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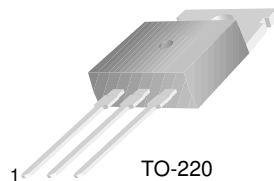
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BD243/A/B/C

Medium Power Linear and Switching Applications

- Complement to BD244, BD244A, BD244B and BD244C respectively



TO-220
1.Base 2.Collector 3.Emitter

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 | | |
| | : BD243 | 45 | V |
| | : BD243A | 60 | V |
| | : BD243B | 80 | V |
| | : BD243C | 100 | V |
| V_{CEO} | Collector-Emitter Voltage | | |
| | : BD243 | 45 | V |
| | : BD243A | 60 | V |
| | : BD243B | 80 | V |
| | : BD243C | 100 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current (DC) | 6 | A |
| I_{CP} | *Collector Current (Pulse) | 10 | A |
| I_B | Base Current | 2 | A |
| P_C | Collector Dissipation ($T_C=25^\circ\text{C}$) | 65 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| 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 |
|----------------|--|---|------|------|------|-------|
| $V_{CEO(sus)}$ | * Collector-Emitter Sustaining Voltage | | | | | |
| | : BD243 | $I_C=30\text{mA}, I_B=0$ | 45 | | | V |
| | : BD243A | | 60 | | | V |
| | : BD243B | | 80 | | | V |
| | : BD243C | | 100 | | | V |
| I_{CEO} | Collector Cut-off Current | : BD243/243A $V_{CE} = 30\text{V}, I_B = 0$ | | | 0.7 | mA |
| | | : BD243B/243C $V_{CE} = 60\text{V}, I_B = 0$ | | | 0.7 | mA |
| I_{CES} | Collector Cut-off Current | : BD243 $V_{CE} = 45\text{V}, V_{BE} = 0$ | | | 0.4 | mA |
| | | : BD243A $V_{CE} = 60\text{V}, V_{BE} = 0$ | | | 0.4 | mA |
| | | : BD243B $V_{CE} = 80\text{V}, V_{BE} = 0$ | | | 0.4 | mA |
| | | : BD243C $V_{CE} = 100\text{V}, V_{BE} = 0$ | | | 0.4 | mA |
| | | : BD243C $V_{CE} = 100\text{V}, V_{BE} = 0$ | | | 0.4 | mA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = 5\text{V}, I_C = 0$ | | | 1 | mA |
| h_{FE} | *DC Current Gain | $V_{CE} = 4\text{V}, I_C = 0.3\text{A}$ | 30 | | | |
| | | $V_{CE} = 4\text{V}, I_C = 3\text{A}$ | 15 | | | |
| $V_{CE(sat)}$ | *Collector-Emitter Saturation Voltage | $I_C = 6\text{A}, I_B = 1\text{A}$ | | | 1.5 | V |
| $V_{BE(on)}$ | *Base-Emitter ON Voltage | $V_{CE} = 4\text{V}, I_C = 6\text{A}$ | | | 2 | V |

* Pulse Test :PW=300 μs , duty Cycle<20% Pulsed

Typical Characteristics

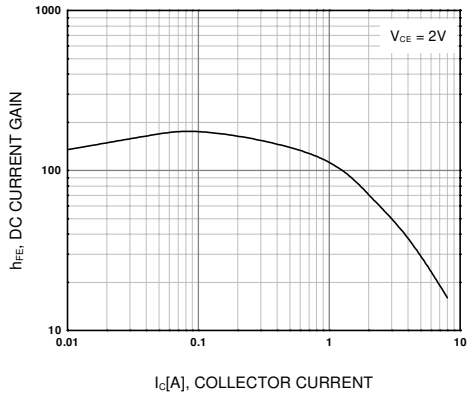


Figure 1. DC current Gain

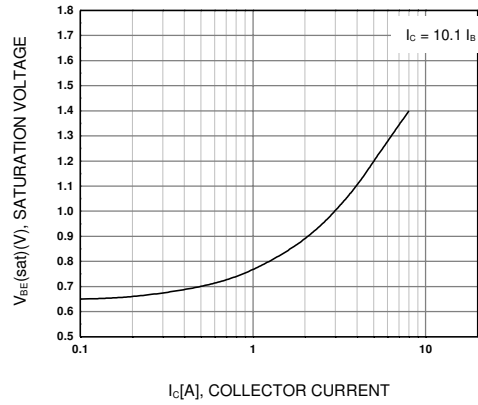


Figure 2. Base-Emitter Saturation Voltage

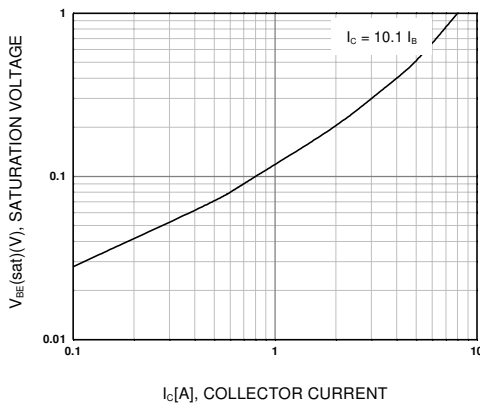


Figure 3. Collector-Emitter Saturation Voltage

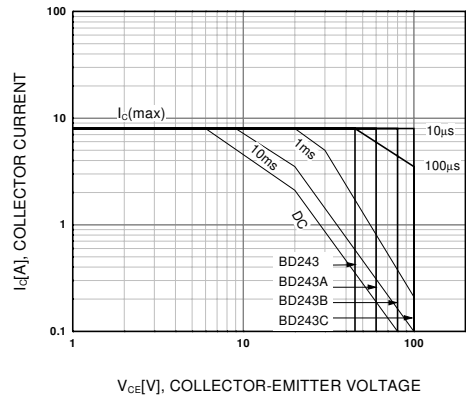


Figure 4. Safe Operating Area

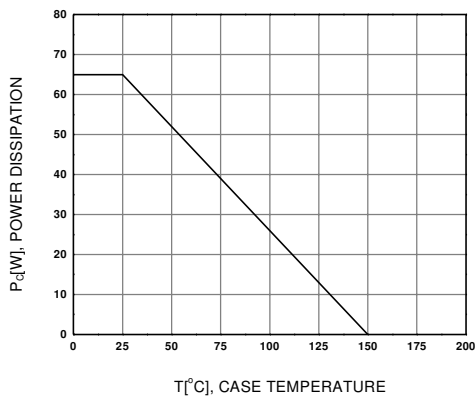
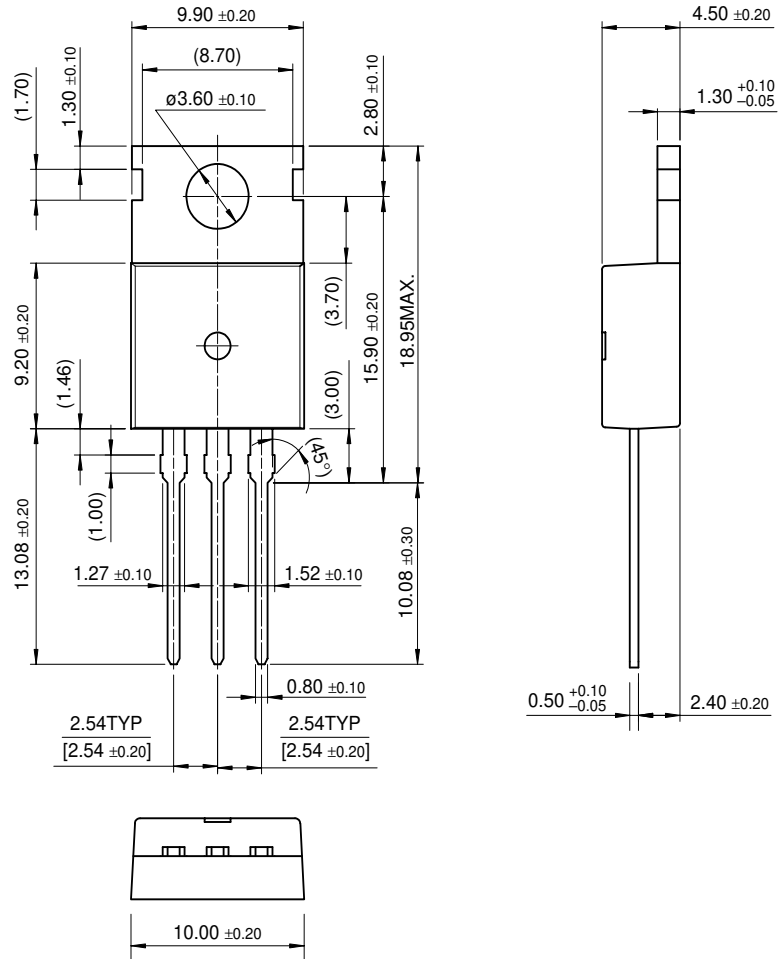


Figure 5. Power Derating

Package Dimensions

BD243/A/B/C

TO-220



Dimensions in Millimeters

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