

## Features

- RoHS compliant\*
- Low profile
- Low power loss, high efficiency
- UL 94V-0 classification

## Applications

- Switch Mode Power Supplies
- Portable equipment batteries
- High frequency rectification
- DC/DC Converters
- Telecommunications

# CD214A-B3xR Series Schottky Barrier Rectifier Chip Diode

## General Information

Portable communications, computing and video equipment manufacturers are challenging the semiconductor industry to develop increasingly smaller electronic components.

Bourns offers Schottky Rectifier Diodes for rectification applications, in a compact chip package compatible with DO-214AC (SMA) size format. 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.



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

Parameter	Symbol	CD214A-					Unit
		B320R	B320LR	B340R	B340LR	B360R	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	20	40	40	60	V
Maximum Average Forward Current	$I_{F(AV)}$	3					A
Maximum Peak Forward Surge Current (8.3 ms Single Half Sine-Wave)	$I_{FSM}$	80					A
Operating Junction Temperature Range	$T_{OPR}$	-55 to +125					$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150					$^\circ\text{C}$

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

Parameter	Symbol	Condition or Model	Min.	Typ.	Max.	Unit	
Maximum Instantaneous Forward Voltage (NOTE 1)	$V_F$	$I_F = 1\text{ A}$	CD214A-B320R CD214A-B340R		0.37		V
			CD214A-B360R		0.42		
			CD214A-B320LR CD214A-B340LR		0.3		
		$I_F = 3\text{ A}$	CD214A-B320R CD214A-B340R		0.46	0.5	
			CD214A-B360R		0.58	0.7	
			CD214A-B320LR CD214A-B340LR		0.39	0.42	
DC Reverse Current	$I_R$	$V_R = V_{RRM}$	CD214A-B320R CD214A-B340R CD214A-B360R		0.02	0.2	mA
			CD214A-B320LR CD214A-B340LR		0.55	1	
Typical Junction Capacitance	$C_J$	$V_R = 4\text{ V}$ , $f = 1.0\text{ MHz}$	CD214A-B320R CD214A-B340R		160		pF
			CD214A-B360R		135		
			CD214A-B320LR CD214A-B340LR		120		

NOTE: (1) Pulse width 300 microsecond, 1 % duty cycle.

Continued on next page.

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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# CD214A-B3xR Series Schottky Barrier Rectifier Chip Diode

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

Parameter		Symbol	Condition or Model	Min.	Typ.	Max.	Unit
Typical Thermal Resistance (NOTE 2)	Junction to Ambient	R <sub>θJA</sub>	CD214A-B320R CD214A-B340R CD214A-B360R		86		°C/W
			CD214A-B320LR CD214A-B340LR		55		
	Junction to Lead	R <sub>θJL</sub>	CD214A-B320R CD214A-B340R CD214A-B360R		24		
			CD214A-B320LR CD214A-B340LR		17		

NOTE: (2) Mounted on PCB with 5.0 x 5.0 mm (0.2 x 0.2 inch) copper pad areas.

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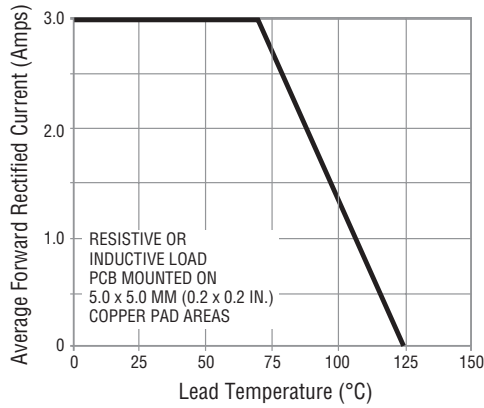
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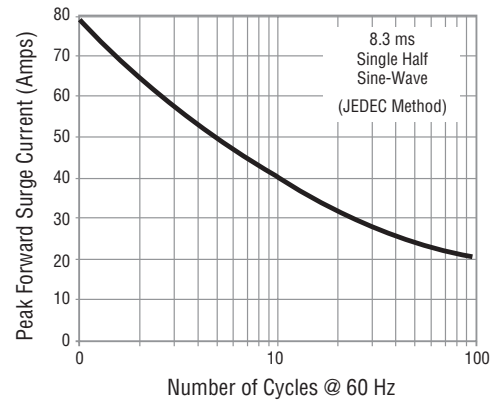


## Performance Graphs

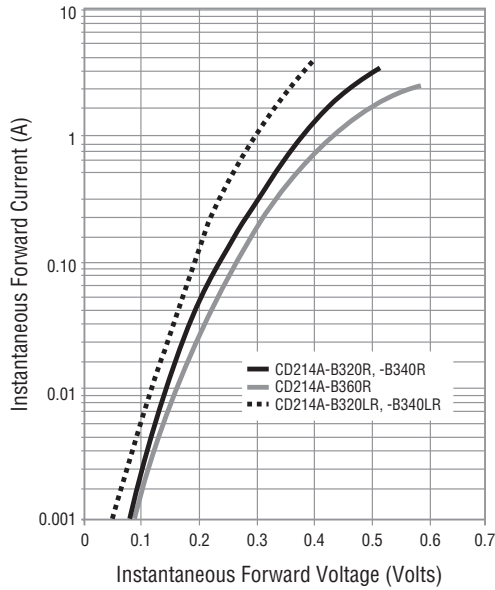
### Forward Current Derating Curve



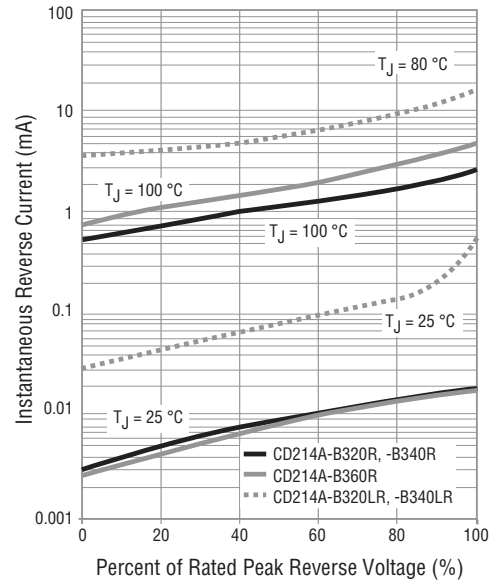
### Maximum Peak Forward Surge Current



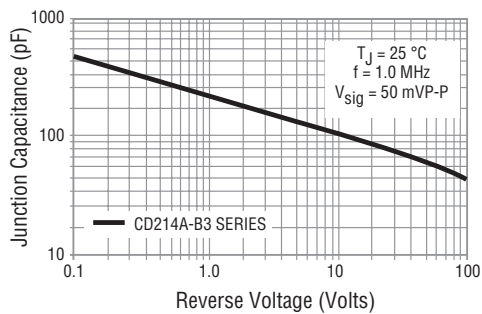
### Typical Instantaneous Forward Characteristics



### Typical Reverse Characteristics



### Typical Junction Capacitance

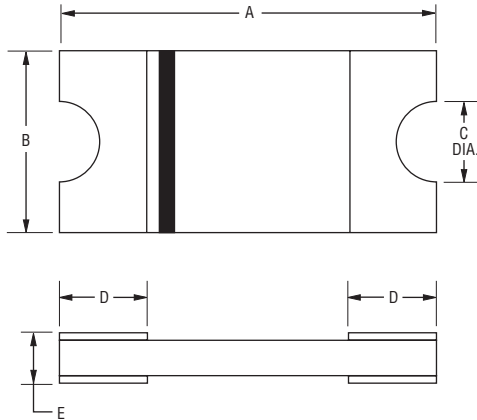


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# CD214A-B3xR Series Schottky Barrier Rectifier Chip Diode



## Product Dimensions



Dimension	CD214A-B3 Series
A	$\frac{4.5 \pm 0.10}{(0.177 \pm 0.004)}$
B	$\frac{2.20 \pm 0.10}{(0.087 \pm 0.004)}$
C (Dia.)	$\frac{0.50}{(0.020)}$
D	$\frac{0.95 \pm 0.20}{(0.037 \pm 0.008)}$
E	$\frac{0.96 + 0.20/-0.10}{(0.038 + 0.008/-0.004)}$

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

## How to Order

**CD 214A - B 3 20 L R**

Common Code \_\_\_\_\_  
 CD = Chip Diode

Package \_\_\_\_\_  
 214A = SMA/DO-214AC Compatible

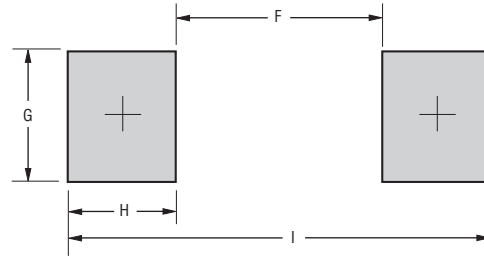
Model \_\_\_\_\_  
 B = Schottky Barrier Series

Maximum Average Forward Rectified Current \_\_\_\_\_  
 3 = 3 A

Maximum Repetitive Peak Reverse Voltage \_\_\_\_\_  
 20 = 20 V  
 40 = 40 V  
 60 = 60 V

Forward Voltage Suffix \_\_\_\_\_  
 L = Low Forward Voltage

## Recommended Pad Layout



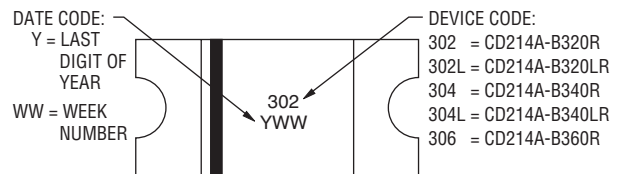
Dimension	CD214A-B3 Series
F	$\frac{2.60}{(0.102)}$ MAX.
G	$\frac{1.47}{(0.058)}$ MIN.
H	$\frac{1.27}{(0.050)}$ MIN.
I	$\frac{5.14}{(0.202)}$ REF.

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

## Environmental Specifications

Moisture Sensitivity Level.....1  
 ESD Classification (HBM).....3B

## Typical Part Marking



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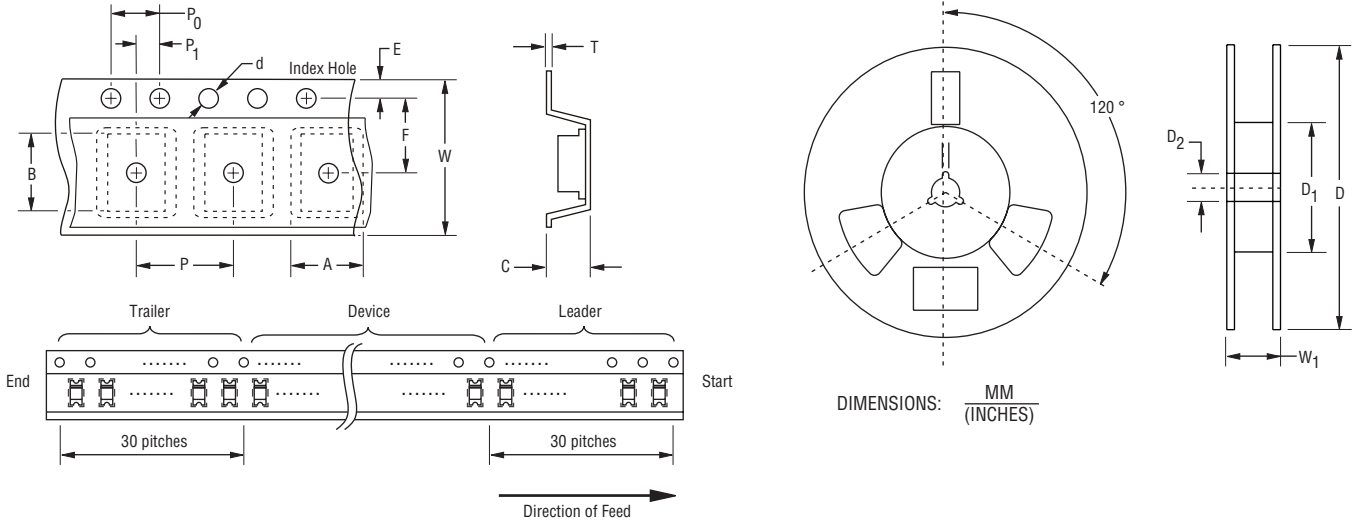
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# CD214A-B3xR Series Schottky Barrier Rectifier Chip Diode

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## Packaging Information

The product is dispensed in tape and reel format (see diagram below).



Item	Symbol	CD214A-B3 Series
Carrier Width	A	$\frac{2.45 \pm 0.10}{(0.096 \pm 0.004)}$
Carrier Length	B	$\frac{4.75 \pm 0.10}{(0.187 \pm 0.004)}$
Carrier Depth	C	$\frac{1.51 \pm 0.10}{(0.059 \pm 0.004)}$
Sprocket Hole	d	$\frac{1.50 \pm 0.10}{(0.059 \pm 0.004)}$
Reel Outside Diameter	D	$\frac{178 \pm 2.0}{(7.008 \pm 0.079)}$
Reel Inner Diameter	D <sub>1</sub>	$\frac{50.0}{(1.969)}$ MIN.
Feed Hole Diameter	D <sub>2</sub>	$\frac{13.0 \pm 0.50}{(0.512 \pm 0.020)}$
Sprocket Hole Position	E	$\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$
Punch Hole Position	F	$\frac{5.50 \pm 0.05}{(0.217 \pm 0.002)}$
Punch Hole Pitch	P	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Sprocket Hole Pitch	P <sub>0</sub>	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P <sub>1</sub>	$\frac{2.00 \pm 0.10}{(0.079 \pm 0.004)}$
Overall Tape Thickness	T	$\frac{0.40}{(0.016)}$ MAX.
Tape Width	W	$\frac{12.00 \pm 0.30}{(0.472 \pm 0.012)}$
Reel Width	W <sub>1</sub>	$\frac{18.7}{(0.736)}$ MAX.
Quantity per Reel	--	3,000

**BOURNS®**

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