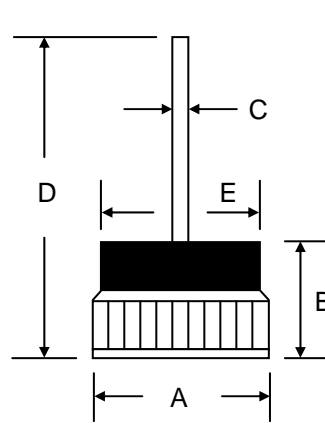


## Features

- Diffused Junction
- Low Leakage
- Low Cost
- High Surge Current Capability
- Typical IR less than 5.0μA

## Mechanical Data

- Case: 13mm Bosch Type Press-Fit
- Terminals: Contact Areas Readily Solderable
- Polarity: Cathode to Case (Reverse Units Are Available Upon Request and Are Designated By A "R" Suffix, i.e. BD5002R or BD5004R)
- Polarity: Red Color Equals Standard, Black Color Equals Reverse Polarity
- Mounting Position: Any
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 2**



Anode +



| 13mm Bosch           |       |       |
|----------------------|-------|-------|
| Dim                  | Min   | Max   |
| A                    | 12.80 | 13.20 |
| B                    | 9.40  | —     |
| C                    | 1.25  | 1.31  |
| D                    | 28.00 | —     |
| E                    | 9.90  | 11.10 |
| All Dimensions in 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>                  |             |        |        |        |        |        |        | V    |
| Working Peak Reverse Voltage  | V <sub>RWM</sub>                  | 50          | 100    | 200    | 300    | 400    | 500    | 600    |      |
| 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>C</sub> = 150°C  | I <sub>O</sub>                    | 50          |        |        |        |        |        |        | A    |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single Half Sine-Wave Superimposed on<br>Rated Load (JEDEC Method) | I <sub>FSM</sub>                  | 500         |        |        |        |        |        |        | A    |
| Forward Voltage @I <sub>F</sub> = 50A   | V <sub>FM</sub>                   | 1.0         |        |        |        |        |        |        | 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>                   | 5.0<br>500  |        |        |        |        |        |        | μA   |
| Typical Junction Capacitance (Note 1)   | C <sub>J</sub>                    | 400         |        |        |        |        |        |        | pF   |
| Typical Thermal Resistance (Note 2)   | R <sub>JC</sub>                   | 1.0         |        |        |        |        |        |        | °C/W |
| Operating and Storage Temperature Range   | T <sub>J</sub> , T <sub>STG</sub> | -65 to +175 |        |        |        |        |        |        | °C   |

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.

## ORDERING INFORMATION

| Product No. | Package Type         | Shipping Quantity |
|-------------|----------------------|-------------------|
| BD5000      | 13mm Bosch Press-Fit | 180 Units/Box     |
| BD5001      | 13mm Bosch Press-Fit | 180 Units/Box     |
| BD5002      | 13mm Bosch Press-Fit | 180 Units/Box     |
| BD5003      | 13mm Bosch Press-Fit | 180 Units/Box     |
| BD5004      | 13mm Bosch Press-Fit | 180 Units/Box     |
| BD5005      | 13mm Bosch Press-Fit | 180 Units/Box     |
| BD5006      | 13mm Bosch Press-Fit | 180 Units/Box     |

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, BD5000-LF.**

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**WARNING:** DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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