

## **isc** Silicon NPN Power Transistor

# BDY48

#### DESCRIPTION

- Collector-Emitter Breakdown Voltage-: V<sub>(BR)CEO</sub>= 200V (Min)
- Wide area of safe operation
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

#### **APPLICATIONS**

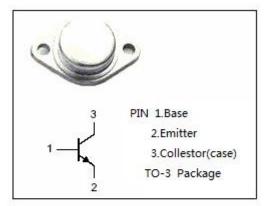
• Designed for use in series regulators, power amplifiers, Inverters, deflection circuits, switching regulators, and high voltage bridge amplifiers..

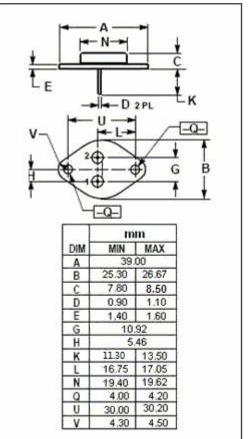
| ABSOLUTE MAXIMUM RATINGS(Ta=25 C) |                              |         |      |  |  |  |  |
|-----------------------------------|------------------------------|---------|------|--|--|--|--|
| SYMBOL                            | PARAMETER VALUE              |         | UNIT |  |  |  |  |
| V <sub>CBO</sub>                  | Collector-Base Voltage       | 200     | V    |  |  |  |  |
| $V_{\text{CEO}}$                  | Collector-Emitter Voltage    | 200     | V    |  |  |  |  |
| V <sub>EBO</sub>                  | Emitter-Base Voltage         | e 6     |      |  |  |  |  |
| lc                                | Collector Current-Continuous | 3.5     | A    |  |  |  |  |
| Pc                                | Collector Power Dissipation  | 100     | W    |  |  |  |  |
| TJ                                | Junction Temperature         | 150     | °C   |  |  |  |  |
| T <sub>stg</sub>                  | Storage Temperature Range    | -55~150 | °C   |  |  |  |  |

## ABSOLUTE MAXIMUM RATINGS(Ta=25℃)

#### THERMAL CHARACTERISTICS

| SYMBOL              | PARAMETER                            | МАХ  | UNIT |
|---------------------|--------------------------------------|------|------|
| R <sub>th j-c</sub> | Thermal Resistance, Junction to Case | 1.75 | °C/W |





## isc website: <u>www.iscsemi.com</u>



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# **ELECTRICAL CHARACTERISTICS**

### $T_c=25^{\circ}C$ unless otherwise specified

| SYMBOL               | PARAMETER                            | CONDITIONS   | MIN | TYP. | МАХ | UNIT |
|----------------------|--------------------------------------|--|-----|------|-----|------|
| V <sub>CE(sat)</sub> | Collector-Emitter Saturation Voltage | I <sub>C</sub> =3A; I <sub>B</sub> = 0.3A                                |     |      | 1.0 | V    |
| V <sub>BE(sat)</sub> | Base-Emitter Saturation Voltage      | I <sub>C</sub> =3A; I <sub>B</sub> = 0.3A                                |     |      | 1.5 | V    |
| V <sub>(BR)CEO</sub> | Collector-Emitter Breakdown Voltage  | I <sub>C</sub> = 25mA; I <sub>B</sub> = 0                                | 200 |      |     | V    |
| V <sub>(BR)EBO</sub> | Emitter-Base Breakdown Voltage       | I <sub>E</sub> = 1mA; I <sub>C</sub> = 0                                 | 6   |      |     | V    |
| h <sub>FE-1</sub>    | DC Current Gain                      | I <sub>C</sub> =1A; V <sub>CE</sub> = 5V                                 | 80  |      | 200 |      |
| h <sub>FE-2</sub>    | DC Current Gain                      | I <sub>C</sub> =3A; V <sub>CE</sub> = 5V                                 | 30  |      |     |      |
| I <sub>CBO</sub>     | Collector Cutoff Current             | V <sub>CB</sub> =200V ; I <sub>E</sub> = 0                               |     |      | 100 | uA   |
| I <sub>EBO</sub>     | Emitter Cutoff Current               | V <sub>EB</sub> =6V; I <sub>C</sub> = 0                                  |     |      | 100 | uA   |
| f⊤                   | Current-Gain—Bandwidth Product       | I <sub>C</sub> = 0.1A; V <sub>CE</sub> = 10V; f <sub>test</sub> = 1.0MHz | 5   |      |     | MHz  |

## **NOTICE:**

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