

BD243C



High Power Bipolar Transistor

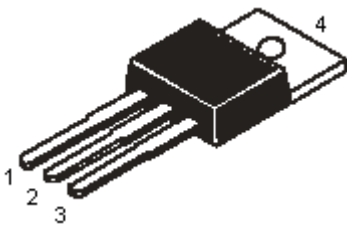
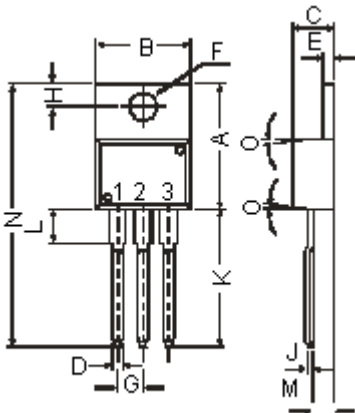
TO-220, General Purpose



Features:

- NPN plastic power transistors.
- General purpose amplifier and switching applications.

TO-220 Plastic Package



| Dimensions | Minimum | Maximum |
|------------|---------|---------|
| A | 14.42 | 16.51 |
| B | 9.63 | 10.67 |
| C | 3.56 | 4.83 |
| D | - | 0.90 |
| E | 1.15 | 1.40 |
| F | 3.75 | 3.88 |
| G | 2.29 | 2.79 |
| H | 2.54 | 3.43 |
| J | - | 0.56 |
| K | 12.70 | 14.73 |
| L | 2.80 | 4.07 |
| M | 2.03 | 2.92 |
| N | - | 31.24 |
| O | 7° | |

Dimensions : Millimetres

Pin Configuration:

1. Base
2. Collector
3. Emitter
4. Collector



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Absolute Maximum Ratings

| Characteristic | Symbol | | BD243C | Unit |
|---|----------------|---------|--------|------------------|
| Collector-Base Voltage (Open Emitter) | V_{CBO} | Maximum | 100 | V |
| Collector Emitter Voltage (Open Base) | V_{CEO} | | | |
| Collector Current | I_C | | 6.0 | A |
| Total Power Dissipation upto $T_C = 25^\circ\text{C}$ | P_{tot} | | 65 | W |
| Junction Temperature | T_j | | 150 | $^\circ\text{C}$ |
| Collector Current Saturation Voltage $I_C = 6\text{A}$, $I_B = 1\text{A}$ | $V_{CE (Sat)}$ | | 1.5 | V |
| DC Current Gain $I_C = 0.3\text{A}$; $V_{CE} = 4\text{V}$ | h_{FE} | Minimum | 30 | |

Ratings (at $T_A = 25^\circ\text{C}$ unless otherwise specified) Limiting Values

| | | | | |
|---|-----------|---------|-------------|------------------|
| Collector-Base Voltage (Open Emitter) | V_{CBO} | Maximum | 100 | V |
| Collector Emitter Voltage (Open Base) | V_{CEO} | | | |
| Emitter-Base Voltage (Open Collector) | V_{EBO} | | | |
| Collector Current | I_C | | 6.0 | A |
| Collector Current (Peak) | | | 10 | |
| Base Current | I_B | | 2.0 | |
| Total Power Dissipation upto $T_C = 25^\circ\text{C}$ | P_{tot} | | 65 | W |
| Junction Temperature | T_j | | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | | -65 to +150 | |

Thermal Resistance

| | | | | |
|-----------------------|----------------|---|------|--------------------|
| From Junction to Case | $R_{th (j-c)}$ | - | 1.92 | $^\circ\text{C/W}$ |
|-----------------------|----------------|---|------|--------------------|

Characteristics

$T_{amb} = 25^\circ\text{C}$ unless otherwise specified

| | | | | |
|---|---|---------|-------------------|----|
| Collector Cut off Current $I_B = 0$; $V_{CE} = 60\text{V}$ $V_{BE} = 0$; $V_{CE} = V_{CEO}$ | I_{CEO} I_{CES} | Maximum | 0.7 0.4 | mA |
| Emitter Cut off Current $I_C = 0$; $V_{EB} = 5\text{V}$ | I_{EBO} | | 1.0 | |
| Breakdown Voltages $I_C = 30\text{mA}$; $I_B = 0$ $I_C = 1\text{mA}$; $I_E = 0$ $I_E = 1\text{mA}$; $I_C = 0$ | $V_{CEO (Sus)}^*$ V_{CBO} V_{EBO} | Minimum | 100 100 5.0 | V |
| Saturation Voltage $I_C = 6\text{A}$; $I_B = 1\text{A}$ | $V_{CE (sat)}^*$ | Maximum | 1.5 | |
| Base Emitter On Voltage $I_C = 6\text{A}$; $V_{CE} = 4\text{V}$ | $V_{BE (on)}^*$ | | 2.0 | |
| DC Current Gain $I_C = 0.3\text{A}$; $V_{CE} = 4\text{V}$ $I_C = 3\text{A}$; $V_{CE} = 4\text{V}$ | h_{FE}^* | Minimum | 30 15 | - |



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Characteristics

$T_{amb} = 25^{\circ}\text{C}$ unless otherwise specified

| | | | | |
|--|-------------|---------|----|-----|
| Small Signal Current Gain $I_C = 0.5\text{A}; V_{CE} = 10\text{V}; f = 1\text{KHz}$ | h_{fe} | Minimum | 20 | - |
| Transition Frequency $I_C = 0.5\text{A}; V_{CE} = 10\text{V}; f = 1\text{MHz}$ | $f_T^{(1)}$ | | 3 | MHz |

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$; Duty Cycle $\leq 2\%$.

(1) $f_T = |h_{fe}| \cdot f_{test}$

Specifications

| I_C (av) Maximum (A) | V_{CEO} Maximum (V) | h_{FE} Minimum at $I_C = 0.3\text{A}$ | P_{tot} at 25°C (W) | Type | Part Number |
|------------------------------|-----------------------------|---|---|------|-------------|
| 6 | 100 | 30 | 65 | NPN | BD243C |



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Notes:

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