



## Features

- Lead free versions available
- RoHS compliant (lead free version)\*
- SMC package
- Surface mount
- High current capability

## CD214C-B320 ~ B360 Schottky Barrier Rectifier Chip 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 Rectifier Diodes for rectification applications, in compact chip package DO-214AB (SMC) size format, which offer PCB real estate savings and are considerably smaller than competitive parts. The Schottky Rectifier Diodes offer a forward current of 3 A with a choice of repetitive peak reverse voltage of 20 V up to 60 V.

Bourns® Chip Diodes conform to JEDEC standards, are easy to handle with standard pick and place equipment and the flat configuration minimizes roll away.

### Electrical Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

| Parameter                                           | Symbol         | CD214C- |      |      |      |      | Unit |
|-----------------------------------------------------|----------------|---------|------|------|------|------|------|
|                                                     |                | B320    | B330 | B340 | B350 | B360 |      |
| Forward Voltage (Max.)<br>(I <sub>F</sub> = 3 A)    | V <sub>F</sub> | 0.5     | 0.5  | 0.5  | 0.7  | 0.7  | V    |
| Typical Junction Capacitance*                       | C <sub>T</sub> | 250     |      |      |      |      | pF   |
| Reverse Current (Max.)<br>at Rated V <sub>R</sub> ) | I <sub>R</sub> | 0.5     |      |      |      |      | mA   |

\* Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.

### Absolute Ratings (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

| Parameter                                       | Symbol             | CD214C-     |      |      |      |      | Unit |
|-------------------------------------------------|--------------------|-------------|------|------|------|------|------|
|                                                 |                    | B320        | B330 | B340 | B350 | B360 |      |
| Repetitive Peak Reverse Voltage                 | V <sub>RRM</sub>   | 20          | 30   | 40   | 50   | 60   | V    |
| Reverse Voltage                                 | V <sub>R</sub>     | 20          | 30   | 40   | 50   | 60   | V    |
| Maximum RMS Voltage                             | V <sub>RMS</sub>   | 14          | 21   | 28   | 35   | 42   | V    |
| Avg. Forward Current                            | I <sub>O</sub>     | 3           |      |      |      |      | A    |
| Forward Current, Surge Peak<br>(60 Hz, 1 cycle) | I <sub>surge</sub> | 100         |      |      |      |      | A    |
| Typical Thermal Resistance**                    | R <sub>θJL</sub>   | 10          |      |      |      |      | °C/W |
| Storage Temperature                             | T <sub>STG</sub>   | -55 to +150 |      |      |      |      | °C   |
| Junction Temperature                            | T <sub>J</sub>     | -55 to +125 |      |      |      |      | °C   |

\*\* Thermal resistance junction to lead.



Reliable Electronic Solutions

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[www.bourns.com](http://www.bourns.com)

\*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.

### How To Order

**CD 214C - B 3 30**

Common Code \_\_\_\_\_  
Chip Diode

Package \_\_\_\_\_  
• 214C = SMC/DO-214AB

Model \_\_\_\_\_  
B = Schottky Barrier Series

Average Forward Current (I<sub>O</sub>) Code \_\_\_\_\_  
3 = 3 A (Code x 1000 mA = Average Forward Current)

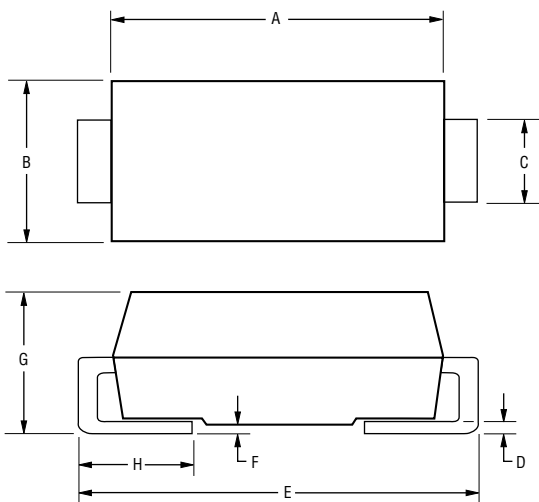
Reverse Voltage (V<sub>R</sub>) Code \_\_\_\_\_  
30 = 30 V  
40 = 40 V  
60 = 60 V

Terminations \_\_\_\_\_  
LF = 100 % Sn (lead free)  
Blank = Sn/Pb

# CD214C-B320 ~ B360 Schottky Barrier Rectifier Chip Diode

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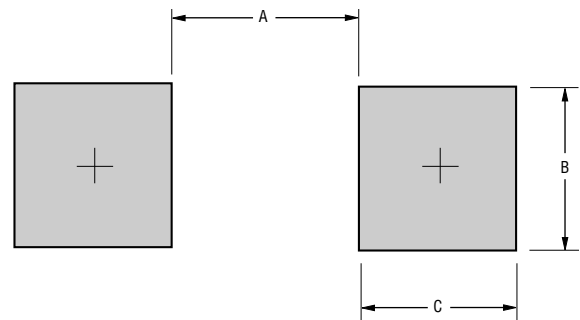
## Product Dimensions



| Dimension | SMC (DO-214AB)                        |
|-----------|---------------------------------------|
| A         | $\frac{6.60 - 7.11}{(0.260 - 0.280)}$ |
| B         | $\frac{5.59 - 6.22}{(0.220 - 0.245)}$ |
| C         | $\frac{2.92 - 3.18}{(0.115 - 0.125)}$ |
| D         | $\frac{0.15 - 0.31}{(0.006 - 0.112)}$ |
| E         | $\frac{7.75 - 8.13}{(0.305 - 0.320)}$ |
| F         | $\frac{0.05 - 0.20}{(0.002 - 0.008)}$ |
| G         | $\frac{2.01 - 2.62}{(0.080 - 0.103)}$ |
| H         | $\frac{0.76 - 1.52}{(0.030 - 0.060)}$ |

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

## Recommended Pad Layout



| Dimension | SMC (DO-214AB)         |
|-----------|------------------------|
| A (Max.)  | $\frac{2.69}{(0.106)}$ |
| B (Min.)  | $\frac{2.10}{(0.083)}$ |
| C (Min.)  | $\frac{1.27}{(0.050)}$ |

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

## Physical Specifications

Case .....Molded plastic  
Polarity .....Indicated by cathode band  
Weight .....0.007 ounces / 0.21 grams

## Typical Part Marking

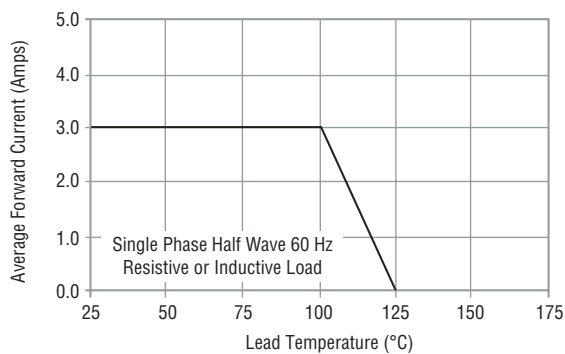
CD214C-B320 ..... **B** 320B  
CD214C-B330 ..... **B** 330B  
CD214C-B340 ..... **B** 340B  
CD214C-B350 ..... **B** 350B  
CD214C-B360 ..... **B** 360B

# CD214C-B320 ~ B360 Schottky Barrier Rectifier Chip Diode

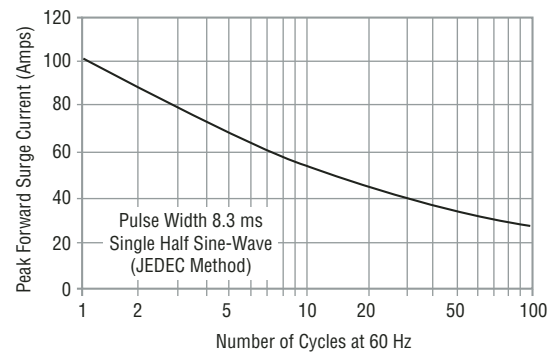
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## Rating and Characteristic Curves

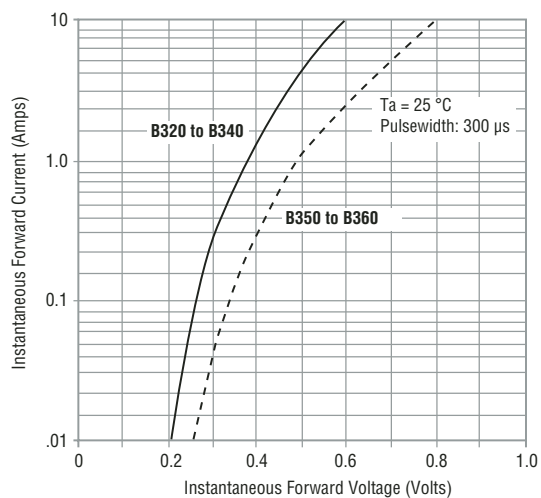
### Forward Current Derating Curve



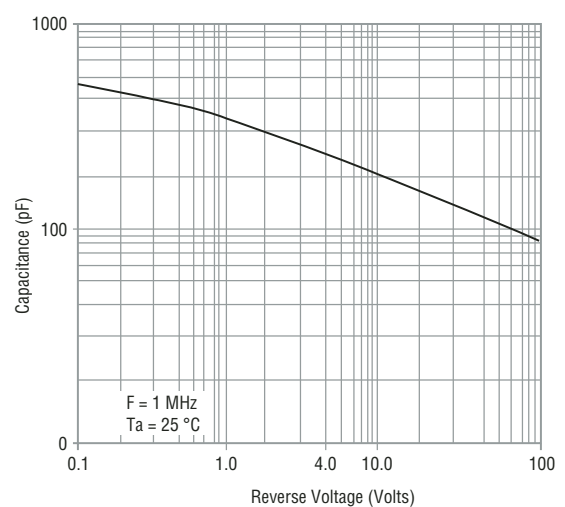
### Maximum Non-Repetitive Surge Current



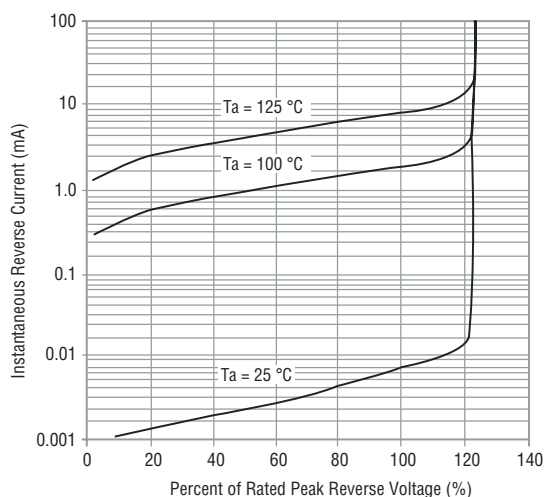
### Typical Forward Characteristics



### Typical Junction Capacitance



### Typical Reverse Characteristics



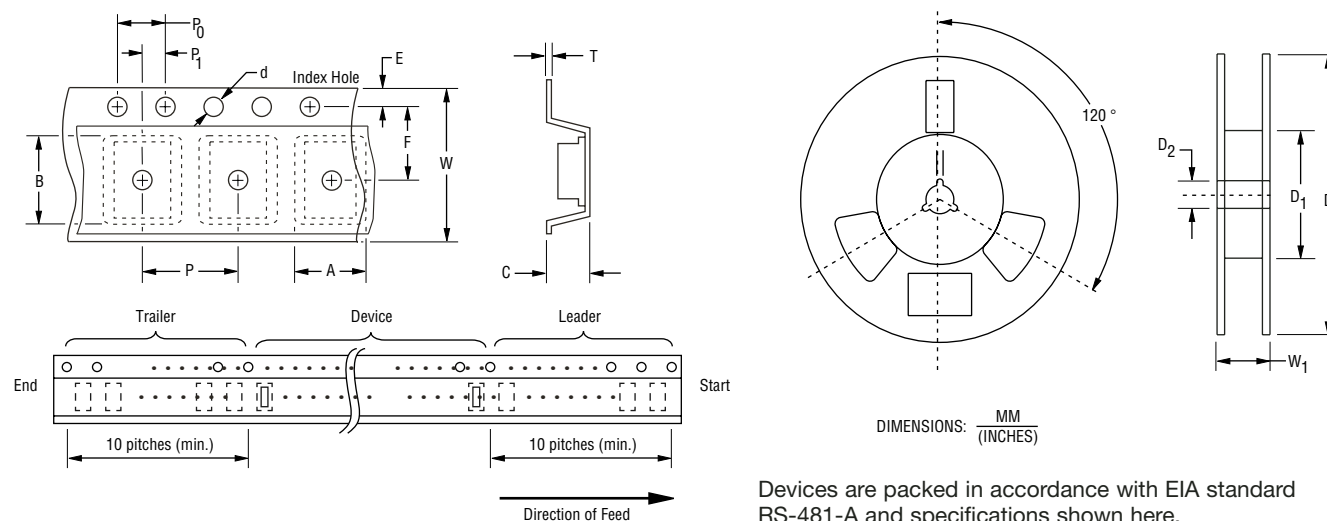
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# CD214C-B320 ~ B360 Schottky Barrier Rectifier Chip Diode

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## Packaging Information

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



| Item                   | Symbol         | SMC (DO-214AB)                           |
|------------------------|----------------|------------------------------------------|
| Carrier Width          | A              | $\frac{7.22 \pm 0.10}{(0.284 - 0.004)}$  |
| Carrier Length         | B              | $\frac{8.11 \pm 0.10}{(0.319 - 0.004)}$  |
| Carrier Depth          | C              | $\frac{2.36 \pm 0.10}{(0.093 - 0.004)}$  |
| Sprocket Hole          | d              | $\frac{1.55 \pm 0.05}{(0.061 - 0.002)}$  |
| 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> | $\frac{13.0 \pm 0.20}{(0.512 - 0.008)}$  |
| Sprocket Hole Position | E              | $\frac{1.75 \pm 0.10}{(0.069 - 0.004)}$  |
| Punch Hole Position    | F              | $\frac{7.50 \pm 0.10}{(0.295 - 0.004)}$  |
| Punch Hole Pitch       | P              | $\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$  |
| Sprocket Hole Pitch    | P <sub>0</sub> | $\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$  |
| Embossment Center      | P <sub>1</sub> | $\frac{2.00 \pm 0.10}{(0.079 - 0.004)}$  |
| Overall Tape Thickness | T              | $\frac{0.30 \pm 0.10}{(0.012 - 0.004)}$  |
| Tape Width             | W              | $\frac{16.00 \pm 0.20}{(0.630 - 0.008)}$ |
| Reel Width             | W <sub>1</sub> | $\frac{22.4}{(0.882)} \text{ MAX.}$      |
| Quantity per Reel      | --             | 3,000                                    |