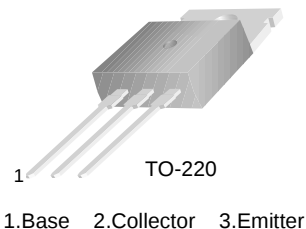


# BD243/A/B/C

## Medium Power Linear and Switching Applications

- Complement to BD244, BD244A, BD244B and BD244C respectively



## 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              | $V_{CE} = 30\text{V}, I_B = 0$          |      |      | 0.7  | mA    |
|                |                                        | $V_{CE} = 60\text{V}, I_B = 0$          |      |      | 0.7  | mA    |
| $I_{CES}$      | Collector Cut-off Current              | $V_{CE} = 45\text{V}, V_{BE} = 0$       |      |      | 0.4  | mA    |
|                |                                        | $V_{CE} = 60\text{V}, V_{BE} = 0$       |      |      | 0.4  | mA    |
|                |                                        | $V_{CE} = 80\text{V}, V_{BE} = 0$       |      |      | 0.4  | mA    |
|                |                                        | $V_{CE} = 100\text{V}, V_{BE} = 0$      |      |      | 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 $\mu\text{s}$ , duty Cycle<20% Pulsed

## Typical Characteristics

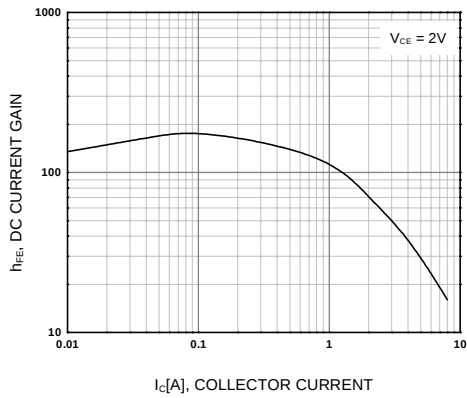


Figure 1. DC current Gain

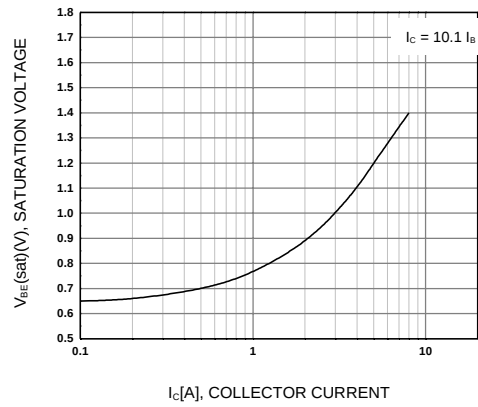


Figure 2. Base-Emitter Saturation Voltage

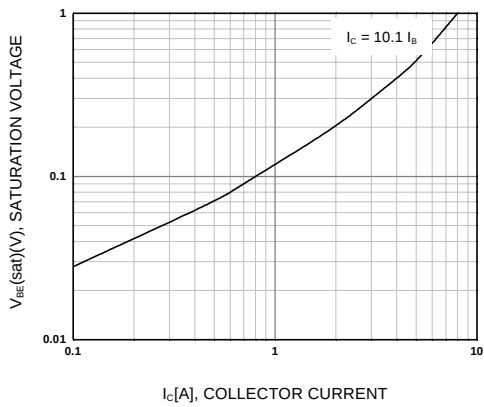


Figure 3. Collector-Emitter Saturation Voltage

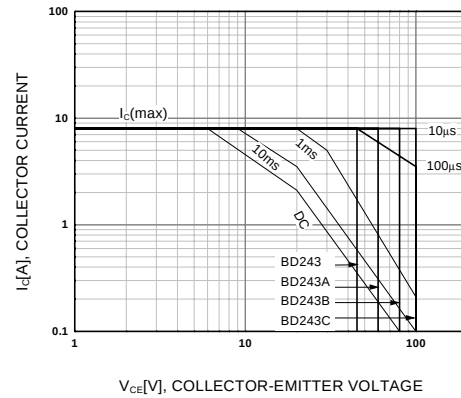


Figure 4. Safe Operating Area

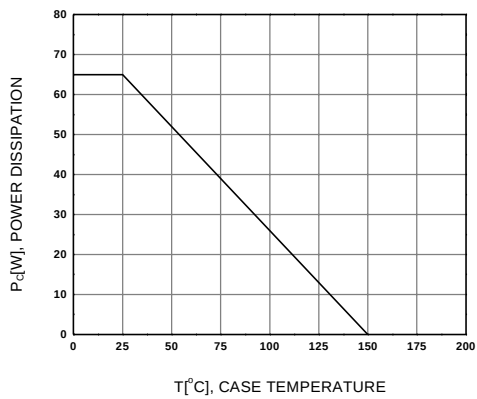


Figure 5. Power Derating

# Package Dimensions

## TO-220



Dimensions in Millimeters

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