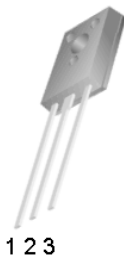




TSD882

Low V_{CE(sat)} NPN Transistor

TO-126



Pin assignment:

TO-126

1. Emitter
2. Collector
3. Base

BV_{CEO} = 50V

I_C = 3A

V_{CE(SAT)}, = 0.25V(typ.) @I_C / I_B = 2A / 0.2A

Features

- ✧ Low V_{CE(SAT)}.
- ✧ Excellent DC current gain characteristics

Structure

- ✧ Epitaxial planar type.
- ✧ Complementary to TSB772

Ordering Information

| Part No. | Packing | Package |
|----------|-----------|---------|
| TSD882CK | Bulk Pack | TO-126 |

Absolute Maximum Rating (Ta = 25 °C unless otherwise noted)

| Parameter | Symbol | Limit | Unit |
|--|------------------|--------------|------|
| Collector-Base Voltage | V _{CBO} | 50V | V |
| Collector-Emitter Voltage | V _{CEO} | 50V | V |
| Emitter-Base Voltage | V _{EBO} | 5 | V |
| Collector Current | DC | 3 | A |
| | Pulse | 7 (note 1) | |
| Collector Power Dissipation | P _D | 1.0 | W |
| Operating Junction Temperature | T _J | +150 | °C |
| Operating Junction and Storage Temperature Range | T _{STG} | - 55 to +150 | °C |

Note: 1. Single pulse, Pw = 2mS

Electrical Characteristics

Ta = 25 °C unless otherwise noted

| Parameter | Conditions | Symbol | Min | Typ | Max | Unit |
|--------------------------------------|---|----------------------|-----|------|-----|------|
| Static | | | | | | |
| Collector-Base Voltage | I _C = 50uA, I _E = 0 | BV _{CBO} | 50 | -- | -- | V |
| Collector-Emitter Breakdown Voltage | I _C = 1mA, I _B = 0 | BV _{CEO} | 50 | -- | -- | V |
| Emitter-Base Breakdown Voltage | I _E = 50uA, I _C = 0 | BV _{EBO} | 6 | -- | -- | V |
| Collector Cutoff Current | V _{CB} = 40V, I _E = 0 | I _{CBO} | -- | -- | 1 | uA |
| Emitter Cutoff Current | V _{EB} = 4V, I _C = 0 | I _{EBO} | -- | -- | 1 | uA |
| Collector-Emitter Saturation Voltage | I _C / I _B = 2.0A / 0.2A | V _{CE(SAT)} | -- | 0.25 | 0.5 | V |
| DC Current Transfer Ratio | V _{CE} = 2V, I _C = 1A | h _{FE} | 160 | -- | 500 | |
| Transition Frequency | V _{CE} = 5V, I _C = 100mA, f = 100MHz | f _T | -- | 90 | -- | MHz |
| Output Capacitance | V _{CB} = 10V, f = 1MHz | Cob | | 45 | -- | pF |

Note : pulse test: pulse width <=380uS, duty cycle <=2%

Electrical Characteristics Curve

Figure 1. Current Gain vs Collector Current

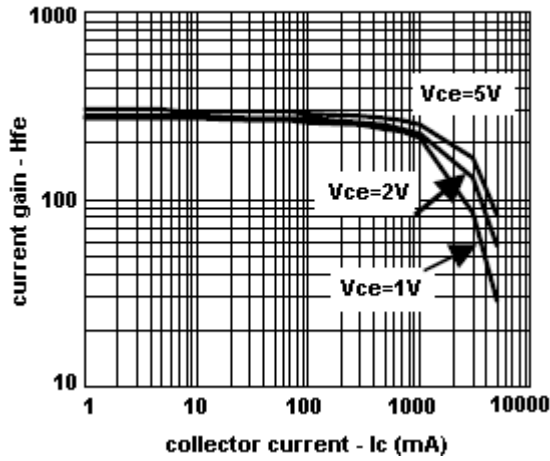


Figure 2. Saturation Voltage vs Collector Current

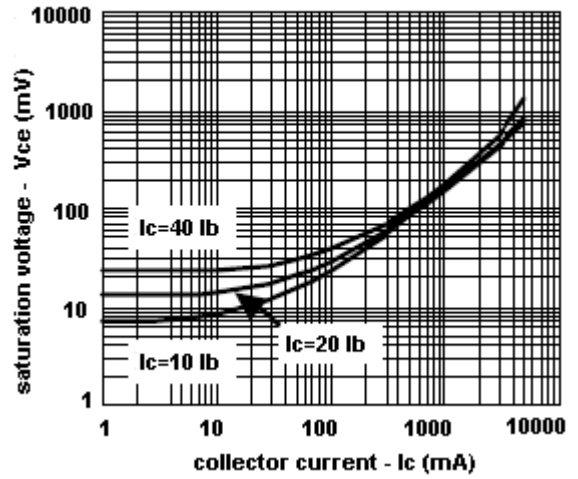


Figure 3. Saturation Voltage vs Collector Current

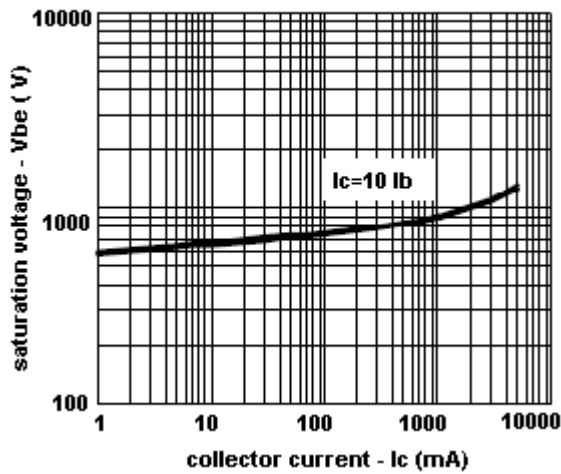
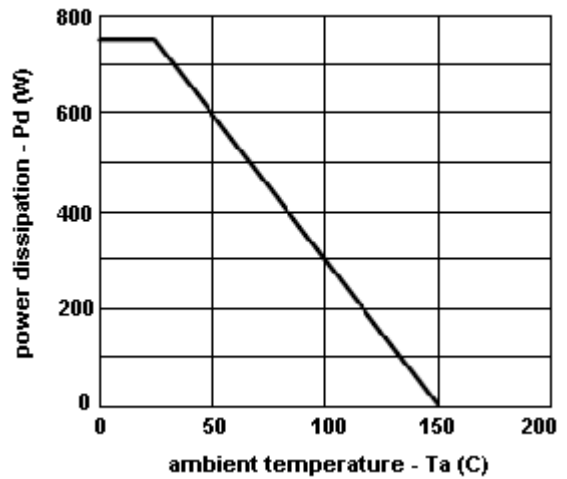
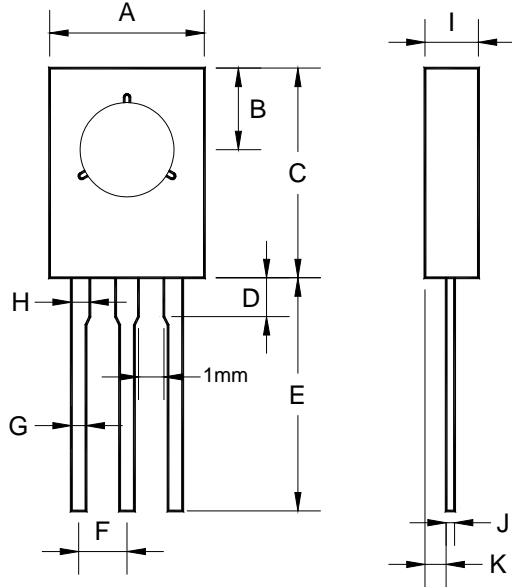


Figure 4. Power Derating Curves



TO-126 Mechanical Drawing



| TO-126 DIMENSION | | | | |
|------------------|-------------|-------|-------------|-------|
| DIM | MILLIMETERS | | INCHES | |
| | MIN | MAX | MIN | MAX |
| A | 8.00 (typ) | | 0.315(typ) | |
| B | 4.20 (typ) | | 0.165 (typ) | |
| C | 10.58 | 11.00 | 0.417 | 0.433 |
| D | 2.00 (typ) | | 0.079 (typ) | |
| E | 12.00(typ) | | 0.472(typ) | |
| F | 2.50(typ) | | 0.098 (typ) | |
| G | 0.74 | 0.78 | 0.029 | 0.031 |
| H | 0.8 (typ) | | 0.031(typ) | |
| I | 2.56 | 3.00 | 0.101 | 0.118 |
| J | 0.38 | 0.50 | 0.015 | 0.020 |
| K | 1.1 (typ) | | 0.043 (typ) | |