

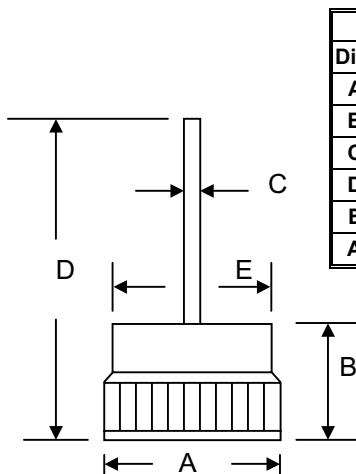
## Data Sheet 2506 Rev.—

## Features

- Diffused Junction
- Low Leakage
- Low Cost
- High Surge Current Capability
- Typical IR less than 10 $\mu$ A

## Mechanical Data

- Case: Copper Case
- Terminals: Contact Areas Readily Solderable
- Polarity: Cathode to Case(Reverse Units Are Available Upon Request and Are Designated By An "R" Suffix, i.e. BD5002R or BD5004R)
- Polarity: Red Color Equals Standard, Black Color Equals Reverse Polarity
- Mounting Position: Any



| 13mm Bosch                  |             |             |
|-----------------------------|-------------|-------------|
| Dim                         | Min         | Max         |
| A                           | 0.508(12.9) | 0.516(13.1) |
| B                           | 0.303(7.70) | 0.319(8.10) |
| C                           | 0.049(1.25) | 0.052(1.31) |
| D                           | 1.145(29.1) | 1.224(31.1) |
| E                           | 0.437(11.1) | 0.453(11.5) |
| All Dimensions in inch( mm) |             |             |

Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

Single Phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| Characteristic   | Symbol                            | BD5000 | BD5001 | BD5002 | BD5003      | BD5004 | BD5005 | BD5006 | Unit    |
|--|-----------------------------------|--------|--------|--------|-------------|--------|--------|--------|---------|
| Peak Repetitive Reverse Voltage  | V <sub>RRM</sub>                  |        |        |        |             |        |        |        |         |
| Working Peak Reverse Voltage   | V <sub>RWM</sub>                  | 50     | 100    | 200    | 300         | 400    | 500    | 600    | V       |
| DC Blocking Voltage  | V <sub>R</sub>                    |        |        |        |             |        |        |        |         |
| RMS Reverse Voltage  | V <sub>R(RMS)</sub>               | 35     | 70     | 140    | 210         | 280    | 350    | 420    | V       |
| Average Rectified Output Current @T <sub>A</sub> = 150°C   | I <sub>O</sub>                    |        |        |        | 50          |        |        |        | A       |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>                  |        |        |        | 500         |        |        |        | A       |
| Forward Voltage @I <sub>F</sub> = 100A   | V <sub>FM</sub>                   |        |        |        | 1.18        |        |        |        | V       |
| Peak Reverse Current @T <sub>A</sub> = 25°C<br>At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C                | I <sub>RM</sub>                   |        |        |        | 10          |        |        |        | $\mu$ A |
| Typical Junction Capacitance (Note 1)  | C <sub>J</sub>                    |        |        |        | 300         |        |        |        | pF      |
| Typical Thermal Resistance Junction to Case (Note 2)   | R <sub>θJC</sub>                  |        |        |        | 1.2         |        |        |        | K/W     |
| Operating and Storage Temperature Range  | T <sub>J</sub> , T <sub>STG</sub> |        |        |        | -65 to +175 |        |        |        | °C      |

\*Glass passivated forms are available upon request

Note: 1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.  
2. Thermal Resistance: Junction to case, single side cooled.