



## Features

- RoHS compliant\*
- Low power loss and high efficiency
- High current capability
- Low profile package

## Applications

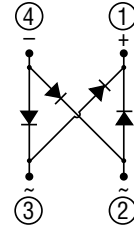
- AC operated products
- Computer monitors
- Set-top boxes
- Cable modems

## CD-HD0x Series Surface Mount Schottky Bridge Rectifier Diode

### General Information

The markets of portable communications, computing and video equipment are challenging the semiconductor industry to develop increasingly smaller electronic components.

Bourns offers Schottky Bridge Rectifier Diodes for rectification applications in compact chip package 0.24 " x 0.19 " size format, which offers PCB real estate savings and are considerably smaller than standard parts. The Schottky Bridge Rectifier Diodes offer a forward current of 1 A with a choice of repetitive peak reverse voltages between 40 V and 100 V.



### Absolute Maximum Ratings (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

| Parameter                                                                                         | Symbol      | CD-         |       |      | Unit             |
|---------------------------------------------------------------------------------------------------|-------------|-------------|-------|------|------------------|
|                                                                                                   |             | HD004       | HD006 | HD01 |                  |
| Maximum Repetitive Peak Reverse Voltage                                                           | $V_{RRM}$   | 40          | 60    | 100  | V                |
| Maximum Average Forward Rectified Current ( $T_A = 55^\circ\text{C}$ )                            | $I_{F(AV)}$ | 1.0         |       |      | A                |
| Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | $I_{FSM}$   | 30.0        |       |      | A                |
| Operating Temperature Range                                                                       | $T_J$       | -55 to +125 |       |      | $^\circ\text{C}$ |
| Storage Temperature Range                                                                         | $T_{STG}$   | -55 to +125 |       |      | $^\circ\text{C}$ |

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

| Parameter                            | Symbol       | CD-HD0x                                |                           |      |       | Unit                        |
|--------------------------------------|--------------|----------------------------------------|---------------------------|------|-------|-----------------------------|
|                                      |              | Test Conditions                        |                           | Min. | Typ.  | Max.                        |
| Instantaneous Forward Voltage        | $V_F$        | $I_F = 1\text{ A}$                     | CD-HD004                  |      | 0.49  | 0.5                         |
|                                      |              |                                        | CD-HD006                  |      | 0.60  | 0.70                        |
|                                      |              |                                        | CD-HD01                   |      | 0.75  | 0.85                        |
| Repetitive Peak Reverse Current      | $I_{RRM}$    | $V_R = V_{RRM}$                        | $T_A = +25^\circ\text{C}$ |      | 0.025 | 0.20                        |
| Junction Capacitance                 | $C_J$        | $V_R = 4\text{ V}, f = 1.0\text{ MHz}$ |                           |      |       | 250                         |
| Thermal Resistance, Junction to Air  | $R_{th(JA)}$ | Junction to Ambient (NOTE 1)           |                           |      | 110   | $^\circ\text{C} / \text{W}$ |
| Thermal Resistance, Junction to Lead | $R_{th(JC)}$ | Junction to Lead (NOTE 1)              |                           |      | 15    | $^\circ\text{C} / \text{W}$ |

NOTE 1: Measured when mounted on PCB with 5.0 mm x 5.0 mm (0.2 " x 0.2 ") copper pad areas.

\*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

Specifications are subject to change without notice.

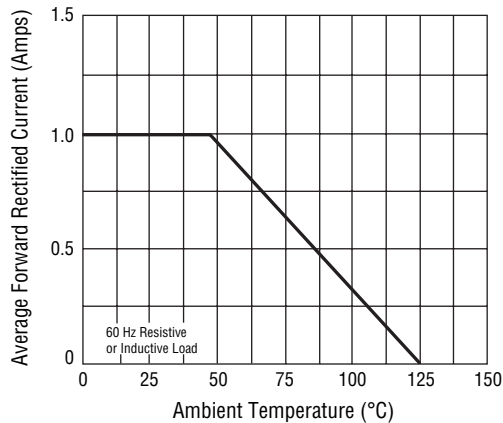
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

# CD-HD0x Series Surface Mount Schottky Bridge Rectifier Diode

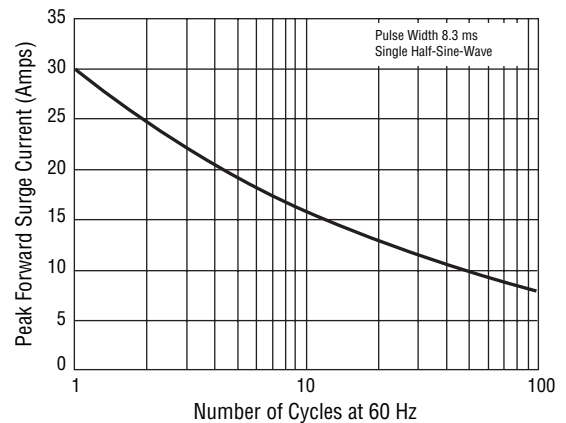
**BOURNS®**

## Rating and Characteristic Curves

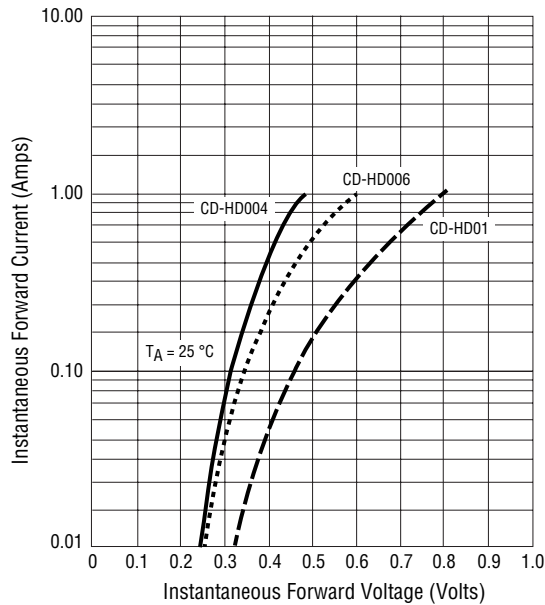
### Forward Current Derating Curve



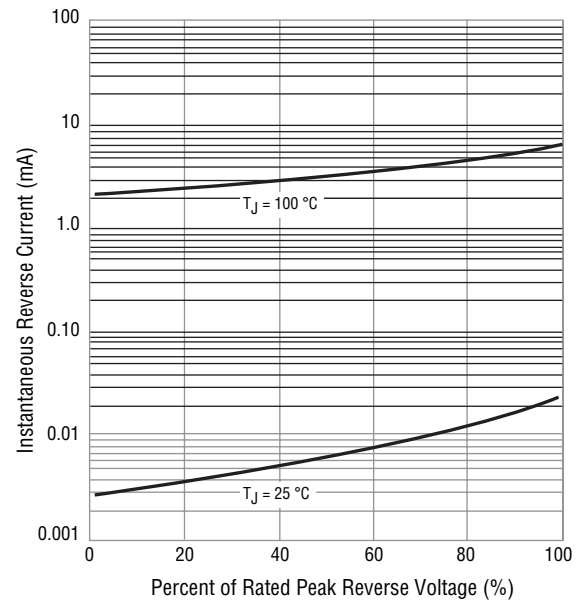
### Maximum Non-Repetitive Peak Forward Surge Current



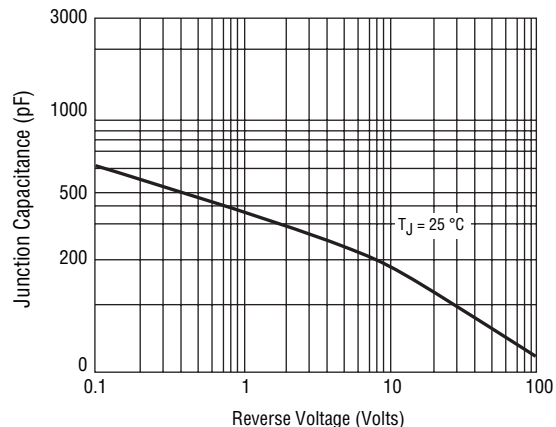
### Forward Characteristics



### Reverse Characteristics



### Typical Junction Capacitance



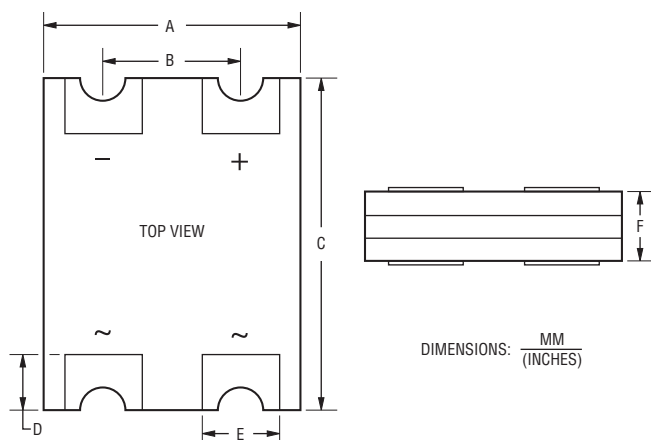
Specifications are subject to change without notice. The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

# CD-HD0x Series Surface Mount Schottky Bridge Rectifier Diode

**BOURNS®**

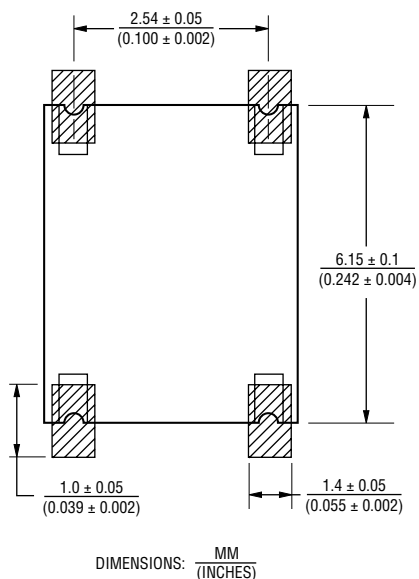
## Product Dimensions

This is an RoHS2 compliant product, packaged with FRP substrate and is epoxy underfilled. The terminals are pure tin plated (lead free) and are solderable per MIL-STD-750, Method 2026. The package and dimensions are shown below.



| Dimensions |                                       |
|------------|---------------------------------------|
| A          | $\frac{4.65 - 4.85}{(0.183 - 0.191)}$ |
| B          | $\frac{2.49 - 2.59}{(0.098 - 0.102)}$ |
| C          | $\frac{6.05 - 6.25}{(0.238 - 0.246)}$ |
| D          | $\frac{0.95 - 1.05}{(0.037 - 0.041)}$ |
| E          | $\frac{1.35 - 1.45}{(0.053 - 0.057)}$ |
| F          | $\frac{0.92 - 1.22}{(0.036 - 0.048)}$ |

## Recommended Footprint



## How to Order

Common Code \_\_\_\_\_ **CD - HD 004**

Chip Diode \_\_\_\_\_

Package \_\_\_\_\_

HD = HD Bridge Series

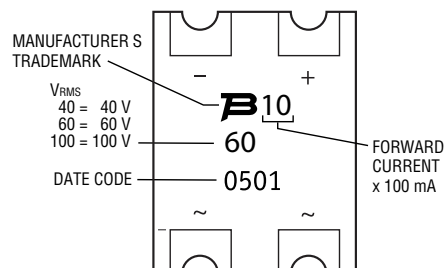
Reverse Voltage \_\_\_\_\_

004 = 40 V

006 = 60 V

01 = 100 V

## Typical Part Marking



Specifications are subject to change without notice.

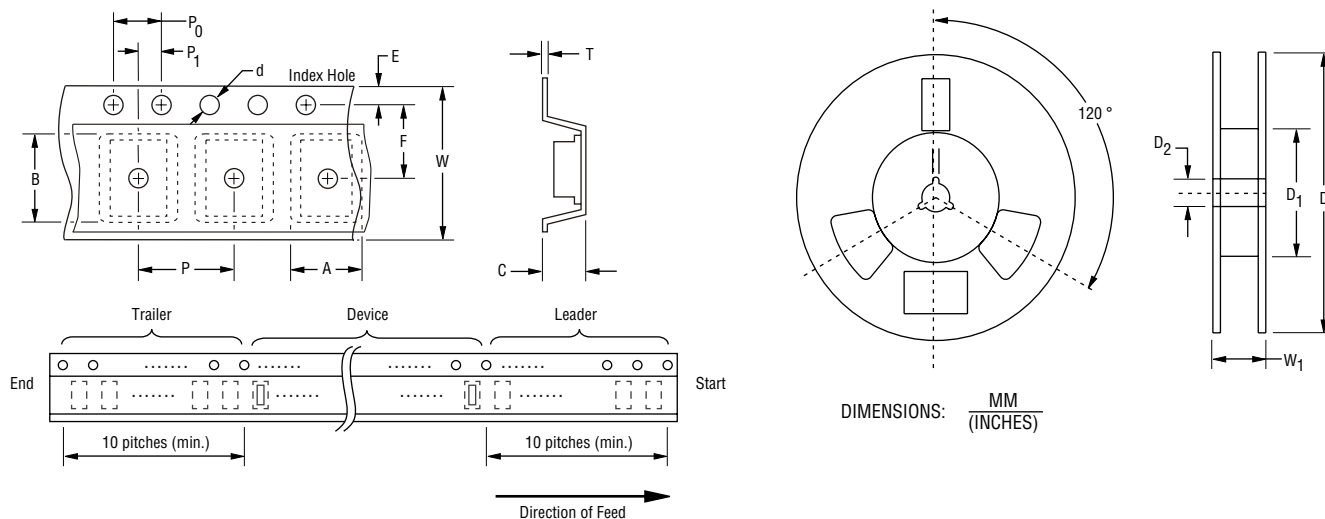
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

# CD-HD0x Series Surface Mount Schottky Bridge Rectifier Diode

**BOURNS®**

## Packaging Information

The surface mount product is packaged in a 12 mm x 8 mm tape and reel format per EIA-481 standard.



| Item                   | Symbol         | CD-HD0x                                    |
|------------------------|----------------|--------------------------------------------|
| Carrier Width          | A              | $\frac{5.20 \pm 0.30}{(0.205 \pm 0.012)}$  |
| Carrier Length         | B              | $\frac{6.60 \pm 0.30}{(0.260 \pm 0.012)}$  |
| Carrier Depth          | C              | $\frac{1.65 \pm 0.10}{(0.065 \pm 0.004)}$  |
| Sprocket Hole          | d              | $\frac{1.50 \pm 0.10}{(0.059 \pm 0.004)}$  |
| Reel Outside Diameter  | D              | $\frac{330}{(12.992)}$                     |
| Reel Inner Diameter    | D <sub>1</sub> | $\frac{50.0}{(1.969)} \text{ MIN.}$        |
| Feed Hole Diameter     | D <sub>2</sub> | $\frac{13.0 \pm 0.50}{(0.512 \pm 0.02)}$   |
| Sprocket Hole Position | E              | $\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$  |
| Punch Hole Position    | F              | $\frac{5.50 \pm 0.05}{(0.217 \pm 0.002)}$  |
| 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> | $\frac{2.00 \pm 0.10}{(0.079 \pm 0.004)}$  |
| Overall Tape Thickness | T              | $\frac{0.40}{(0.016)}$                     |
| Tape Width             | W              | $\frac{12.00 \pm 0.30}{(0.472 \pm 0.012)}$ |
| Reel Width             | W <sub>1</sub> | $\frac{14.4}{(0.567)} \text{ MAX.}$        |
| Quantity per Reel      | --             | 5,000                                      |

**BOURNS®**

### Asia-Pacific:

Tel: +886-2 2562-4117

Email: asiacus@bourns.com

### Europe:

Tel: +36 88 520 390

Email: eurocus@bourns.com

### The Americas:

Tel: +1-951 781-5500

Email: americus@bourns.com

**www.bourns.com**



**Стандарт  
Электрон  
Связь**

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

**Наши контакты:**

**Телефон:** +7 812 627 14 35

**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331