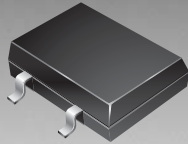




**THE DATASHEET OF
CDNBS04-B08600**



*RoHS COMPLIANT



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Features

- RoHS compliant*
- Small SMT package
- High reliability with superior moisture resistance
- Applicable to automatic insertion



This series is currently available but not recommended for new designs.

Applications

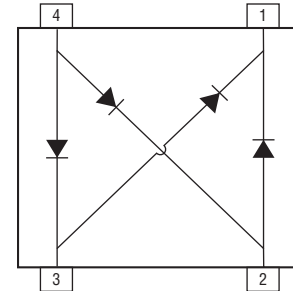
- Switching power supply
- Home appliances, office equipment
- Telecommunication, factory automation

CDNBS04-B08200~B08800 Surface Mount Rectifier

General Information

The CDNBS04-B08200~B08800 device provides Bridge Rectification with high reliability with superior moisture resistance for home appliances, office equipment and telecommunications.

The device provide 0.8 A rectification with a choice of repetitive peak reverse voltages from 200 V to 800 V. The device measures 5 mm x 7 mm and is available in a four lead SMT package intended to be mounted directly onto an FR4 printed circuit board.



Electrical Characteristics (@ $T_A = 25\text{ }^\circ\text{C}$ Unless Otherwise Noted)

| Parameter | Symbol | CDNBS04- | | | | Unit |
|---|-----------------|----------|--------|--------|--------|---------------------------|
| | | B08200 | B08400 | B08600 | B08800 | |
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 200 | 400 | 600 | 800 | V |
| Maximum RMS Voltage | V_{RMS} | 140 | 280 | 420 | 560 | V |
| Maximum DC Blocking Voltage | V_{DC} | 200 | 400 | 600 | 800 | V |
| Maximum Average Forward Rectified Current @ $T_A = 40\text{ }^\circ\text{C}$ ¹ | $I_{(AV)}$ | 0.8 | | | | A |
| Maximum DC Reverse Current @ $T_J = 25\text{ }^\circ\text{C}$ | I_R | 5 | | | | μA |
| Maximum DC Reverse Current @ $T_J = 100\text{ }^\circ\text{C}$ | I_R | 100 | | | | μA |
| Maximum Forward Voltage @ 0.4 A DC | V_F | 1.15 | | | | V |
| I^2t Rating for Fusing ($T < 8\text{ ms}$) | I^2t | 3.7 | | | | A^2S |
| Maximum Recovery Time | T_{RR} | 150 | | 200 | 500 | ns |
| Typical Thermal Resistance ² | $R_{\theta JA}$ | 50 | | | | $^\circ\text{C}/\text{W}$ |
| Typical Junction Capacitance per element ³ | C_J | 13 | | | | pF |
| Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 30 | | | | A |

Notes:

- 1 Mounted on PC Board. See Forward Derating Curve.
- 2 Thermal Resistance from Junction to Ambient.
- 3 Measured at 1 MHz and applied Reverse Voltage of 4.0 VDC.

Thermal Characteristics (@ $T_A = 25\text{ }^\circ\text{C}$ Unless Otherwise Noted)

| Parameter | Symbol | CDNBS04-B08200~B08800 | Unit |
|-----------------------------|-----------|-----------------------|------------------|
| Operating Temperature Range | T_J | -55 to +150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | $^\circ\text{C}$ |

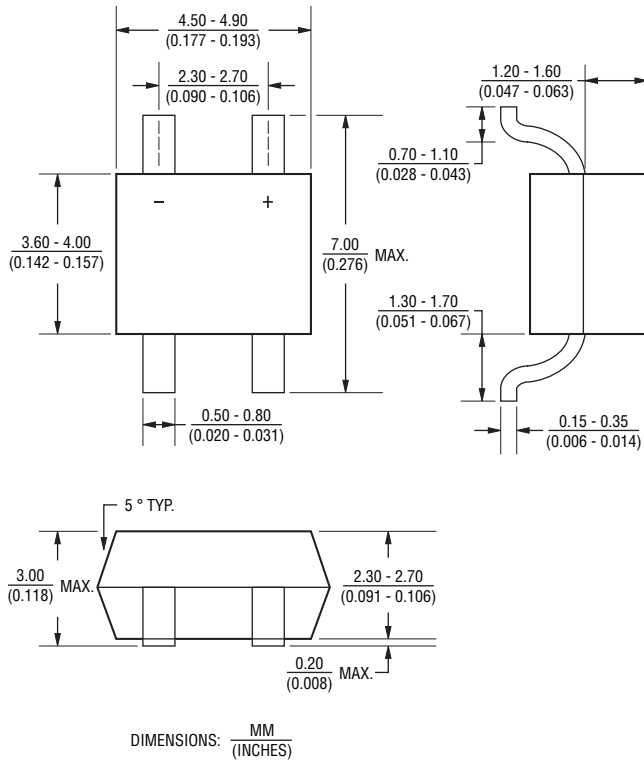
*RoHS Directive 2002/95/EC Jan 27, 2003 including Annex.
 Specifications are subject to change without notice.
 Customers should verify actual device performance in their specific applications.

CDNBS04-B08200~B08800 Surface Mount Rectifier



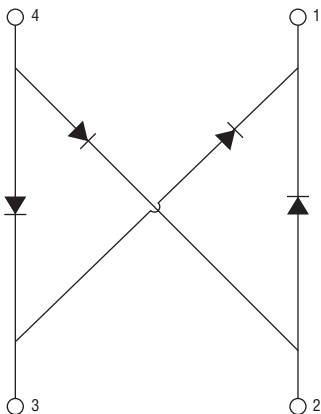
Product Dimensions

This is a molded package weighs approximately 0.125 g and can be mounted in any position. The dimensions for the packaged device are shown below.



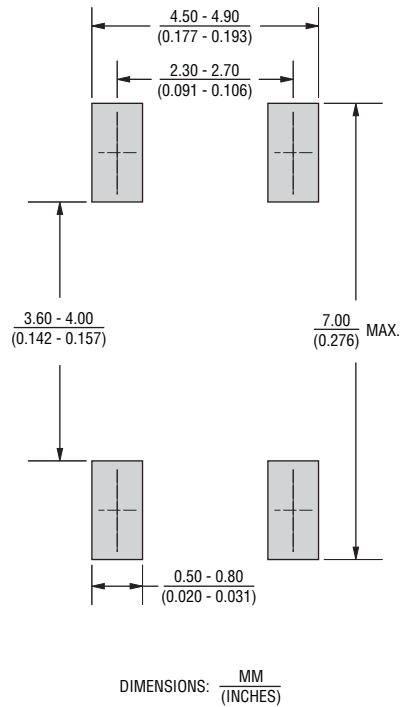
Block Diagram

The block diagram below includes the pin names and basic electrical connections associated with each channel.



Recommended Footprint

The device will mount onto existing JEDEC SOD-106 footprint.



How To Order

CD NBS04 - B 08 800

Common Code _____
 CD = Chip Diode

Package _____
 NBS04

Model Series _____
 B = Bridge Rectifier

Maximum Rectified Current _____
 08 = 100 mA

Working Peak Reverse Voltage _____
 200 = 200 V_{RWM}
 400 = 400 V_{RWM}
 600 = 600 V_{RWM}
 800 = 800 V_{RWM}

Typical Part Marking

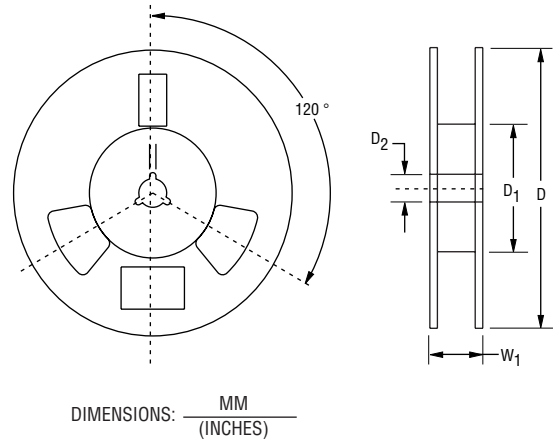
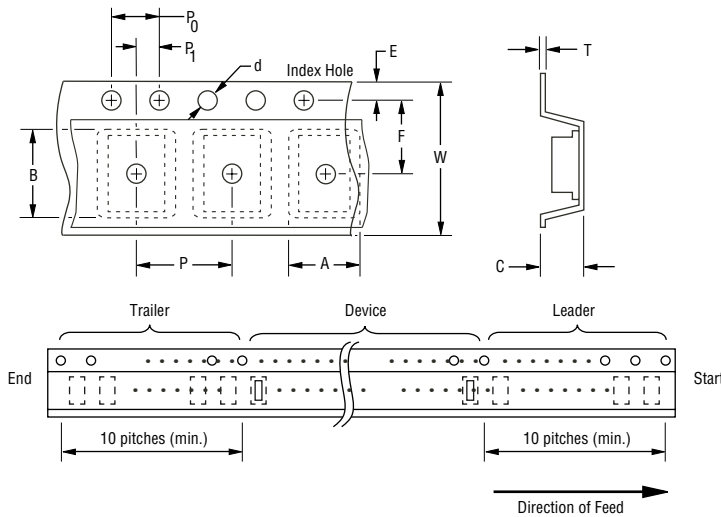
CDNBS04-B08200 **B 8 200**
 CDNBS04-B08400 **B 8 400**
 CDNBS04-B08600 **B 8 600**
 CDNBS04-B08800 **B 8 800**

CDNBS04-B08200~B08800 Surface Mount Rectifier

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Packaging Specifications

The product will be dispensed in Tape and Reel format (see diagram below).



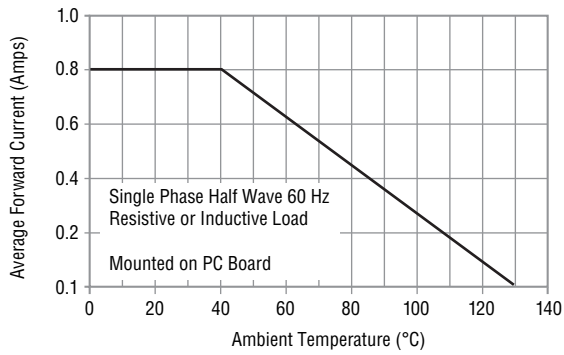
Devices are packed in accordance with EIA standard RS-481-A.

| Item | Symbol | NSOIC 4L |
|------------------------|----------------|--|
| Carrier Width | A | $\frac{6.7 \pm 0.10}{(0.264 \pm 0.004)}$ |
| Carrier Length | B | $\frac{5.5 \pm 0.10}{0.217 \pm 0.004}$ |
| Carrier Depth | C | $\frac{2.10 \pm 0.10}{0.083 \pm 0.004}$ |
| Sprocket Hole | d | $\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$ |
| Reel Outside Diameter | D | $\frac{330}{(12.992)}$ |
| Reel Inner Diameter | D ₁ | $\frac{80.0}{(3.1500)}$ MIN. |
| Feed Hole Diameter | D ₂ | $\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$ |
| Sprocket Hole Position | E | $\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$ |
| Punch Hole Position | F | $\frac{3.50 \pm 0.05}{(0.138 \pm 0.002)}$ |
| Punch Hole Pitch | P | $\frac{8.00 \pm 0.10}{(0.315 \pm 0.004)}$ |
| Sprocket Hole Pitch | P ₀ | $\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$ |
| Embossment Center | P ₁ | $\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$ |
| Overall Tape Thickness | T | $\frac{0.20 \pm 0.10}{(0.008 \pm 0.004)}$ |
| Tape Width | W | $\frac{12.00 \pm 0.20}{(0.472 \pm 0.008)}$ |
| Reel Width | W ₁ | $\frac{18.4}{(0.724)}$ MAX. |
| Quantity per Reel | - | 2500 |

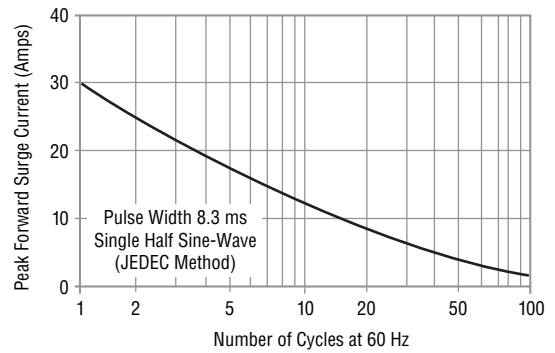
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

Performance Graphs

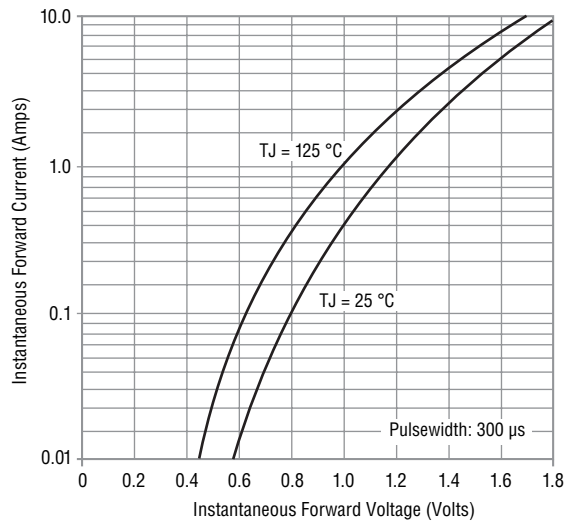
Forward Current Derating Curve



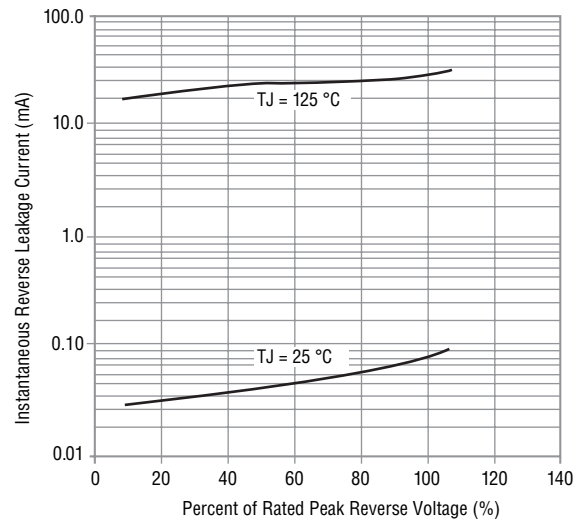
Maximum Non-Repetitive Surge Current



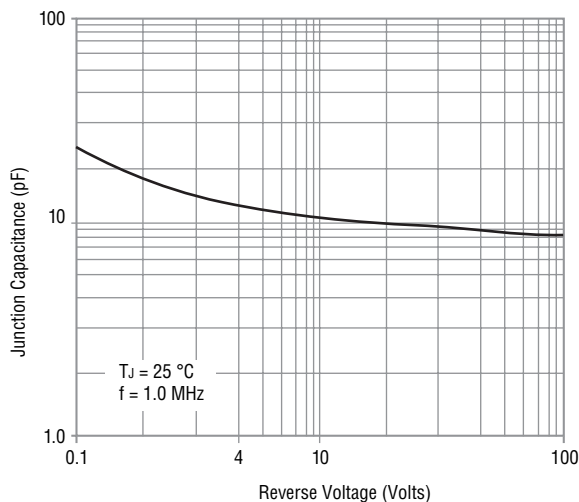
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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www.bourns.com

Looking for pricing, stock, or lifecycle information?

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- ✓ Obsolete Management
- ✓ Cost Control Management
- ✓ Shortage Management
- ✓ Alternative Solution
- ✓ Excess Inventory Management