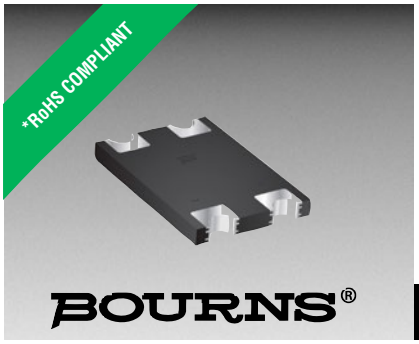



## Features

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

## Applications

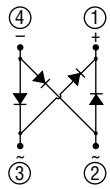
- AC operated products
- Computer monitors
- Set-top boxes
- Cable modems

# 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.




### Absolute Maximum Ratings (@ $T_A$ = 25 °C Unless Otherwise Noted)

| Parameter | Symbol | CD- | | | | | Unit |
|---|---|---|---|---|---|---|---|
| | | HD2004 | HD2006 | HD201 | HD2006L | HD201L | |
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 40 | 60 | 100 | 60 | 100 | V |
| Maximum Average Forward Rectified Current ($T_A$ = 55 °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 | | | | 60.0 | A |
| Operating Temperature Range | $T_J$ | -55 to +125 | | | | | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to +125 | | | | | °C |

### Electrical Characteristics (@ $T_A$ = 25 °C Unless Otherwise Noted)

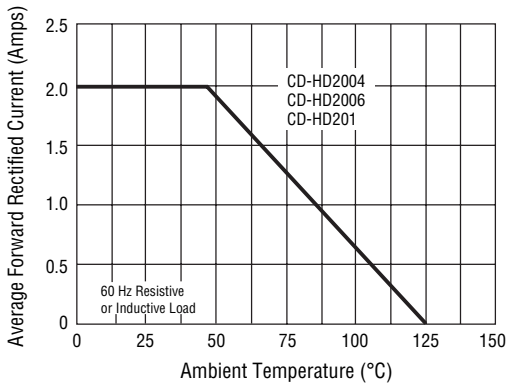
| Parameter | Symbol | CD-HD2x(L) | | | | | Unit |
|---|---|---|---|---|---|---|---|
| | | Test Conditions | | Min. | Typ. | Max. | |
| Instantaneous Forward Voltage | $V_F$ | $I_F$ = 2 A | CD-HD2004 | | 0.49 | 0.5 | V |
| | | | CD-HD2006 | | 0.60 | 0.70 | |
| | | | CD-HD201 | | 0.75 | 0.85 | |
| | | | CD-HD2006L | | 0.50 | 0.55 | |
| | | | CD-HD201L | | 0.74 | 0.80 | |
| Repetitive Peak Reverse Current | $I_{RRM}$ | $V_R = V_{RRM}$, $T_A$ = +25 °C | CD-HD2004 | | 0.025 | 0.20 | mA |
| | | | CD-HD2006 | | 0.025 | 0.20 | |
| | | | CD-HD201 | | 0.025 | 0.20 | |
| | | | CD-HD2006L | | 0.03 | 0.2 | |
| | | | CD-HD201L | | 0.001 | 0.10 | |
| Junction Capacitance | $C_J$ | $V_R$ = 4 V, f = 1.0 MHz | CD-HD2x(L)x | | | 250 | pF |
| Thermal Resistance, Junction to Air | $R_{th(JA)}$ | Junction to Ambient (NOTE 1) | CD-HD2004 | | 110 | | °C / W |
| | | | CD-HD2006 | | 110 | | |
| | | | CD-HD201 | | 110 | | |
| | | | CD-HD2006L | | 110 | | |
| | | | CD-HD201L | | 146 | | |
| Thermal Resistance, Junction to Lead | $R_{th(JC)}$ | Junction to Lead (NOTE 1) | CD-HD2004 | | 15 | | °C / W |
| | | | CD-HD2006 | | 15 | | |
| | | | CD-HD201 | | 15 | | |
| | | | CD-HD2006L | | 15 | | |
| | | | CD-HD201L | | 30 | | |

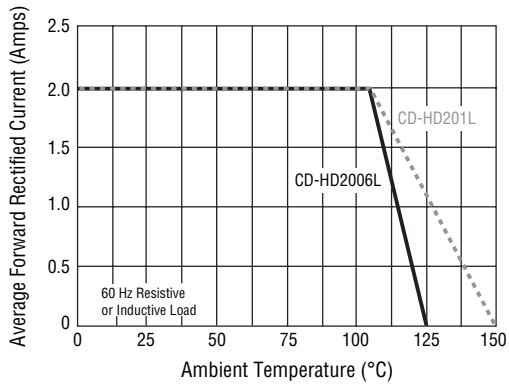
NOTE 1: Measured when mounted on PCB with 5.0 mm x 5.0 mm (0.2 " x 0.2 ") copper pad areas.

*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.

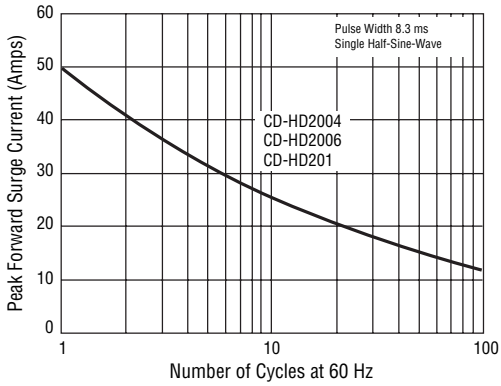
## Rating and Characteristic Curves

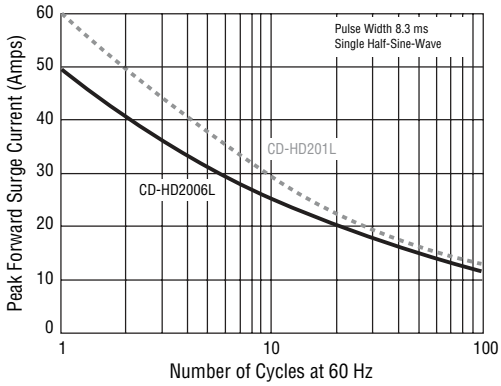
### Forward Current Derating Curve



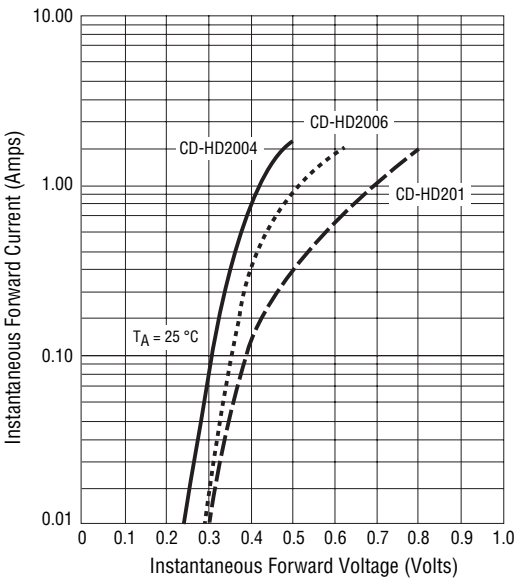



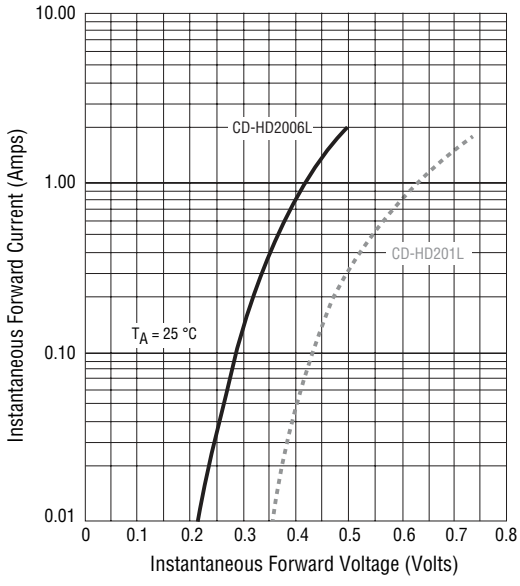

### Maximum Non-Repetitive Peak Forward Surge Current



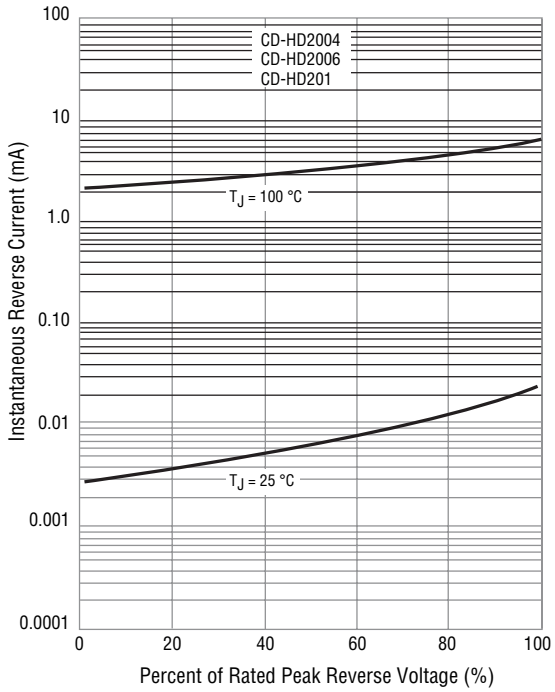

### Forward Characteristics

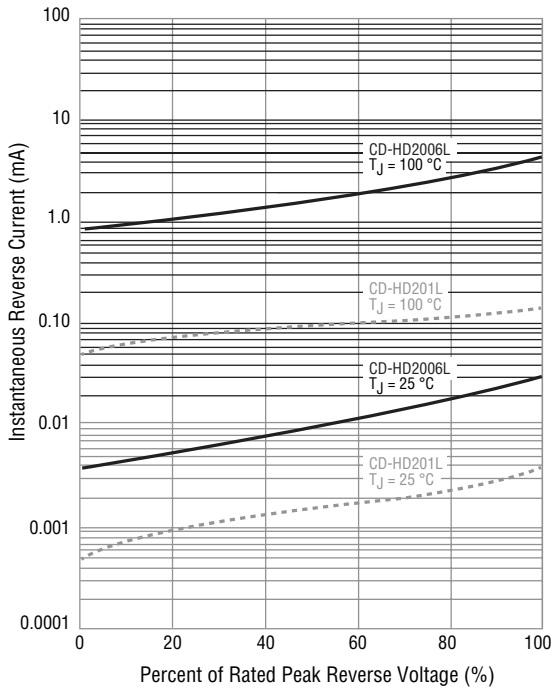


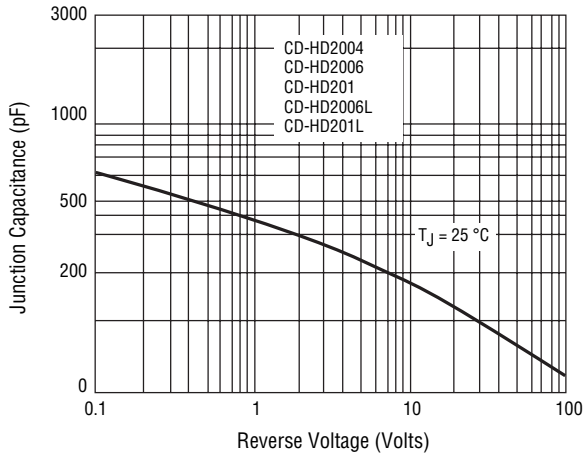
## Rating and Characteristic Curves

### Reverse Characteristics



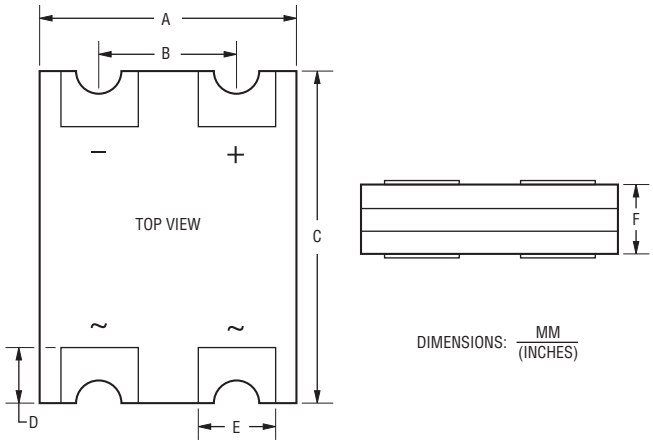




### Typical Junction Capacitance



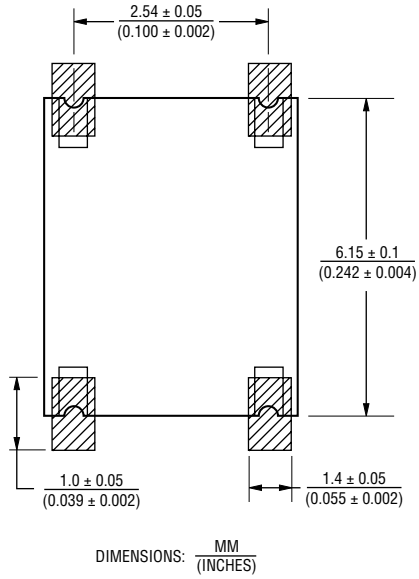
## Product Dimensions

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

## Recommended Footprint




## How to Order

**CD - HD 2 004 L**

Common Code
Chip Diode

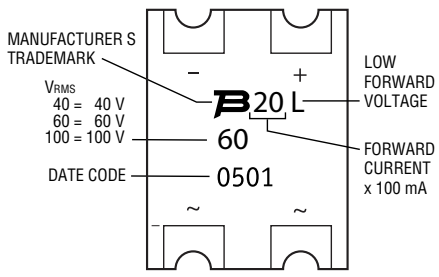
Package
HD = HD Bridge Series

Average Forward Current
2 = 2 A

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

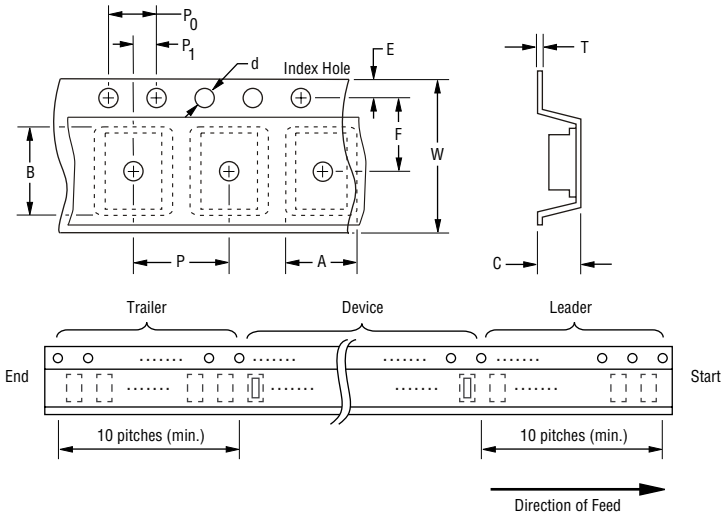
Forward Voltage Suffix
(blank) = Standard Forward Voltage
L = Low Forward Voltage

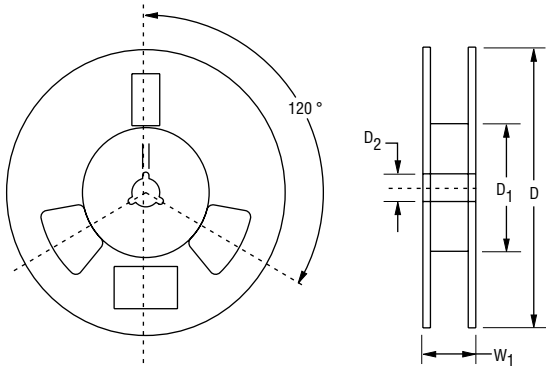
## Typical Part Marking



## Packaging Information

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




DIMENSIONS: MM / (INCHES)

| Item | Symbol | CD-HD2x(L) |
|---|---|---|
| Carrier Width | A | 5.20 ± 0.30 (0.205 ± 0.012) |
| Carrier Length | B | 6.60 ± 0.30 (0.260 ± 0.012) |
| Carrier Depth | C | 1.65 ± 0.10 (0.065 ± 0.004) |
| Sprocket Hole | d | 1.50 ± 0.10 (0.059 ± 0.004) |
| Reel Outside Diameter | D | 330 (12.992) |
| Reel Inner Diameter | $D_1$ | 50.0 (1.969) MIN. |
| Feed Hole Diameter | $D_2$ | 13.0 ± 0.50 (0.512 ± 0.02) |
| Sprocket Hole Position | E | 1.75 ± 0.10 (0.069 ± 0.004) |
| Punch Hole Position | F | 5.50 ± 0.05 (0.217 ± 0.002) |
| Punch Hole Pitch | P | 8.00 ± 0.10 (0.315 ± 0.004) |
| Sprocket Hole Pitch | $P_0$ | 4.00 ± 0.10 (0.157 ± 0.004) |
| Embossment Center | $P_1$ | 2.00 ± 0.10 (0.079 ± 0.004) |
| Overall Tape Thickness | T | 0.40 (0.016) |
| Tape Width | W | 12.00 ± 0.30 (0.472 ± 0.012) |
| Reel Width | $W_1$ | 14.4 (0.567) MAX. |
| Quantity per Reel | -- | 5,000 |

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