

Features

- RoHS compliant*
- SMB package
- Surface mount
- High current capability

CD214B-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-214AA (SMB) 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 their flat configuration minimizes roll away.

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

| Parameter | Symbol | CD214B- | | | | | Unit |
|--|--------|---------|------|------|------|------|------|
| | | B320 | B330 | B340 | B350 | B360 | |
| Forward Voltage (Max.) ($I_F = 3\text{ A}$) | V_F | 0.5 | 0.5 | 0.5 | 0.7 | 0.7 | V |
| Typical Junction Capacitance* | C_T | 250 | | | | | pF |
| Reverse Current (Max.) at Rated V_R | I_R | 0.5 | | | | | mA |

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

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

| Parameter | Symbol | CD214B- | | | | | Unit |
|---|-----------------|-------------|------|------|------|------|--------------------|
| | | B320 | B330 | B340 | B350 | B360 | |
| Repetitive Peak Reverse Voltage | V_{RRM} | 20 | 30 | 40 | 50 | 60 | V |
| Reverse Voltage | V_R | 20 | 30 | 40 | 50 | 60 | V |
| Maximum RMS Voltage | V_{RMS} | 14 | 21 | 28 | 35 | 42 | V |
| Avg. Forward Current | I_O | 3 | | | | | A |
| Forward Current, Surge Peak (60 Hz, 1 cycle) | I_{surge} | 100 | | | | | A |
| Typical Thermal Resistance** | $R_{\theta JL}$ | 10 | | | | | $^\circ\text{C/W}$ |
| Storage Temperature | T_{STG} | -55 to +150 | | | | | $^\circ\text{C}$ |
| Junction Temperature | T_J | -55 to +125 | | | | | $^\circ\text{C}$ |

** Thermal resistance junction to lead.

How To Order

| | | | | | | | |
|--|----|------|---|---|---|----|----|
| Common Code | CD | 214B | - | B | 3 | 30 | LF |
| Chip Diode | | | | | | | |
| Package | | | | | | | |
| • 214B = SMB/DO-214AA | | | | | | | |
| Model | | | | | | | |
| B = Schottky Barrier Series | | | | | | | |
| Average Forward Current (I_O) Code | | | | | | | |
| 3 = 3 A (Code x 1000 mA = Average Forward Current) | | | | | | | |
| Reverse Voltage (V_R) Code | | | | | | | |
| 30 = 30 V | | | | | | | |
| 40 = 40 V | | | | | | | |
| 60 = 60 V | | | | | | | |
| Terminations | | | | | | | |
| LF = 100 % Sn (RoHS Compliant) | | | | | | | |

*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.

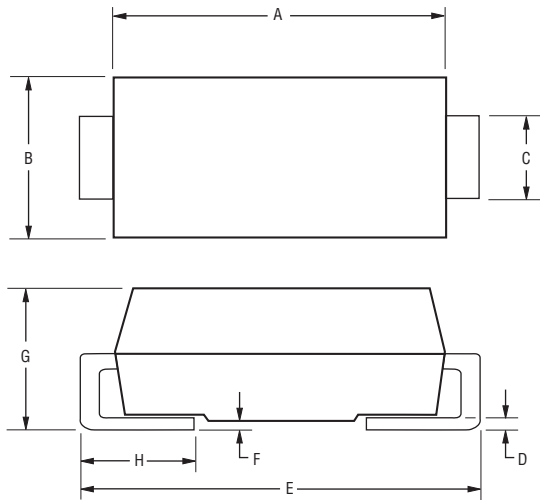
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

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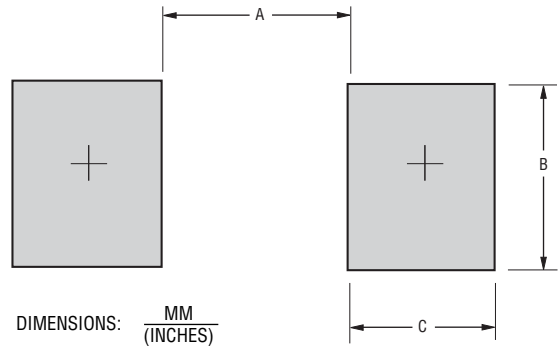
Product Dimensions



| Dimension | SMB (DO-214AA) |
|-----------|--------------------------------|
| A | 4.06 - 4.57 (0.160 - 0.180) |
| B | 3.30 - 3.94 (0.130 - 0.155) |
| C | 1.96 - 2.21 (0.078 - 0.087) |
| D | 0.15 - 0.31 (0.006 - 0.112) |
| E | 5.21 - 5.59 (0.205 - 0.220) |
| F | 0.05 - 0.20 (0.002 - 0.008) |
| G | 2.01 - 2.62 (0.080 - 0.103) |
| H | 0.76 - 1.52 (0.030 - 0.060) |

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

Recommended Pad Layout



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

| Dimension | SMA (DO-214AC) |
|-----------|-----------------|
| A | 2.90 (0.114) |
| B | 3.00 (0.118) |
| C | 2.30 (0.091) |

Physical Specifications

Case Molded plastic
Polarity Indicated by cathode band
Weight 0.003 ounces / 0.093 grams

Typical Part Marking

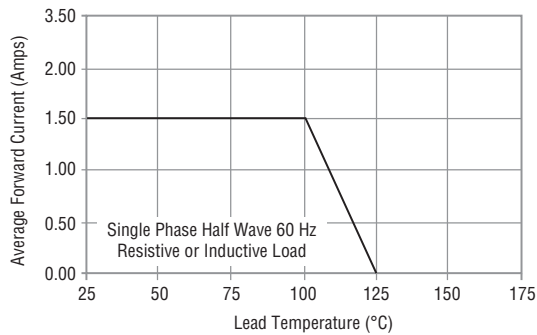
CD214B-B320 **B** 320B
CD214B-B330 **B** 330B
CD214B-B340 **B** 340B
CD214B-B350 **B** 350B
CD214B-B360 **B** 360B

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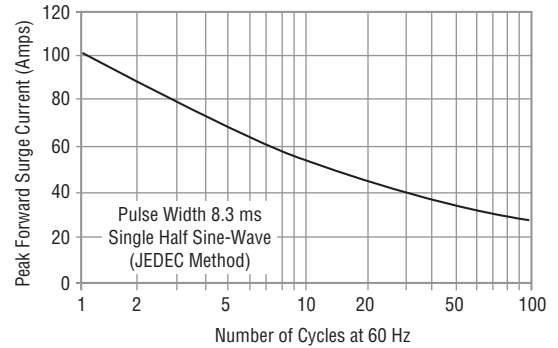
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Rating and Characteristic Curves

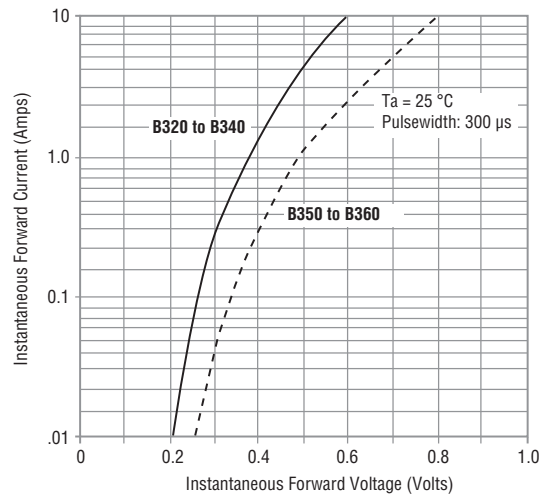
Forward Current Derating Curve



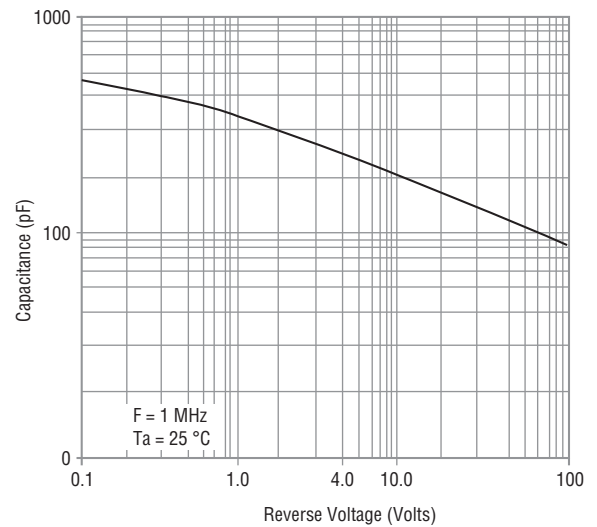
Maximum Non-Repetitive Surge Current



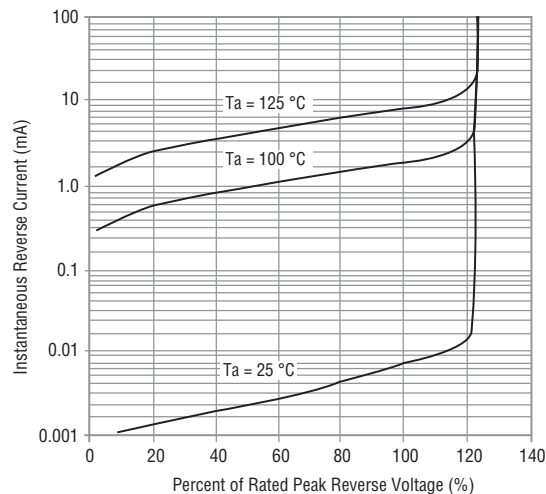
Typical Forward Characteristics



Typical Junction Capacitance



Typical Reverse Characteristics



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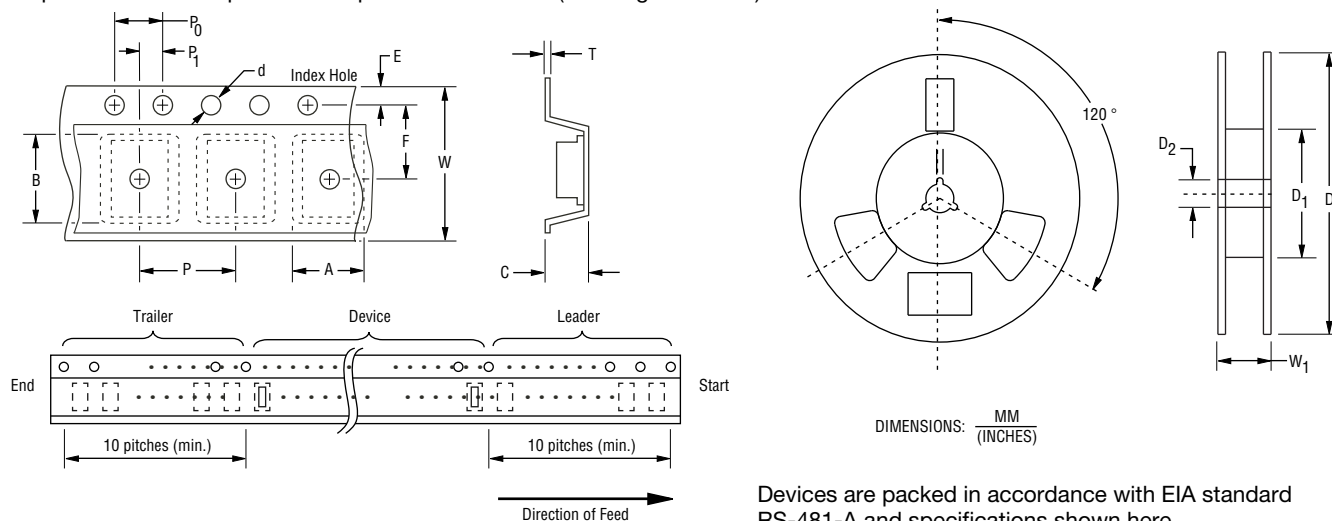
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Packaging Information

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



Devices are packed in accordance with EIA standard RS-481-A and specifications shown here.

| Item | Symbol | SMB (DO-214AA) |
|------------------------|----------------|-------------------------------------|
| Carrier Width | A | 4.94 ± 0.10 (0.194 ± 0.004) |
| Carrier Length | B | 5.57 ± 0.10 (0.219 ± 0.004) |
| Carrier Depth | C | 2.36 ± 0.10 (0.093 ± 0.004) |
| Sprocket Hole | d | 1.55 ± 0.05 (0.061 ± 0.002) |
| Reel Outside Diameter | D | 330 (12.992) |
| Reel Inner Diameter | D ₁ | 50.0 (1.969) MIN. |
| Feed Hole Diameter | D ₂ | 13.0 ± 0.20 (0.512 ± 0.008) |
| 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 | 4.00 ± 0.10 (0.157 ± 0.004) |
| Sprocket Hole Pitch | P ₀ | 4.00 ± 0.10 (0.157 ± 0.004) |
| Embossment Center | P ₁ | 2.00 ± 0.05 (0.079 ± 0.002) |
| Overall Tape Thickness | T | 0.30 ± 0.10 (0.012 ± 0.004) |
| Tape Width | W | 12.00 ± 0.20 (0.472 ± 0.008) |
| Reel Width | W ₁ | 18.4 (0.724) MAX. |
| Quantity per Reel | -- | 3,000 |

REV. 09/15

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