

Features

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

Applications

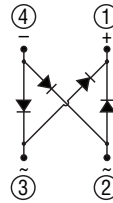
- AC operated products
- Computer monitors
- Set-top boxes
- Cable modems

CD-HD2x(L) 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 a 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 2 A with a choice of repetitive peak reverse voltages between 40 V and 100 V.



Additional Information

Click these links for more information:



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

| Parameter | Symbol | CD- | | | | Unit |
|---|-------------|-------------|--------|-------|---------|------------------|
| | | HD2004 | HD2006 | HD201 | HD2006L | |
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 40 | 60 | 100 | 60 | V |
| Maximum Average Forward Rectified Current ($T_A = 55^\circ\text{C}$) | $I_{F(AV)}$ | 2.0 | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 50.0 | | | | 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-HD2x(L) | | | | Unit |
|--------------------------------------|--------------|--|-------------|------|-------|------|
| | | Test Conditions | | Min. | Typ. | Max. |
| Instantaneous Forward Voltage | V_F | $I_F = 2\text{ A}$ | CD-HD2004 | | 0.49 | 0.5 |
| | | | CD-HD2006 | | 0.60 | 0.70 |
| | | | CD-HD201 | | 0.75 | 0.85 |
| | | | CD-HD2006L | | 0.50 | 0.55 |
| Repetitive Peak Reverse Current | I_{RRM} | $V_R = V_{RRM}$ $T_A = +25^\circ\text{C}$ | CD-HD2004 | | 0.025 | 0.20 |
| | | | CD-HD2006 | | 0.025 | 0.20 |
| | | | CD-HD201 | | 0.025 | 0.20 |
| | | | CD-HD2006L | | 0.03 | 0.2 |
| Junction Capacitance | C_J | $V_R = 4\text{ V}$, $f = 1.0\text{ MHz}$ | CD-HD2x(L)x | | | 250 |
| Thermal Resistance, Junction to Air | $R_{th(JA)}$ | Junction to Ambient (NOTE 1) | CD-HD2004 | | 110 | |
| | | | CD-HD2006 | | 110 | |
| | | | CD-HD201 | | 110 | |
| | | | CD-HD2006L | | 110 | |
| Thermal Resistance, Junction to Lead | $R_{th(JC)}$ | Junction to Lead (NOTE 1) | CD-HD2004 | | 15 | |
| | | | CD-HD2006 | | 15 | |
| | | | CD-HD201 | | 15 | |
| | | | CD-HD2006L | | 15 | |

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



WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
 Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

Applications

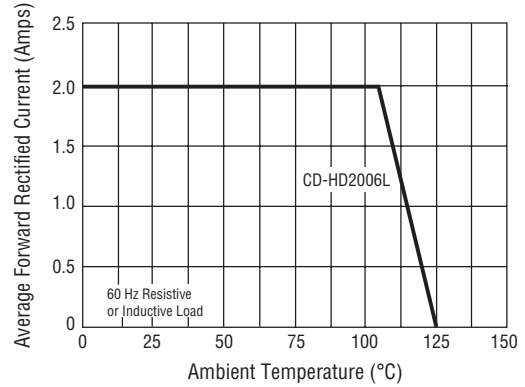
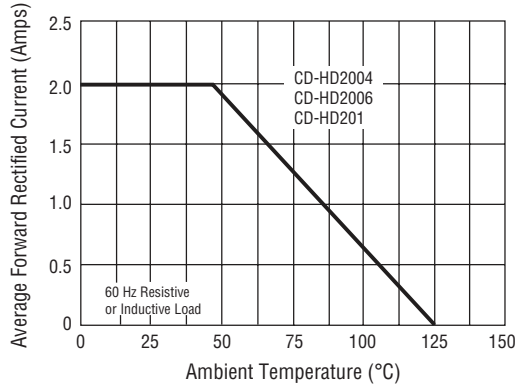
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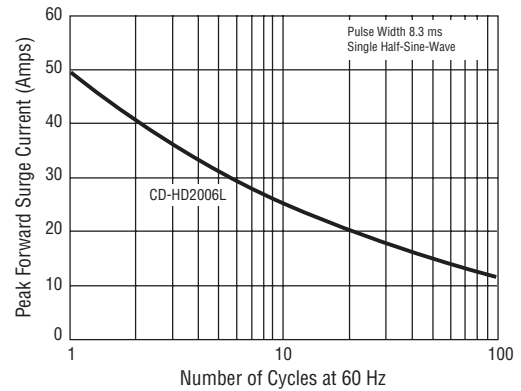
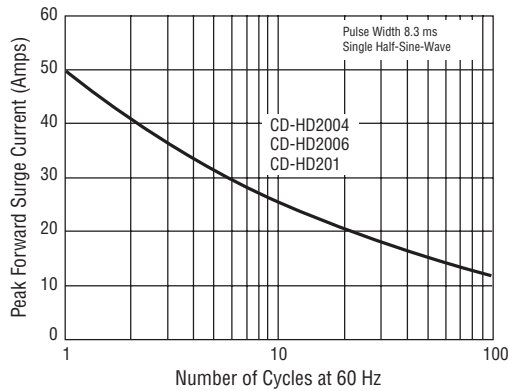
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Rating and Characteristic Curves

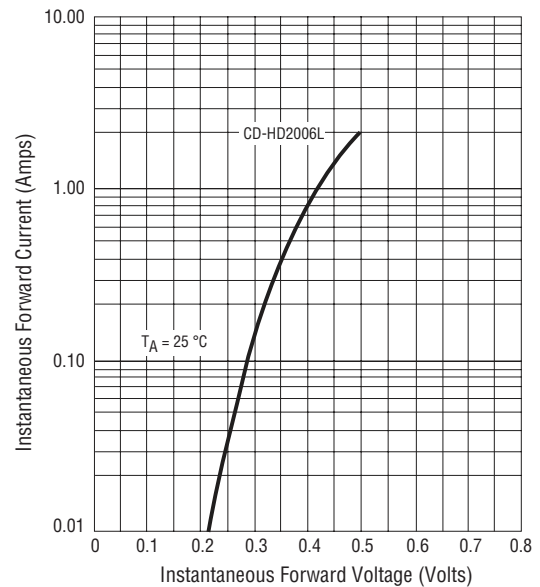
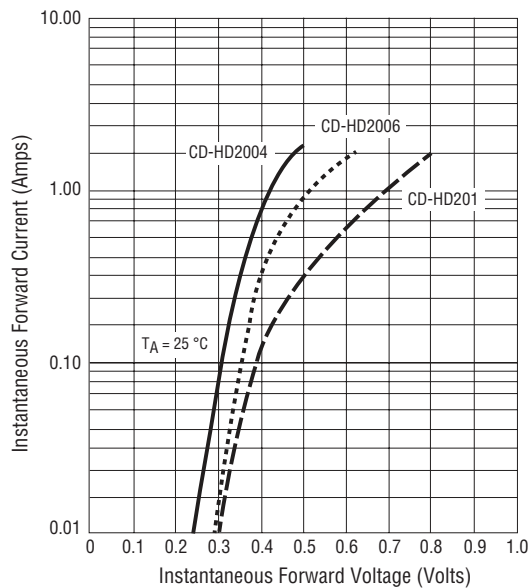
Forward Current Derating Curve



Maximum Non-Repetitive Peak Forward Surge Current



Forward Characteristics



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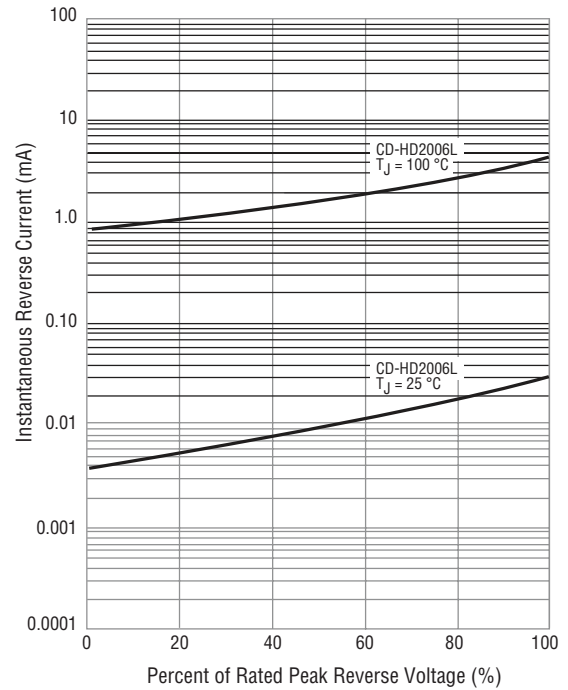
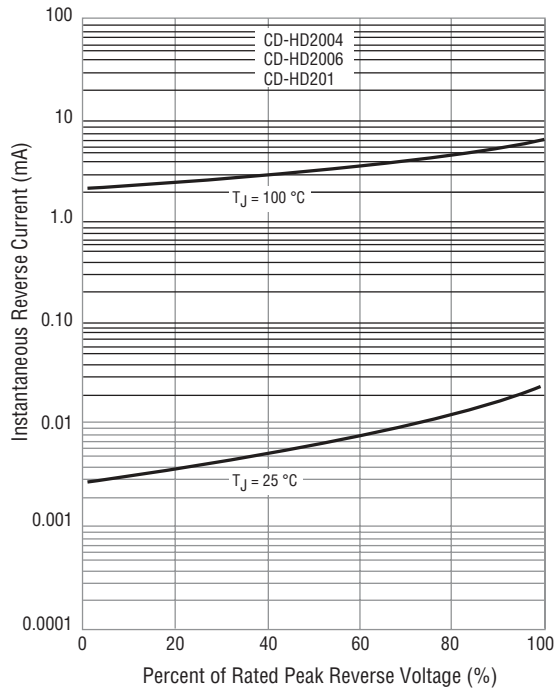
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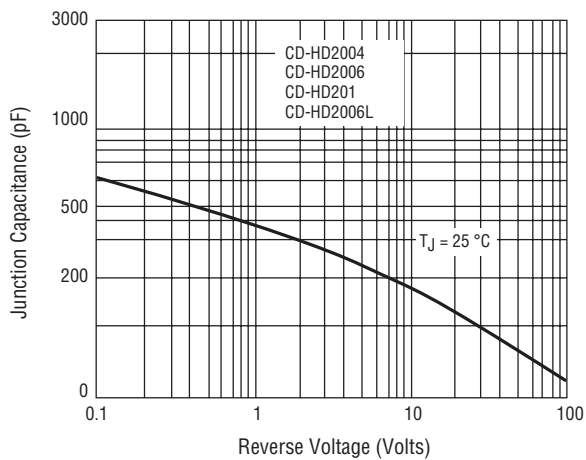
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Rating and Characteristic Curves

Reverse Characteristics



Typical Junction Capacitance



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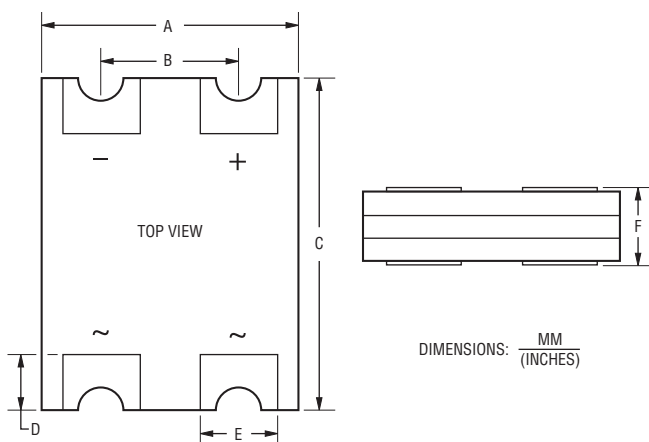
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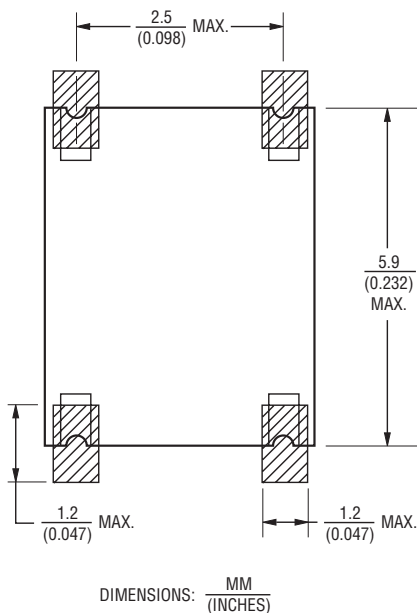
Product Dimensions

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 | $\frac{1.35 - 1.45}{(0.053 - 0.057)}$ |
| E | $\frac{0.95 - 1.05}{(0.037 - 0.041)}$ |
| F | $\frac{0.92 - 1.22}{(0.036 - 0.048)}$ |

Recommended Footprint



How to Order

Common Code **CD - HD 2 004 L**

Chip Diode

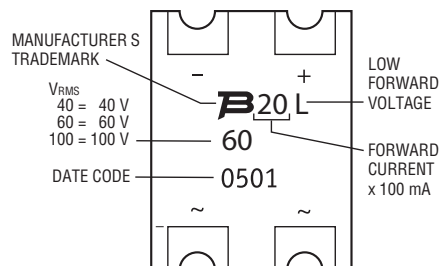
Package **HD** = HD Bridge Series

Average Forward Current **2** = 2 A

Reverse Voltage **004** = 40 V
006 = 60 V
01 = 100 V

Forward Voltage Suffix **L** = Low Forward Voltage
 (blank) = Standard Forward Voltage

Typical Part Marking



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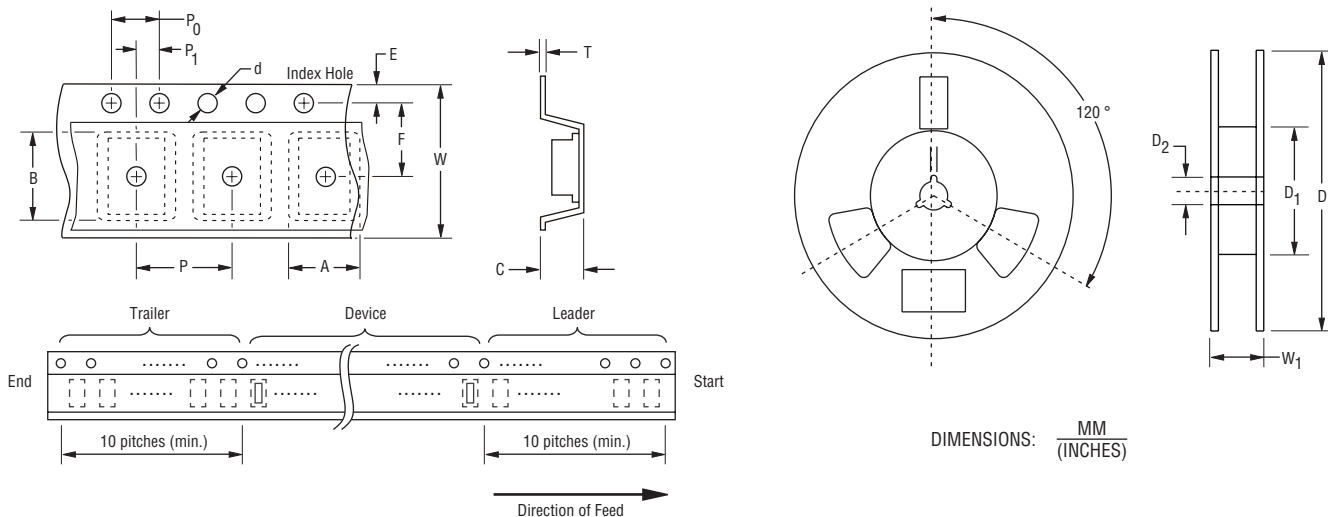
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CD-HD2x(L) Series Surface Mount Schottky Bridge Rectifier Diode

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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-HD2x(L) |
|------------------------|----------------|--|
| 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 ₁ | $\frac{50.0}{(1.969)}$ MIN. |
| Feed Hole Diameter | D ₂ | $\frac{13.0 \pm 0.50}{(0.512 \pm 0.02)}$ |
| 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 ₀ | $\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$ |
| Embossment Center | P ₁ | $\frac{2.00 \pm 0.10}{(0.079 \pm 0.004)}$ |
| 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 ₁ | $\frac{14.4}{(0.567)}$ MAX. |
| Quantity per Reel | -- | 5,000 |

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