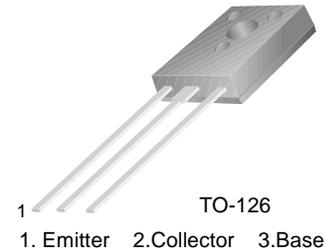


BD157/158/159

Low Power Fast Switching Output Stages

- For T.V Radio Audio Output Amplifiers



NPN Epitaxial Silicon Transistor

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

| Symbol | Parameter | Value | Units |
|-----------|--|------------|------------------|
| V_{CBO} | Collector-Base Voltage | : BD157 | 275 |
| | | : BD158 | 325 |
| | | : BD159 | 375 |
| V_{CEO} | Collector-Emitter Voltage | : BD157 | 250 |
| | | : BD158 | 300 |
| | | : BD159 | 350 |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current (DC) | 0.5 | A |
| I_{CP} | *Collector Current (Pulse) | 1.0 | A |
| I_B | Base Current | 0.25 | A |
| P_C | Collector Dissipation ($T_C=25^\circ\text{C}$) | 20 | W |
| T_J | Junction Temperature | 50 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | - 65 ~ 150 | $^\circ\text{C}$ |

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|------------|--------------------------------------|---|------|------|------|---------------|
| BV_{CEO} | *Collector-Emitter Breakdown Voltage | $I_C = 1\text{mA}, I_B = 0$ | 250 | | | V |
| | | | 300 | | | V |
| | | | 350 | | | V |
| I_{CBO} | Collector Cut-off Current | $V_{CB} = 275\text{V}, I_E = 0$ $V_{CB} = 325\text{V}, I_E = 0$ $V_{CB} = 375\text{V}, I_E = 0$ | | | 100 | μA |
| | | | | | 100 | μA |
| | | | | | 100 | μA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = 5\text{V}, I_C = 0$ | | | 100 | μA |
| h_{FE} | * DC Current Gain | $V_{CE} = 10\text{V}, I_C = 50\text{mA}$ | 30 | | 240 | |

* Pulse Test: PW=300 μs , duty Cycle=1.5% Pulsed

Typical Characteristics

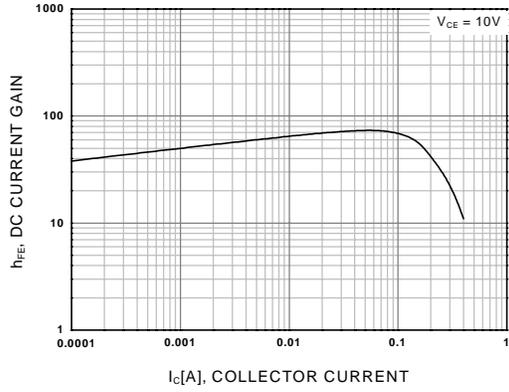


Figure 1. DC current Gain

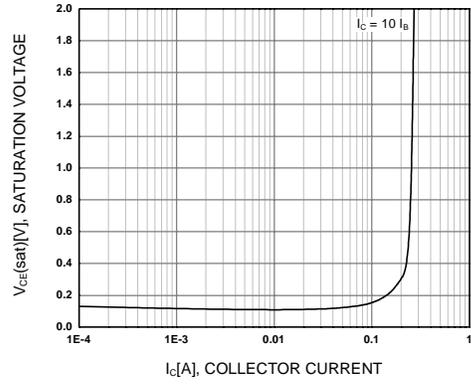


Figure 2. Collector-Emitter Saturation Voltage

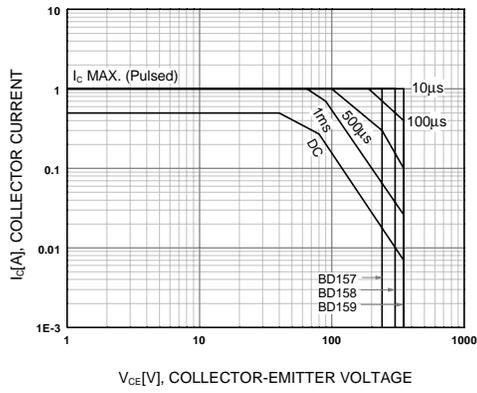


Figure 3. Safe Operating Area

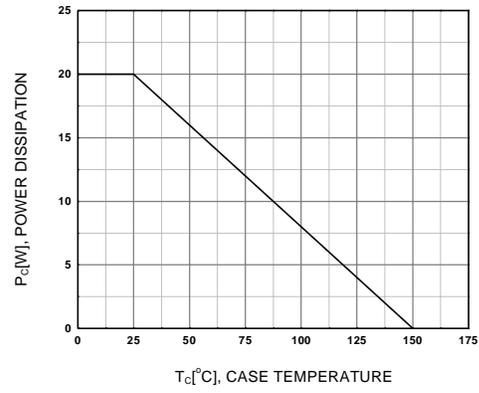
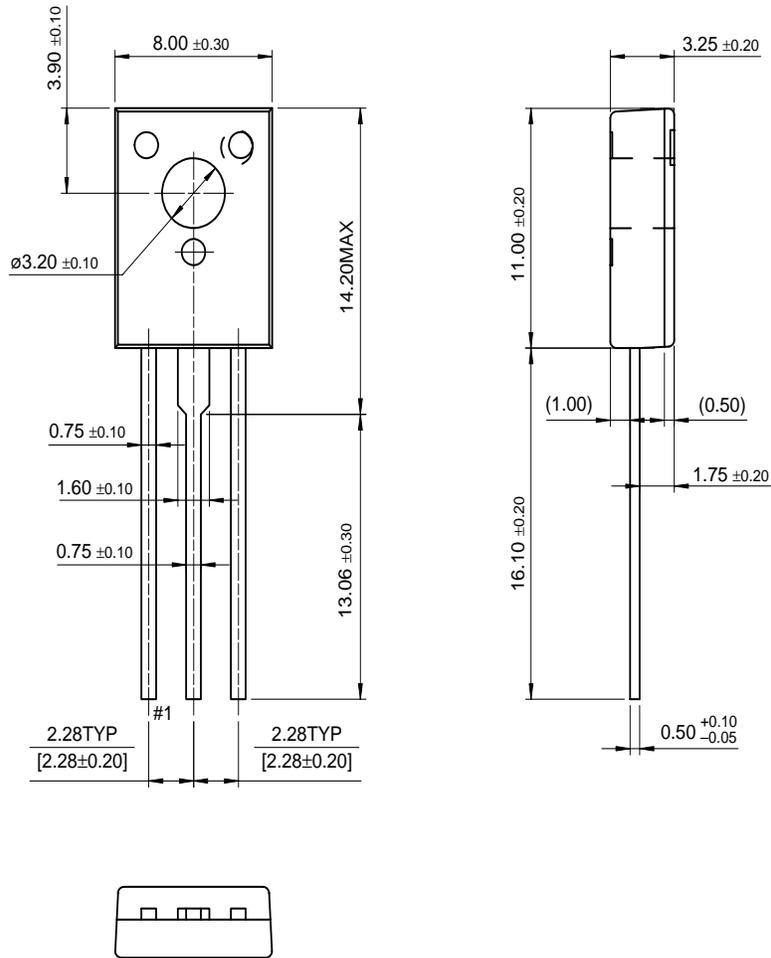


Figure 4. Power Derating

Package Dimensions

TO-126

BD157/158/159



Dimensions in Millimeters

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