



## Features

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

## Applications

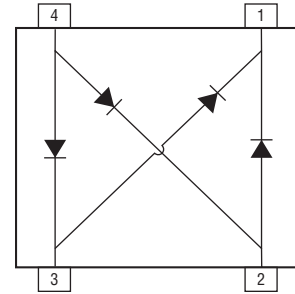
- Switching power supply
- Home appliances, office equipment
- Telecommunication, factory automation

## 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 (@ $T_A = 25^\circ\text{C}$ 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 @ $T_A = 40^\circ\text{C}$ <sup>1</sup>	$I_{(AV)}$	0.8				A
Maximum DC Reverse Current @ $T_J = 25^\circ\text{C}$	$I_R$	5				$\mu\text{A}$
Maximum DC Reverse Current @ $T_J = 100^\circ\text{C}$	$I_R$	100				$\mu\text{A}$
Maximum Forward Voltage @ 0.4 A DC	$V_F$	1.15				V
$I^2t$ Rating for Fusing ( $T < 8$ ms)	$I^2t$	3.7				$\text{A}^2\text{S}$
Maximum Recovery Time	$T_{RR}$	150		200	500	ns
Typical Thermal Resistance <sup>2</sup>	$R_{\theta JA}$	50				$^\circ\text{C}/\text{W}$
Typical Junction Capacitance per element <sup>3</sup>	$C_J$	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 (@ $T_A = 25^\circ\text{C}$ 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.

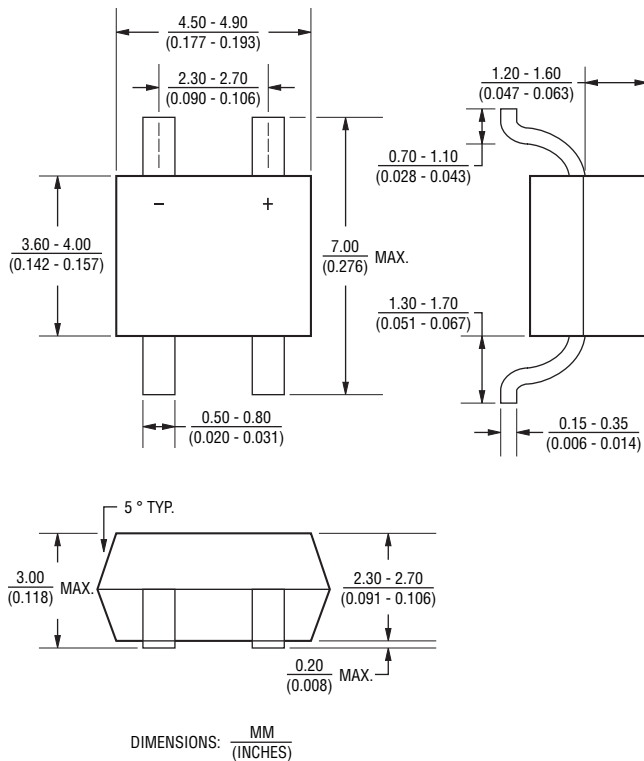
Customers should verify actual device performance in their specific applications.

## CDNBS04-B08200~B08800 Surface Mount Rectifier

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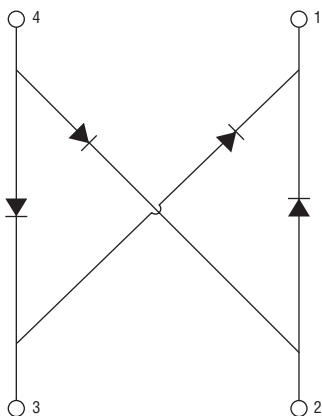
### Product Dimensions

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.



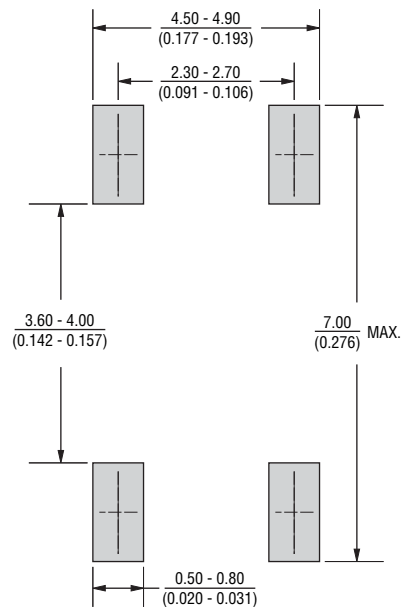
### Block Diagram

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.



DIMENSIONS:  $\frac{\text{MM}}{(\text{INCHES})}$

### How To Order

Common Code	CD	NBS04	-	B	08	800
CD = Chip Diode						
Package		NBS04				
Model Series		B = Bridge Rectifier				
Maximum Rectified Current		08 = 100 mA				
Working Peak Reverse Voltage		200 = 200 V <sub>RWM</sub>				
		400 = 400 V <sub>RWM</sub>				
		600 = 600 V <sub>RWM</sub>				
		800 = 800 V <sub>RWM</sub>				

### Typical Part Marking

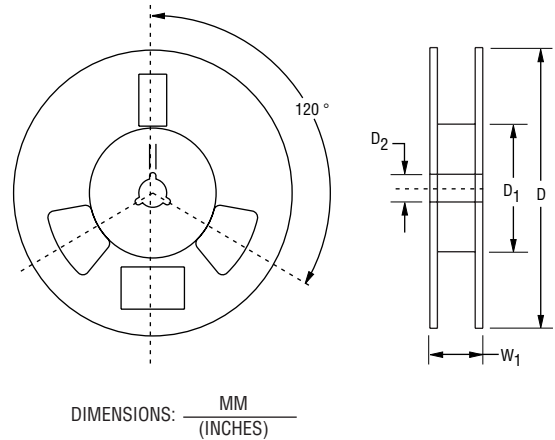
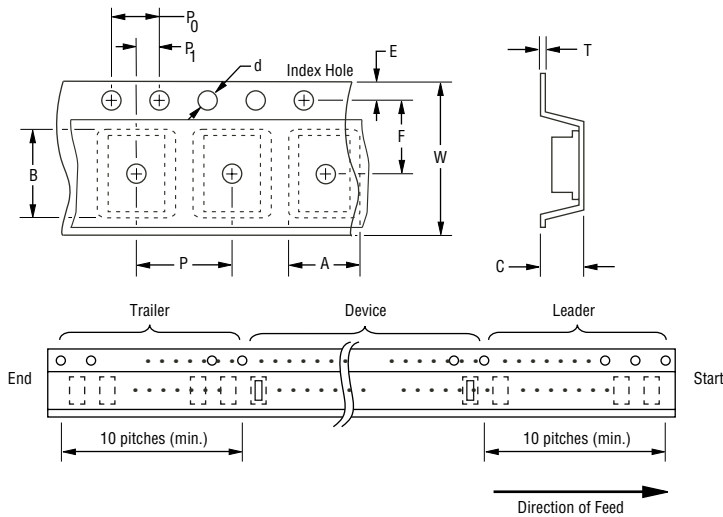
CDNBS04-B08200	.....	<b>B 8 200</b>
CDNBS04-B08400	.....	<b>B 8 400</b>
CDNBS04-B08600	.....	<b>B 8 600</b>
CDNBS04-B08800	.....	<b>B 8 800</b>

# 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 <sub>1</sub>	$\frac{80.0}{(3.1500)} \text{ MIN.}$
Feed Hole Diameter	D <sub>2</sub>	$\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$
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 <sub>0</sub>	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P <sub>1</sub>	$\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$
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 <sub>1</sub>	$\frac{18.4}{(0.724)} \text{ MAX.}$
Quantity per Reel	-	2500

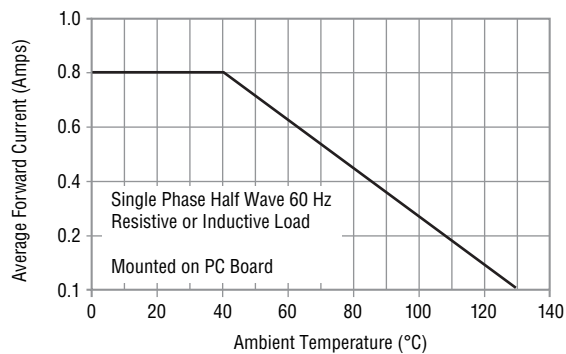
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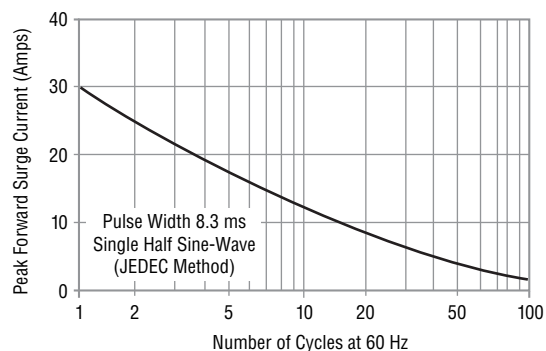
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### Performance Graphs

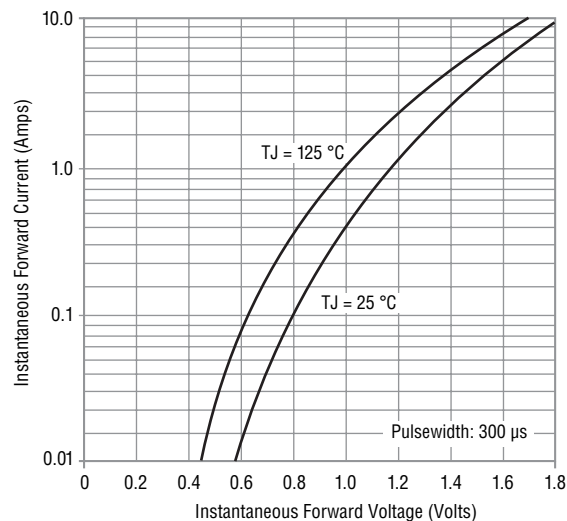
#### Forward Current Derating Curve



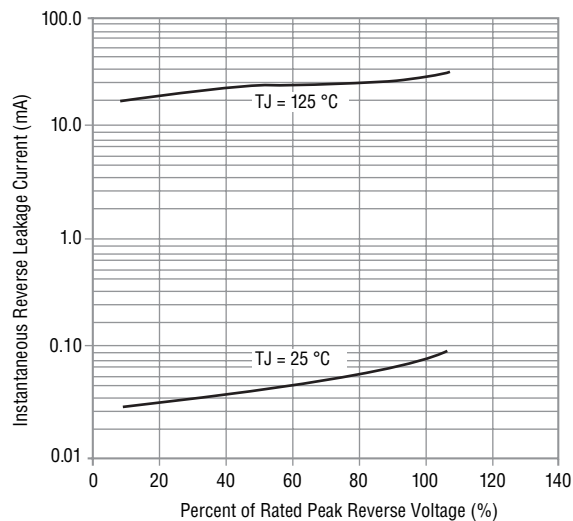
#### Maximum Non-Repetitive Surge Current



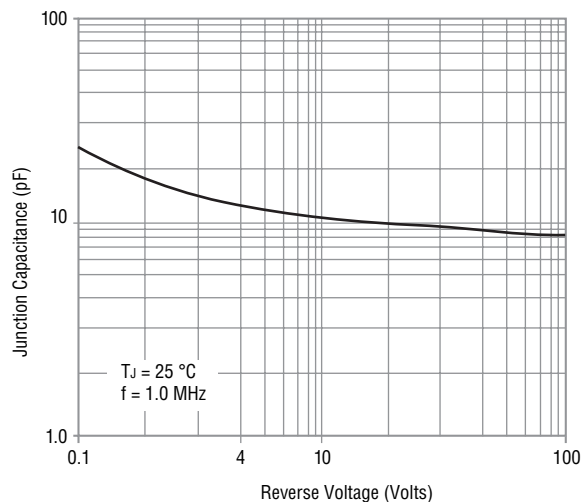
#### Typical Forward Characteristics



#### Typical Reverse Characteristics



#### Typical Junction Capacitance



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