



## Features

- Lead free
- RoHS compliant\*
- 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<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	CD214A-						Unit
		B220	B230	B240	B240L	B250	B260	
Forward Voltage (Max.) (I <sub>f</sub> = 2 A)	V <sub>F</sub>	0.5	0.5	0.5	0.43	0.7	0.7	V
Typical Junction Capacitance*	C <sub>T</sub>	200						pF
Reverse Current (Max.) at Rated V <sub>R</sub> )	I <sub>R</sub>	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<sub>A</sub> = 25 °C Unless Otherwise Noted)

Parameter	Symbol	CD214A-						Unit
		B220	B230	B240	B240L	B250	B260	
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	20	30	40	40	50	60	V
Reverse Voltage	V <sub>R</sub>	20	30	40	40	50	60	V
Maximum RMS Voltage	V <sub>RMS</sub>	14	21	28	28	35	42	V
Avg. Forward Current	I <sub>O</sub>	2						A
Forward Current, Surge Peak (60 Hz, 1 cycle)	I <sub>surge</sub>	50	50	50	25	50	50	A
Typical Thermal Resistance**	R <sub>θJL</sub>	15	15	15	18	15	15	°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.

### How To Order

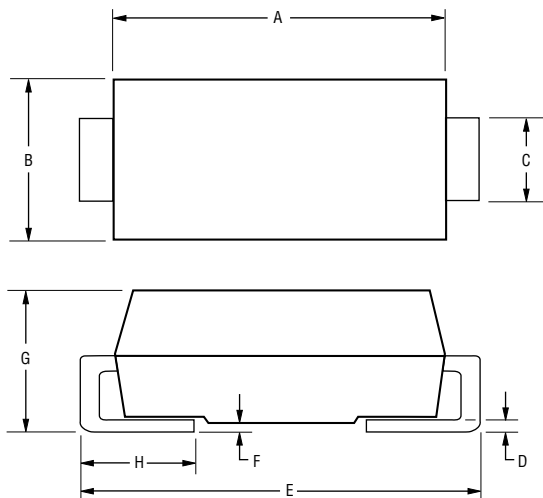
	<b>CD 214A - B 2 40 L LF</b>
Common Code _____	_____
Chip Diode _____	_____
Package _____	_____
• 214A = SMA/DO-214AC	
Model _____	_____
B = Schottky Barrier Series	
Average Forward Current (I <sub>O</sub> ) Code _____	_____
2 = 2 A (Code x 1000 mA = Average Forward Current)	
Reverse Voltage (V <sub>R</sub> ) Code _____	_____
30 = 30 V	
40 = 40 V	
60 = 60 V	
Forward Voltage Suffix (Applies to B240L only) _____	_____
L = Low Forward Voltage V <sub>f</sub> (B240L only)	
No Space in P/N = Not Low Forward Voltage	
Terminations _____	_____
LF = 100 % Sn (lead free)	

\*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.

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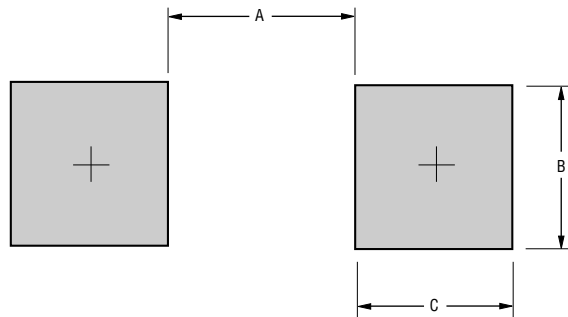
## Product Dimensions



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** 220A  
 CD214A-B230 ..... **B** 230A  
 CD214A-B240 ..... **B** 240A  
 CD214A-B240L ..... **B** 240LA  
 CD214A-B250 ..... **B** 250A  
 CD214A-B260 ..... **B** 260A

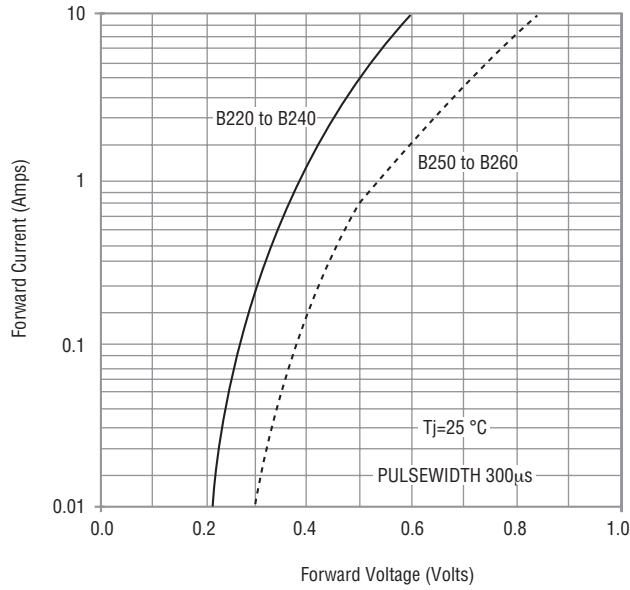
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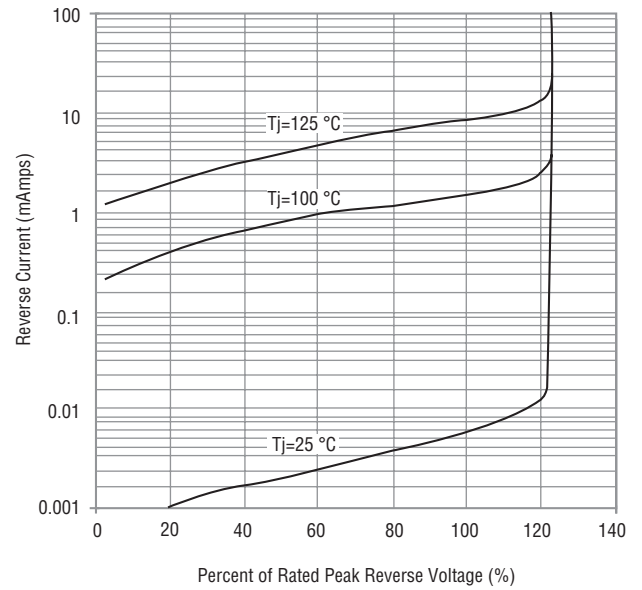


Rating and Characteristic Curves: CD214A-B220, CD214A-B230, CD214A-B240, CD214A-B250 & CD214A-B260

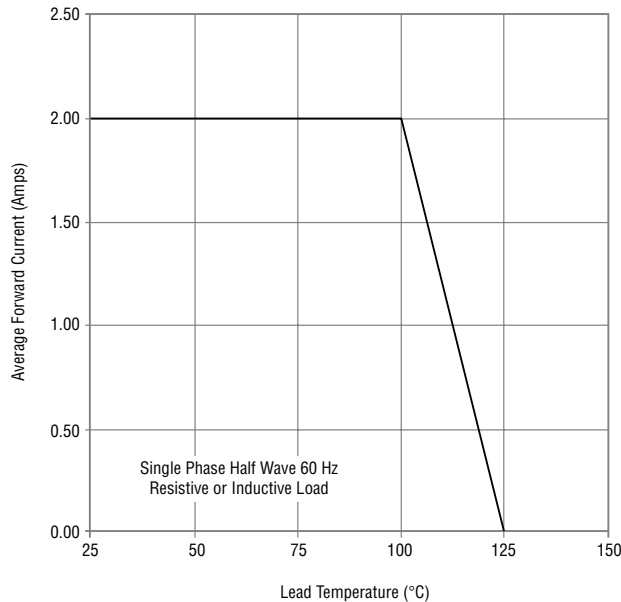
## Forward Characteristics



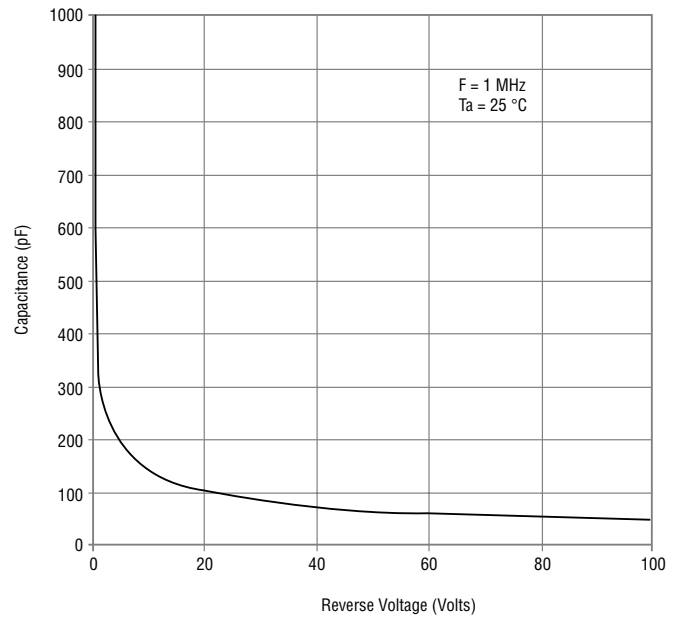
## Reverse Characteristics



## Derating Curve



## Capacitance Between Terminals



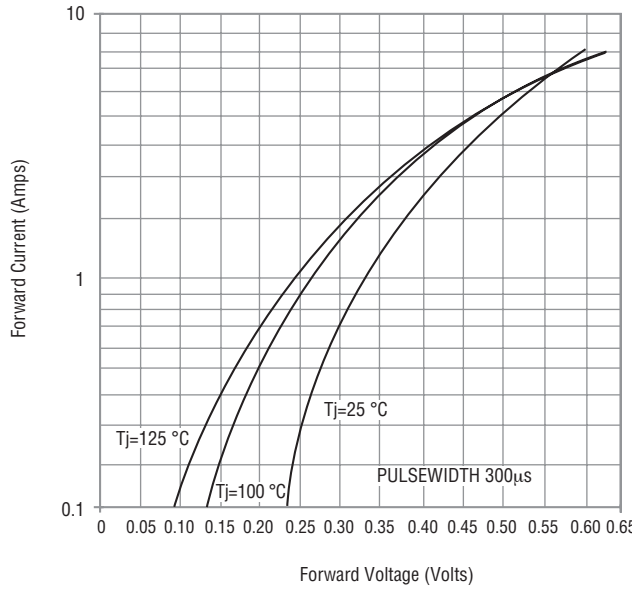
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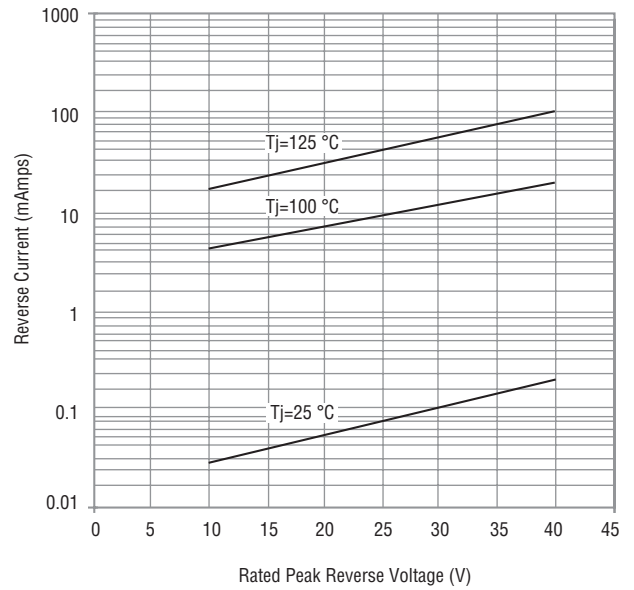


## Rating and Characteristic Curves: CD214A-B240L

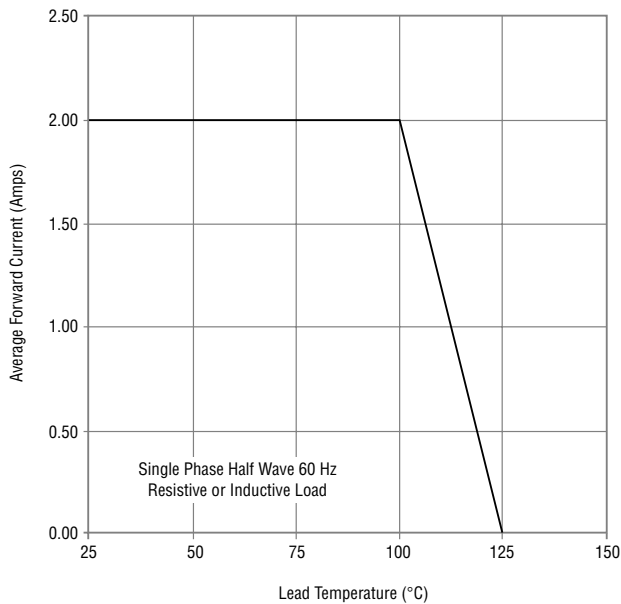
### Forward Characteristics



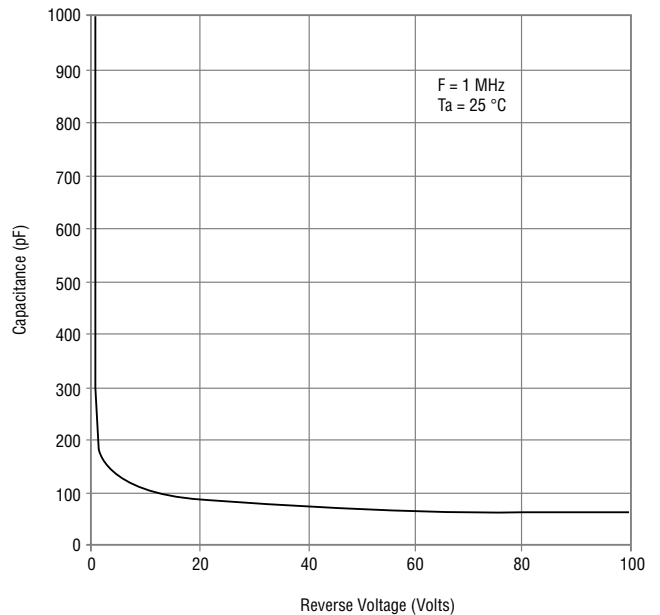
### Reverse Characteristics



### Derating Curve



### Capacitance Between Terminals



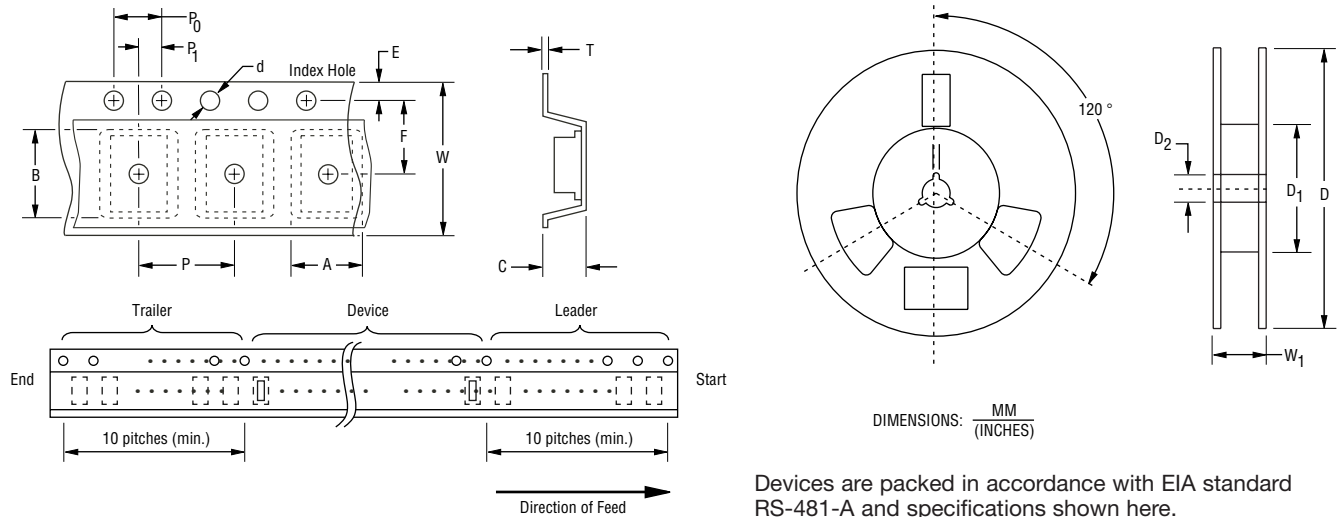
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# CD214A-B220 ~ B260 Schottky Barrier Rectifier Chip Diode

**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. 01/11

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