



## Features

- Lead free versions available
- RoHS compliant (lead free version)\*
- SMA package
- Surface mount
- Very low forward voltage drop

## CD214A-B220 ~ B260 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-214AC (SMA) size format, which offer PCB real estate savings and are considerably smaller than competitive parts. The Schottky Rectifier Diodes offer a forward current of 2 A with a choice of repetitive peak reverse voltage of 20 V up to 60 V.

Bourns® Chip Diodes conform to JEDEC standards, easy to handle on standard pick and place equipment and their flat configuration makes roll away much more difficult.

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

Parameter	Symbol	CD214A-						Unit
		B220	B230	B240	B240L	B250	B260	
Forward Voltage (Max.) ( $I_f = 2\text{ A}$ )	$V_F$	0.5	0.5	0.5	0.43	0.7	0.7	V
Typical Junction Capacitance*	$C_T$	200						pF
Reverse Current (Max.) at Rated $V_R$	$I_R$	0.5	0.5	0.5	2.0	0.5	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	CD214A-						Unit
		B220	B230	B240	B240L	B250	B260	
Repetitive Peak Reverse Voltage	$V_{RRM}$	20	30	40	40	50	60	V
Reverse Voltage	$V_R$	20	30	40	40	50	60	V
Maximum RMS Voltage	$V_{RMS}$	14	21	28	28	35	42	V
Avg. Forward Current	$I_O$	2						A
Forward Current, Surge Peak (60 Hz, 1 cycle)	$I_{surge}$	50	50	50	25	50	50	A
Typical Thermal Resistance**	$R_{\theta JL}$	15	15	15	18	15	15	$^\circ\text{C}/\text{W}$
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.



Reliable Electronic Solutions

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

### How To Order

Common Code CD 214A - B 2 40 L  
 Chip Diode  
 Package \_\_\_\_\_  
 • 214A = SMA/DO-214AC  
 Model \_\_\_\_\_  
 B = Schottky Barrier Series  
 Average Forward Current ( $I_O$ ) Code \_\_\_\_\_  
 2 = 2 A (Code x 1000 mA = Average Forward Current)  
 Reverse Voltage ( $V_R$ ) Code \_\_\_\_\_  
 30 = 30 V  
 40 = 40 V  
 60 = 60 V  
 Forward Voltage Suffix \_\_\_\_\_  
 L = Low Forward Voltage  $V_f$  (CD214-B240L)  
 Terminations \_\_\_\_\_  
 LF = 100 % Sn (lead free)  
 Blank = Sn/Pb

\*RoHS Directive 2002/95/EC Jan 27 2003 including Annex

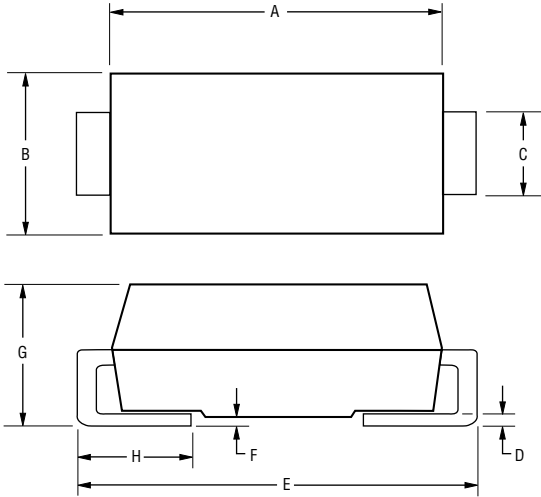
Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

# CD214A-B220 ~ B260 Schottky Barrier Rectifier Chip Diode



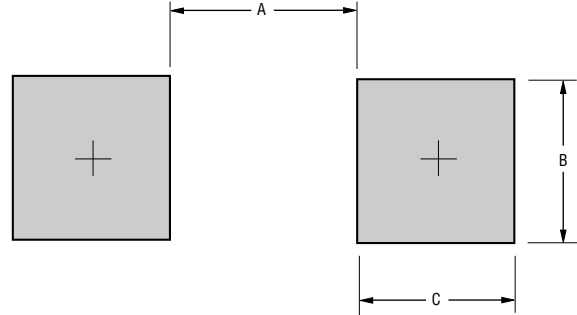
## Product Dimensions



Dimension	SMA (DO-214AC)
A	$\frac{4.06 - 4.57}{(0.160 - 0.180)}$
B	$\frac{2.29 - 2.92}{(0.090 - 0.115)}$
C	$\frac{1.27 - 1.63}{(0.050 - 0.064)}$
D	$\frac{0.15 - 0.31}{(0.006 - 0.110)}$
E	$\frac{4.83 - 5.59}{(0.190 - 0.220)}$
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	SMA (DO-214AC)
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 .....0.002 ounces / 0.064 grams

## Typical Part Marking

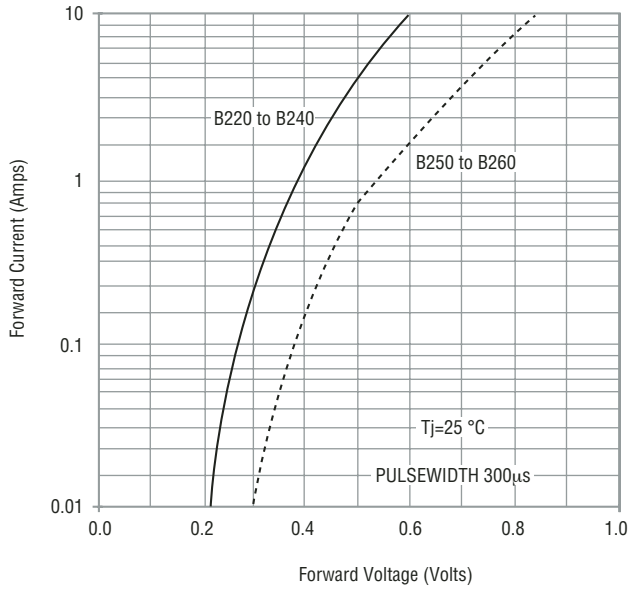
CD214A-B220 ..... **B** 220  
 CD214A-B230 ..... **B** 230  
 CD214A-B240 ..... **B** 240  
 CD214A-B240L ..... **B** 240L  
 CD214A-B250 ..... **B** 250  
 CD214A-B260 ..... **B** 260

# CD214A-B220 ~ B260 Schottky Barrier Rectifier Chip Diode

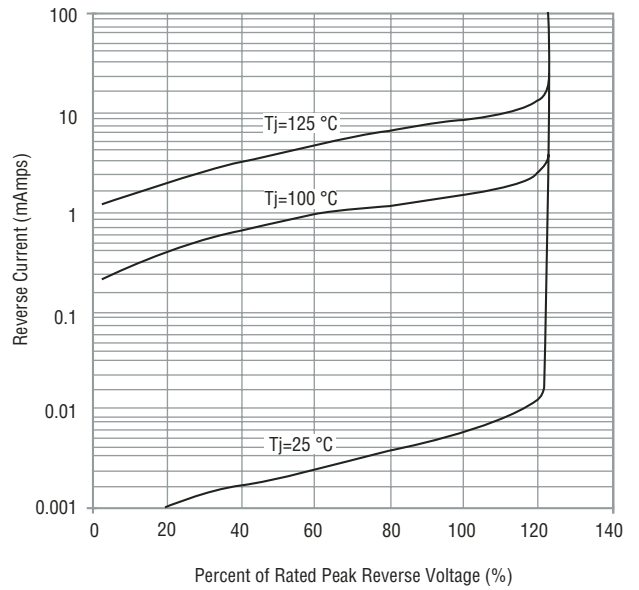


Rating and Characteristic Curves: CD214A-B220, CD214A-B230, CD214A-B240, CD214A-B250 & CD214A-B260

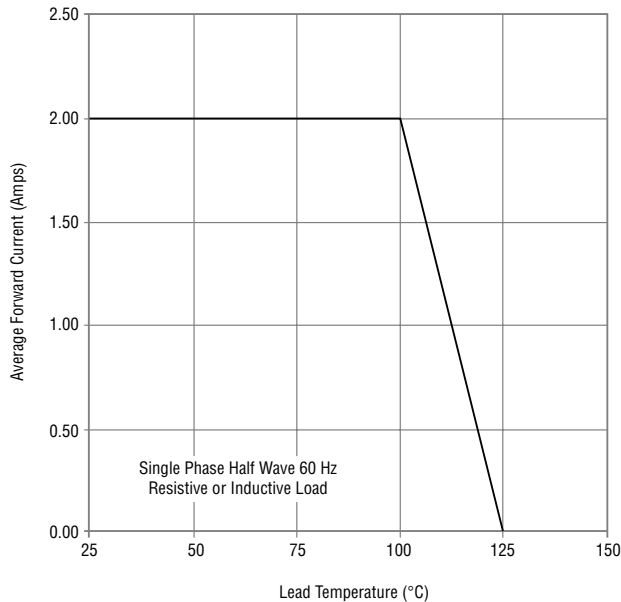
## Forward Characteristics



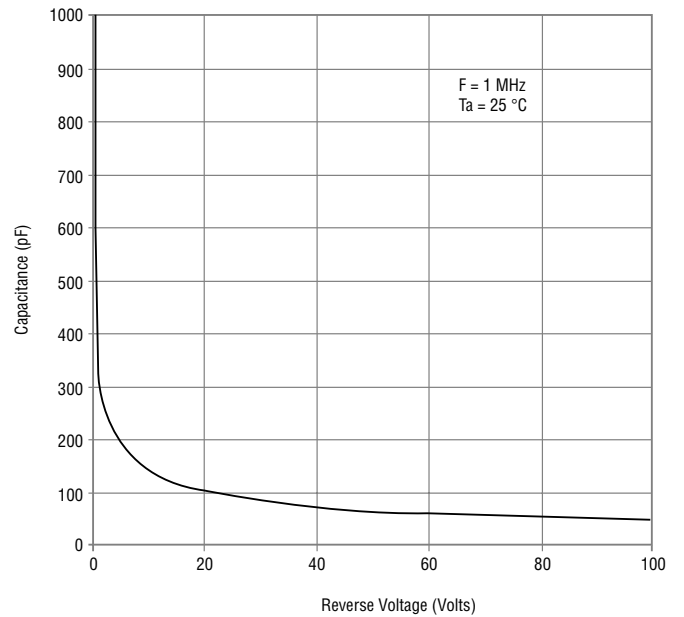
## Reverse Characteristics



## Derating Curve



## Capacitance Between Terminals



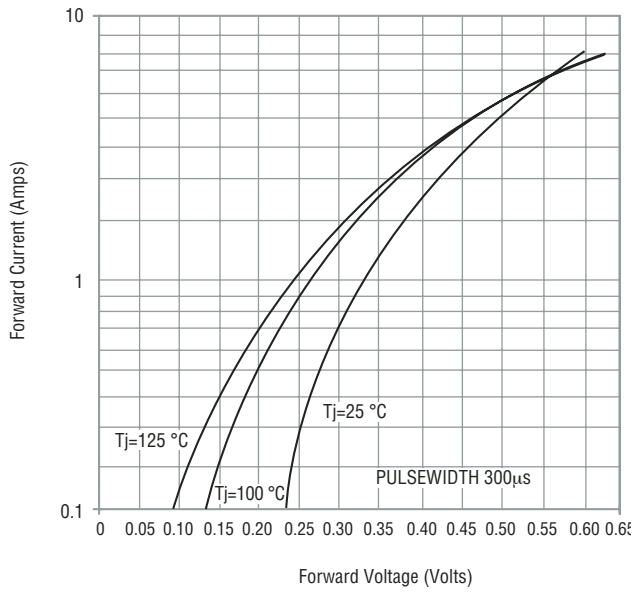
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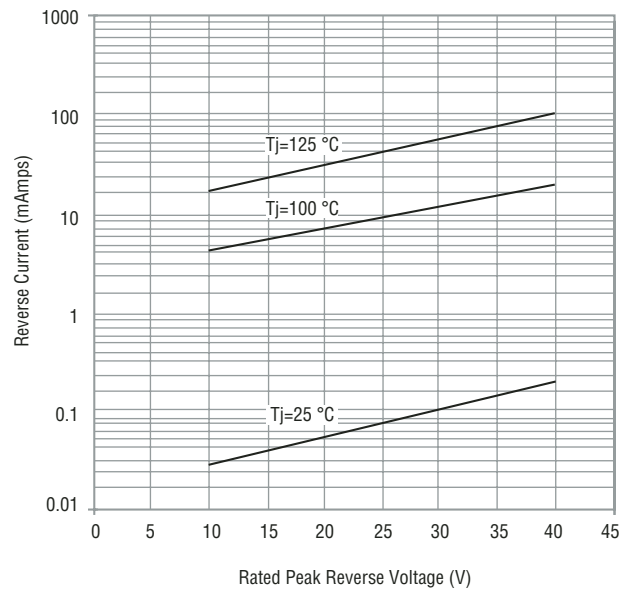


## Rating and Characteristic Curves: CD214A-B240L

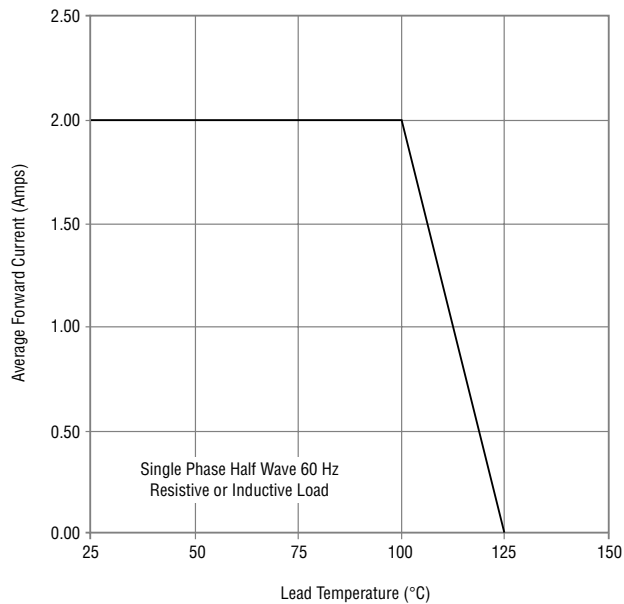
### Forward Characteristics



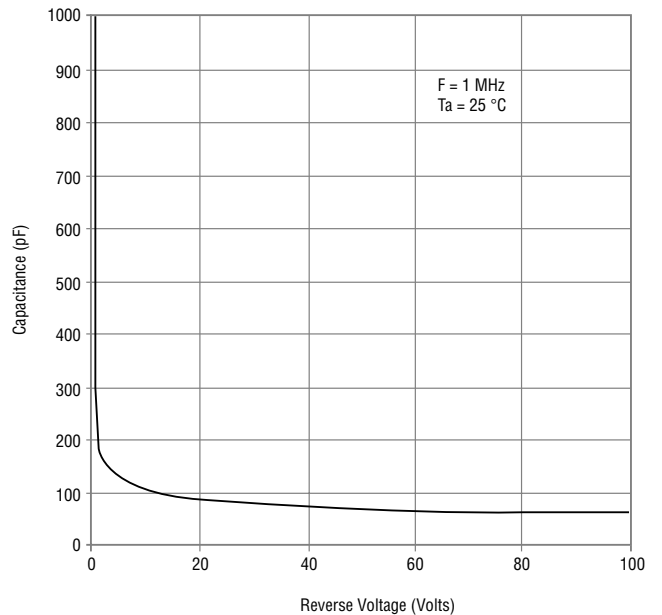
### Reverse Characteristics



### Derating Curve



### Capacitance Between Terminals

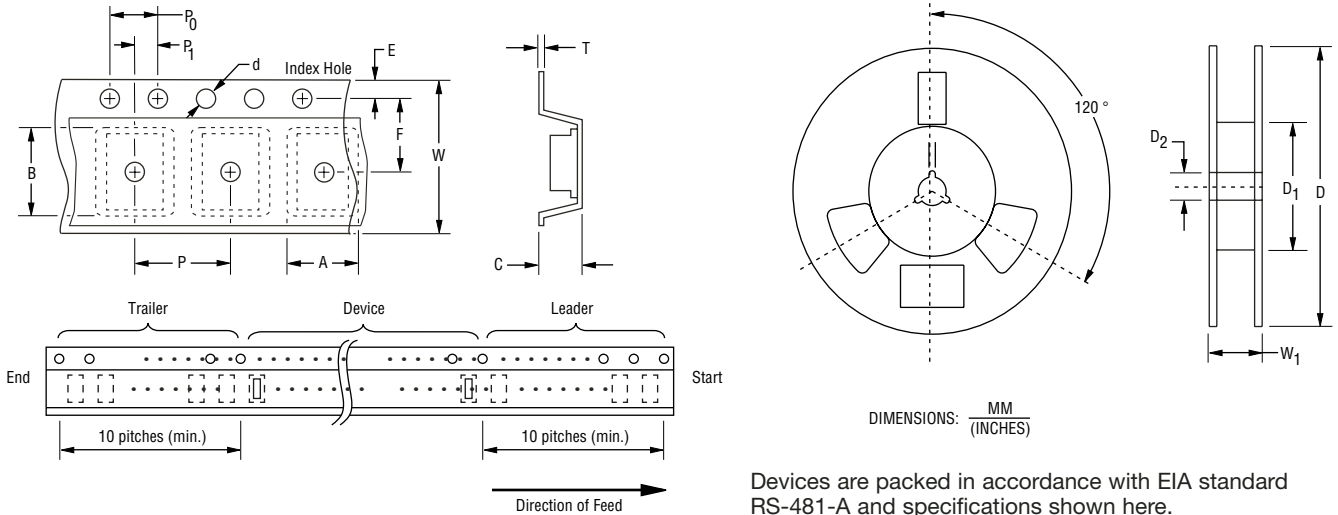


# CD214A-B220 ~ B260 Schottky Barrier Rectifier Chip Diode

**BOURNS®**

## Packaging Information

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



Item	Symbol	SMA (DO-214AC)
Carrier Width	A	$\frac{2.90 \pm 0.10}{(0.114 - 0.004)}$
Carrier Length	B	$\frac{5.59 \pm 0.10}{(0.220 - 0.004)}$
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>	$\frac{50.0}{(1.969)}$ 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	$\frac{5.50 \pm 0.05}{(0.217 - 0.002)}$
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>	$\frac{2.00 \pm 0.05}{(0.079 - 0.002)}$
Overall Tape Thickness	T	$\frac{0.30 \pm 0.10}{(0.012 - 0.004)}$
Tape Width	W	$\frac{12.00 \pm 0.20}{(0.472 - 0.008)}$
Reel Width	W <sub>1</sub>	$\frac{18.4}{(0.724)}$ MAX.
Quantity per Reel	--	5,000

REV. 02/05

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