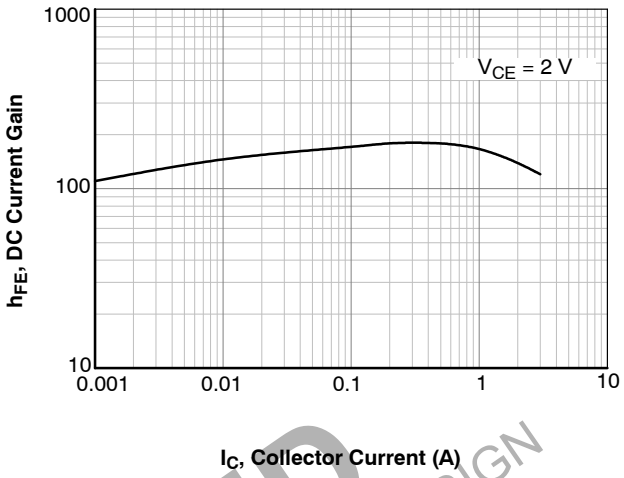


Figure 2. DC Current Gain

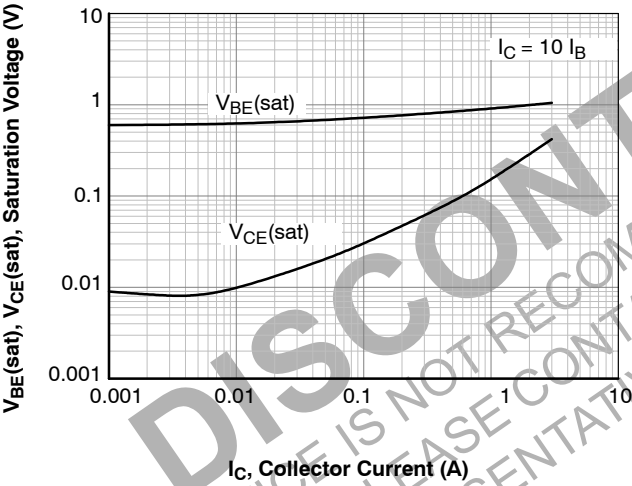


Figure 3. Base−Emitter Saturation Voltage Collector−Emitter Saturation Voltage

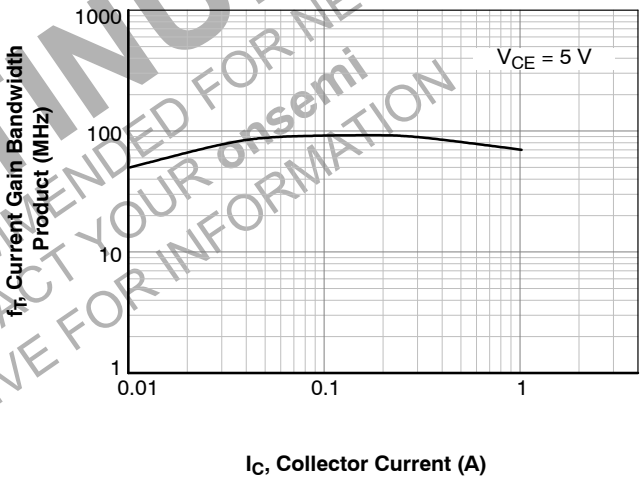


Figure 4. Current Gain Bandwidth Product

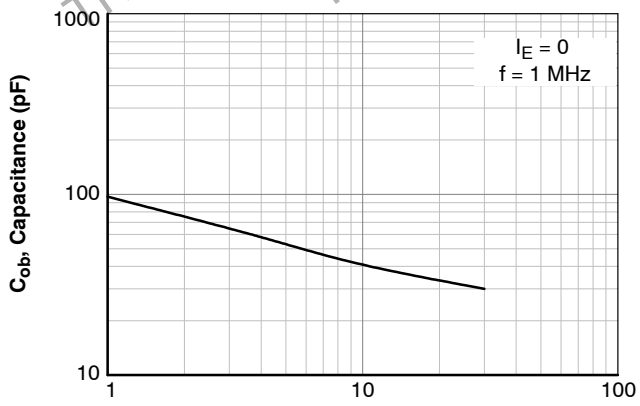


Figure 5. Collector Output Capacitance

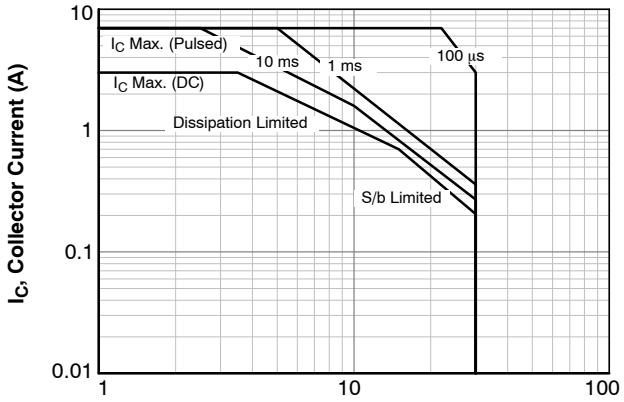


Figure 6. Safe Operating Areas

TYPICAL CHARACTERISTICS (continued)

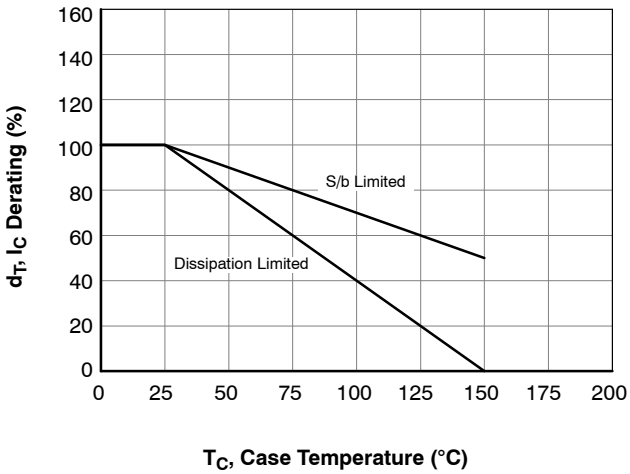


Figure 7. Derating Curve of Safe Operating Areas

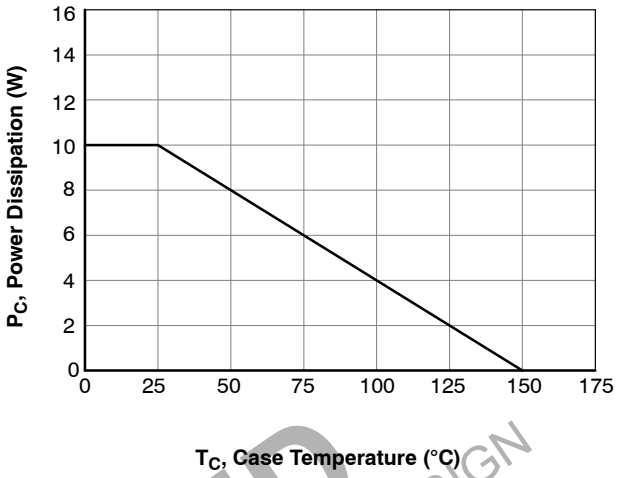


Figure 8. Power Derating

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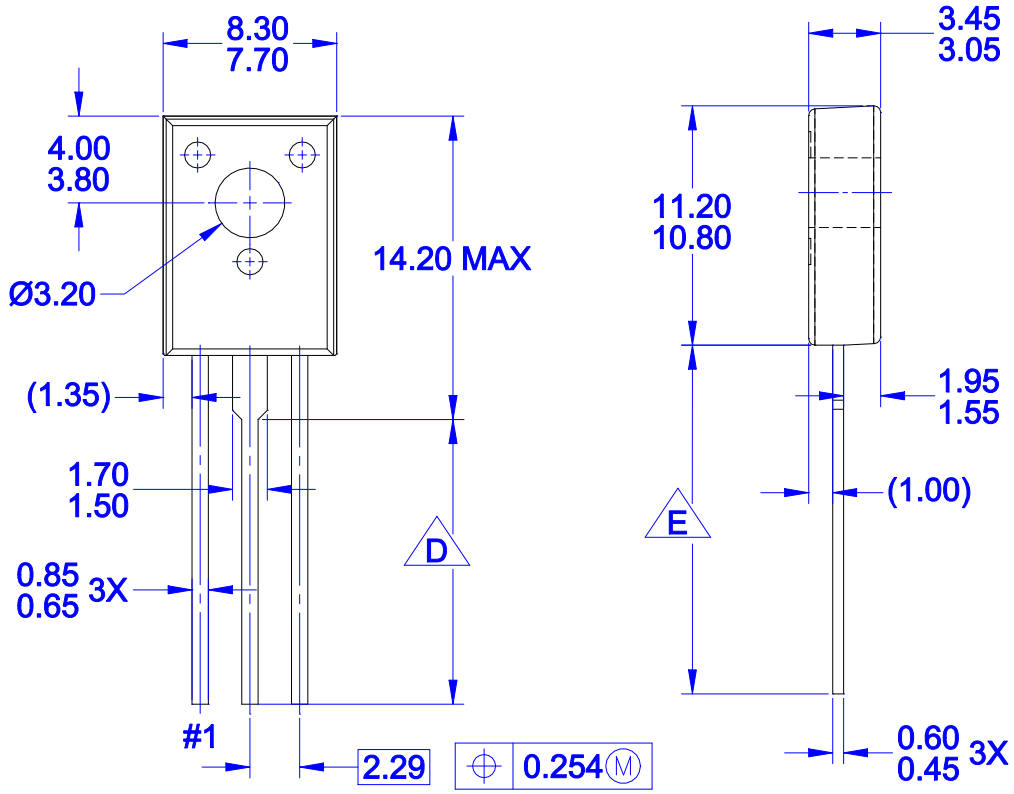
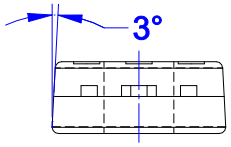


TOP VIEW

SIDE VIEW



FRONT VIEW

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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