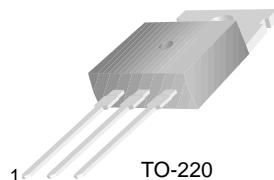


## BD241/A/B/C

### Medium Power Linear and Switching Applications

- Complement to BD242/A/B/C 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            |
|-----------|--|------------|------------------|
| $V_{CEO}$ | Collector-Emitter Voltage                        |            |                  |
|           | : BD241  | 45         | V                |
|           | : BD241A   | 60         | V                |
|           | : BD241B   | 80         | V                |
|           | : BD241C   | 100        | V                |
| $V_{CER}$ | Collector-Emitter Voltage                        |            |                  |
|           | : BD241  | 55         | V                |
|           | : BD241A   | 70         | V                |
|           | : BD241B   | 90         | V                |
|           | : BD241C   | 115        | V                |
| $V_{EBO}$ | Emitter-Base Voltage                             | 5          | V                |
| $I_C$     | Collector Current (DC)                           | 3          | A                |
| $I_{CP}$  | *Collector Current (Pulse)                       | 5          | A                |
| $I_B$     | Base Current                                     | 1          | A                |
| $P_C$     | Collector Dissipation ( $T_C=25^\circ\text{C}$ ) | 40         | 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 |                                       |      |      |      |       |
|                | : BD241                                | $I_C = -30\text{mA}, I_B = 0$         | 45   |      |      | V     |
|                | : BD241A                               |                                       | 60   |      |      | V     |
|                | : BD241B                               |                                       | 80   |      |      | V     |
| : BD241C       | 100                                    |                                       |      |      | V    |       |
| $I_{CEO}$      | Collector Cut-off Current              | $V_{CE} = 30\text{V}, I_B = 0$        |      |      | 0.3  | mA    |
|                | : BD241A/C                             | $V_{CE} = 60\text{V}, I_B = 0$        |      |      | 0.3  | mA    |
| $I_{CES}$      | Collector Cut-off Current              | $V_{CE} = 45\text{V}, V_{BE} = 0$     |      |      | 0.2  | mA    |
|                | : BD241A                               | $V_{CE} = 60\text{V}, V_{BE} = 0$     |      |      | 0.2  | mA    |
|                | : BD241B                               | $V_{CE} = 80\text{V}, V_{BE} = 0$     |      |      | 0.2  | mA    |
|                | : BD241C                               | $V_{CE} = 100\text{V}, V_{BE} = 0$    |      |      | 0.2  | mA    |
| $I_{EBO}$      | Emitter Cut-off Current                | $V_{EB} = 5\text{V}, I_C = 0$         |      |      | 1    | mA    |
| $h_{FE}$       | * DC Current Gain                      | $V_{CE} = 4\text{V}, I_C = 1\text{A}$ | 25   |      |      |       |
|                |  | $V_{CE} = 4\text{V}, I_C = 3\text{A}$ | 10   |      |      |       |
| $V_{CE(sat)}$  | * Collector-Emitter Saturation Voltage | $I_C = 3\text{A}, I_B = 0.6\text{A}$  |      |      | 1.2  | V     |
| $V_{BE(on)}$   | * Base-Emitter ON Voltage              | $V_{CE} = 4\text{V}, I_C = 3\text{A}$ |      |      | 1.8  | V     |

\* Pulse Test:  $PW=350\mu\text{s}$ , duty Cycle $\leq 2\%$  Pulsed

# Package Dimensions

BD241/A/B/C

## TO-220



Dimensions in Millimeters

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| CROSSVOLT™           | POP™          | UHC™        |
| E <sup>2</sup> CMOS™ | PowerTrench®  | VCX™        |
| FACT™                | QFET™         |             |
| FACT Quiet Series™   | QS™           |             |
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