

**Inchange Semiconductor**

**Product Specification**

**Silicon PNP Power Transistors**

**BD242/A/B/C**

**DESCRIPTION**

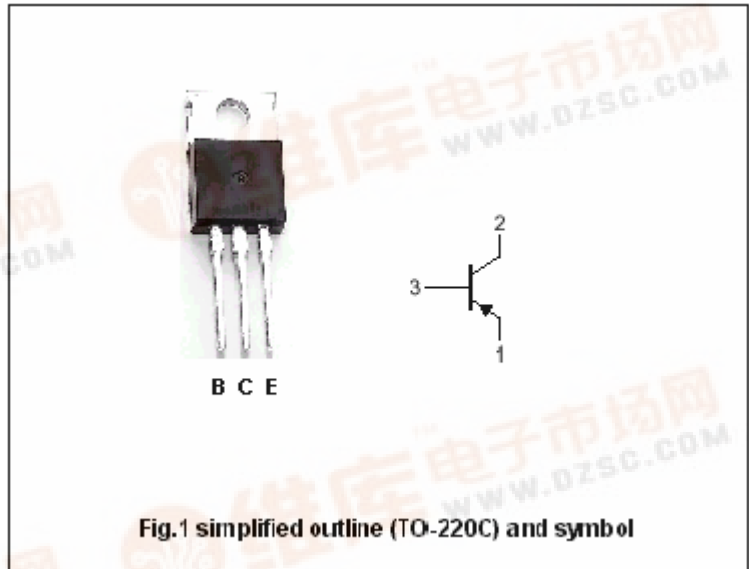
- With TO-220C package
- Complement to type BD241/A/B/C

**APPLICATIONS**

- For medium power linear and switching applications

**PINNING**

| PIN | DESCRIPTION                          |
|-----|--------------------------------------|
| 1   | Emitter                              |
| 2   | Collector;connected to mounting base |
| 3   | Base                                 |



**Absolute maximum ratings (Ta=25 )**

| SYMBOL           | PARAMETER                   | CONDITIONS         | VALUE   | UNIT |
|------------------|-----------------------------|--------------------|---------|------|
| V <sub>CBO</sub> | Collector-base voltage      | BD242              | -55     | V    |
|                  |                             | BD242A             | -70     |      |
|                  |                             | BD242B             | -90     |      |
|                  |                             | BD242C             | -115    |      |
| V <sub>CEO</sub> | Collector-emitter voltage   | BD242              | -45     | V    |
|                  |                             | BD242A             | -60     |      |
|                  |                             | BD242B             | -80     |      |
|                  |                             | BD242C             | -100    |      |
| V <sub>EBO</sub> | Emitter-base voltage        | Open collector     | -5      | V    |
| I <sub>C</sub>   | Collector current           |                    | -3      | A    |
| I <sub>CM</sub>  | Collector current-peak      |                    | -5      | A    |
| I <sub>B</sub>   | Base current                |                    | -1      | A    |
| P <sub>C</sub>   | Collector power dissipation | T <sub>C</sub> =25 | 40      | W    |
| T <sub>j</sub>   | Junction temperature        |                    | 150     |      |
| T <sub>stg</sub> | Storage temperature         |                    | -65~150 |      |

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## CHARACTERISTICS

T<sub>j</sub>=25 unless otherwise specified

| SYMBOL                | PARAMETER                            |          | CONDITIONS                                  | MIN  | TYP. | MAX  | UNIT |
|-----------------------|--------------------------------------|----------|---|------|------|------|------|
| V <sub>CEO(SUS)</sub> | Collector-emitter sustaining voltage | BD242    | I <sub>C</sub> =30mA; I <sub>B</sub> =0     | -45  |      |      | V    |
|                       |                                      | BD242A   |   | -60  |      |      |      |
|                       |                                      | BD242B   |   | -80  |      |      |      |
|                       |                                      | BD242C   |   | -100 |      |      |      |
| V <sub>CEsat</sub>    | Collector-emitter saturation voltage |          | I <sub>C</sub> =-3A; I <sub>B</sub> =-0.6 A |      |      | -1.2 | V    |
| V <sub>BE</sub>       | Base-emitter on voltage              |          | I <sub>C</sub> =-3A; V <sub>CE</sub> =-4V   |      |      | -1.8 | V    |
| I <sub>CEO</sub>      | Collector cut-off current            | BD242/A  | V <sub>CE</sub> =-30V; I <sub>B</sub> =0    |      |      | -0.3 | mA   |
|                       |                                      | BD242B/C | V <sub>CE</sub> =-60V; I <sub>B</sub> =0    |      |      |      |      |
| I <sub>CES</sub>      | Collector cut-off current            | BD242    | V <sub>CE</sub> =-45V; V <sub>BE</sub> =0   |      |      | -0.2 | mA   |
|                       |                                      | BD242A   | V <sub>CE</sub> =-60V; V <sub>BE</sub> =0   |      |      |      |      |
|                       |                                      | BD242B   | V <sub>CE</sub> =-80V; V <sub>BE</sub> =0   |      |      |      |      |
|                       |                                      | BD242C   | V <sub>CE</sub> =-100V; V <sub>BE</sub> =0  |      |      |      |      |
| I <sub>EBO</sub>      | Emitter cut-off current              |          | V <sub>EB</sub> =-5V; I <sub>C</sub> =0     |      |      | -1   | mA   |
| h <sub>FE-1</sub>     | DC current gain                      |          | I <sub>C</sub> =-1A; V <sub>CE</sub> =-4V   | 25   |      |      |      |
| h <sub>FE-2</sub>     | DC current gain                      |          | I <sub>C</sub> =-3A; V <sub>CE</sub> =-4V   | 10   |      |      |      |

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PACKAGE OUTLINE

