

NPN Epitaxial Silicon Transistor

KSD882

Recommended Applications

- Audio Frequency Power Amplifier

Features

- Low Speed Switching
- Complement to KSB772

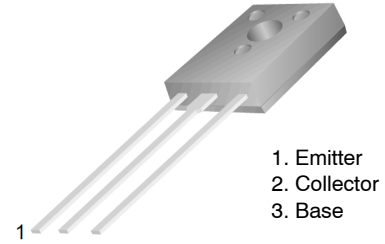
ABSOLUTE MAXIMUM RATINGS

(T_A = 25°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°C T _A = 25°C | 10 1 | W |
| T _J , T _{STG} | Junction and Storage Temperature | –55 ~ +150 | °C |

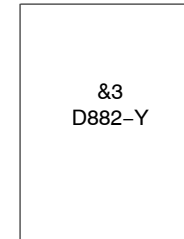
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

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

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.

KSD882

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 4) | 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 4) | I _C = 2 A, I _B = 0.2 A | – | 0.3 | 0.5 | V |
| V _{BE(sat)} | Base–Emitter Saturation Voltage (Note 4) | 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.

4. 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

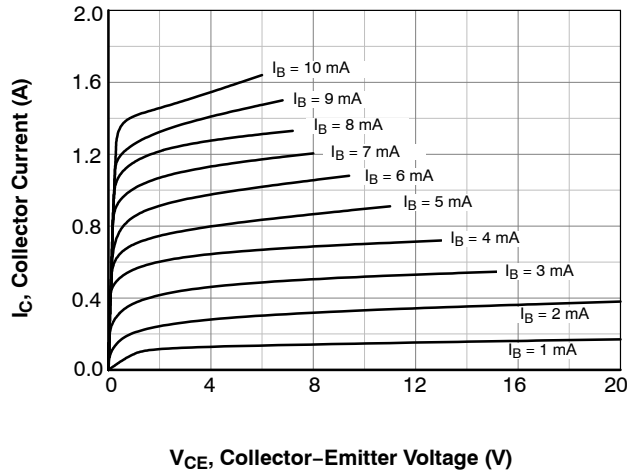


Figure 1. Static Characteristic

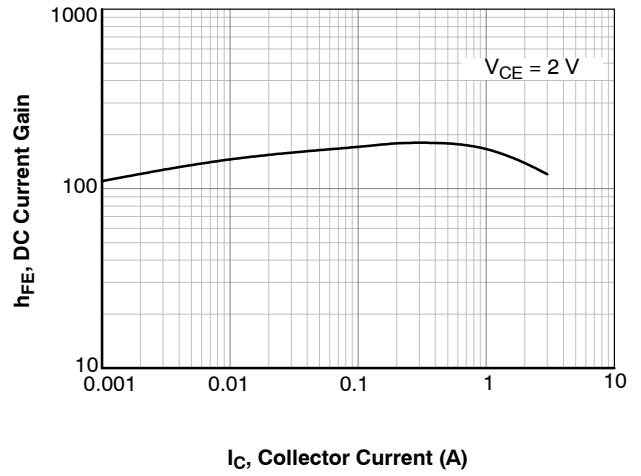


Figure 2. DC Current Gain

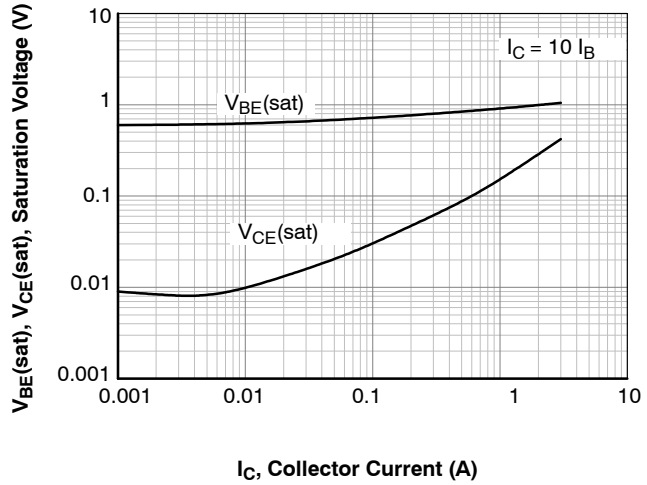
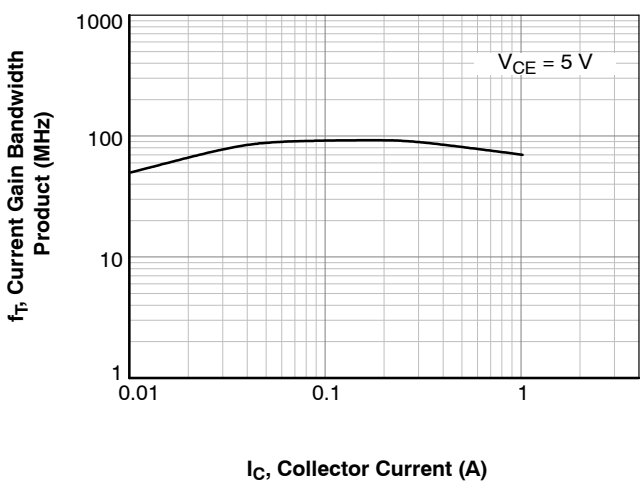
Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

Figure 4. Current Gain Bandwidth Product

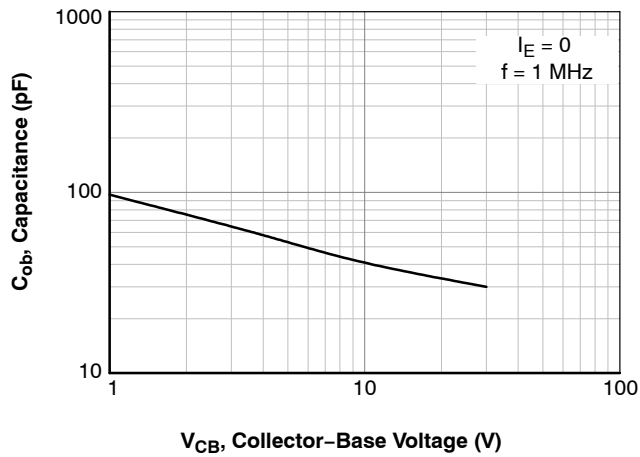


Figure 5. Collector Output Capacitance

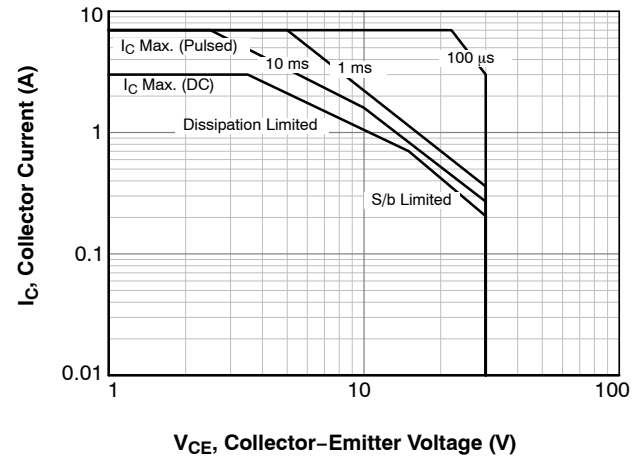


Figure 6. Safe Operating Areas

TYPICAL CHARACTERISTICS (continued)

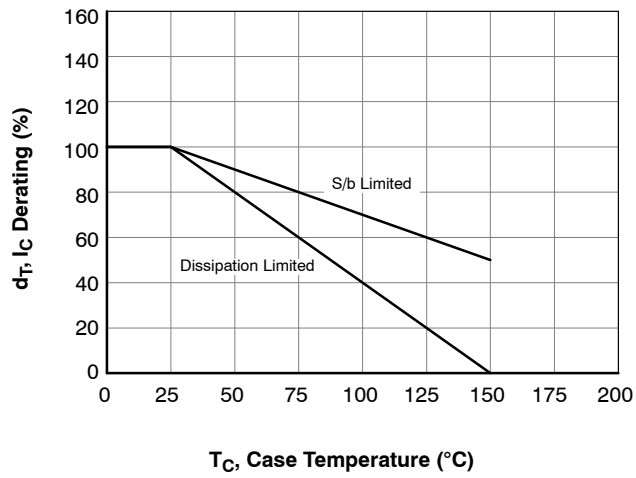


Figure 7. Derating Curve of Safe Operating Areas

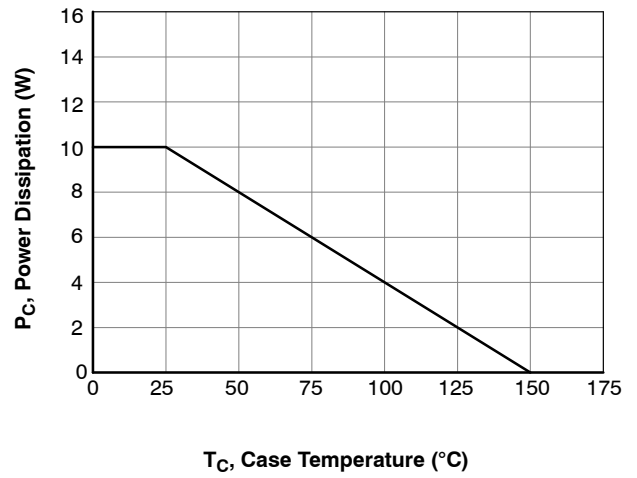
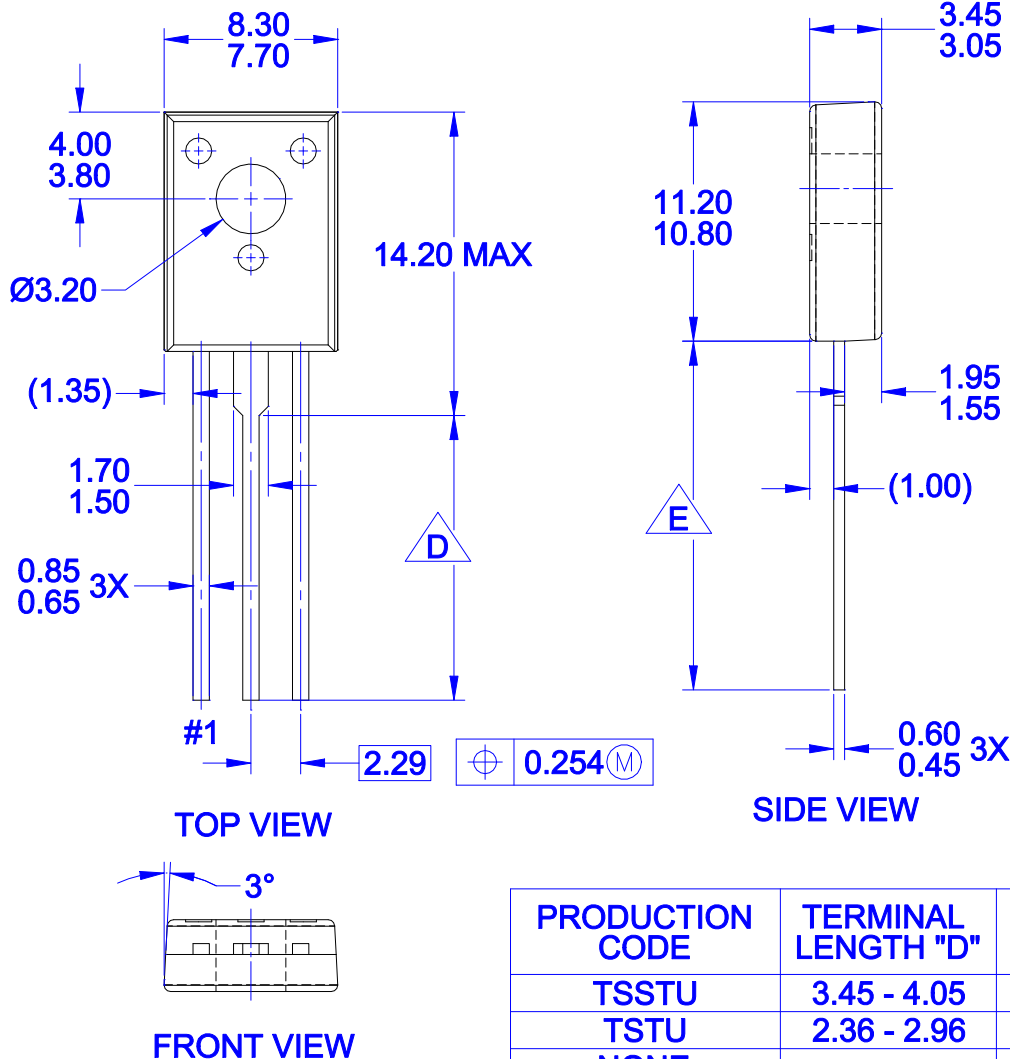


Figure 8. Power Derating

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DATE 30 SEP 2016



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

| 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 |

| | | |
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