

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

CD214B-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-214AA (SMB) size format. The Schottky Rectifier Diodes offer a forward current of 3 A with a choice of repetitive voltage of 20 V up to 100 V.

Additional Information

Click these links for more information:



Absolute Maximum Ratings (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	CD214B-				Unit
		B320R	B340R	B360R	B3100R	
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	20	40	60	100	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		-55 to +150		°C
Storage Temperature Range	T _{STG}	-55 to +150				°C

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Parameter	Symbol	Condition or Model	Min.	Typ.	Max.	Unit	
Maximum Instantaneous Forward Voltage (NOTE 1)	V _F	I _F = 1 A	CD214B-B320R		0.40		V
			CD214B-B340R				
			CD214B-B360R		0.48		
		I _F = 3 A	CD214B-B3100R		0.58		
			CD214B-B320R		0.48	0.50	
			CD214B-B340R				
DC Reverse Current	I _R	V _R = V _{RRM}		0.04	0.50	mA	
Typical Junction Capacitance	C _J	V _R = 4 V, f = 1.0 MHz		180		pF	
Typical Thermal Resistance (NOTE 2)	Junction to Ambient	R _{θJA}		55		°C/W	
	Junction to Lead	R _{θJL}		17			

NOTES:

- (1) Pulse width 300 microsecond, 1 % duty cycle.
- (2) Mounted on PCB with 5.0 x 5.0 mm (0.2 x 0.2 inch) copper pad areas.



WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

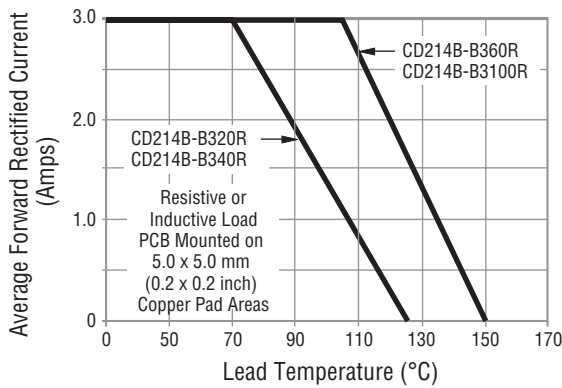
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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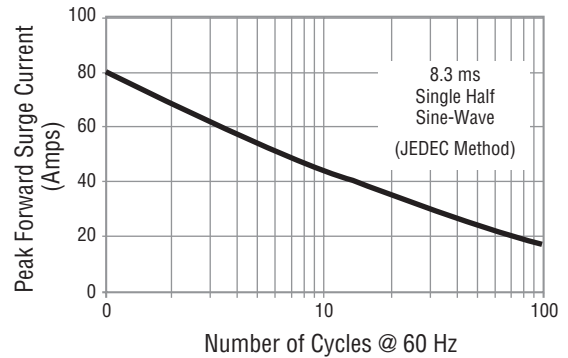
BOURNS®

Performance Graphs

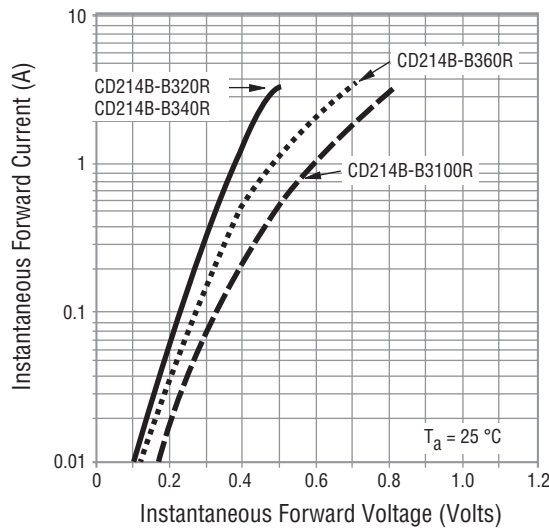
Forward Current Derating Curve



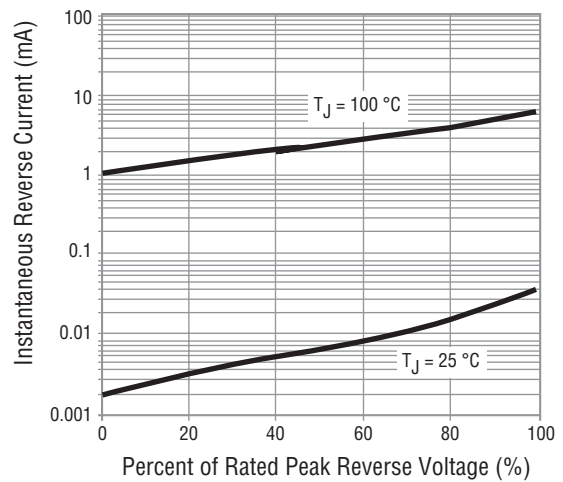
Max. Peak Forward Surge Current



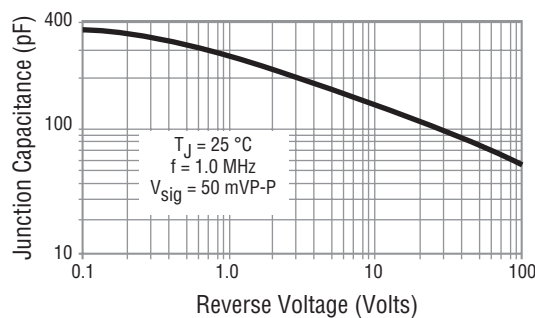
Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance

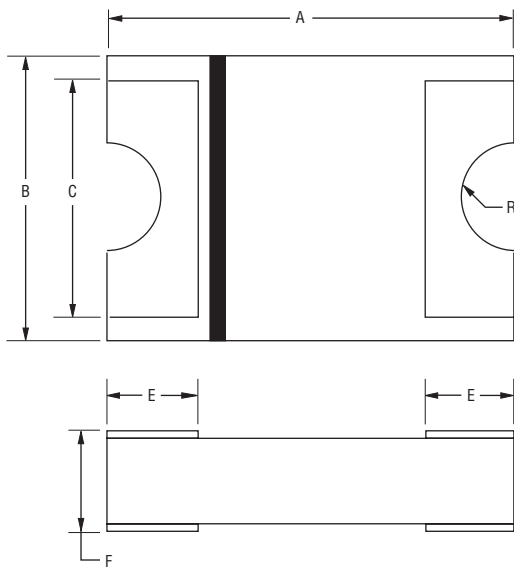


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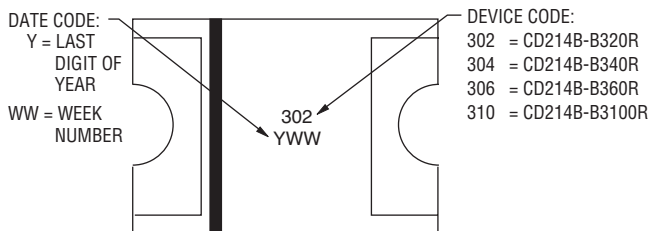
Product Dimensions



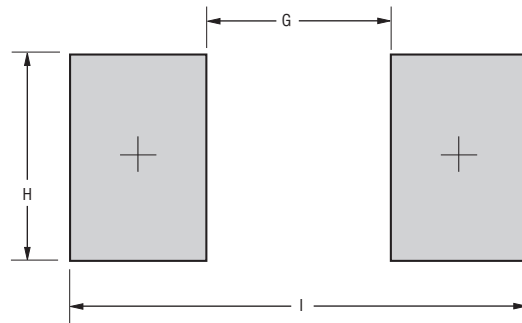
Dimension	CD214B-B3 Series
A	$\frac{5.20 \pm 0.10}{(0.205 \pm 0.004)}$
B	$\frac{3.60 \pm 0.10}{(0.142 \pm 0.004)}$
C	$\frac{3.01}{(0.119)}$ TYP.
R (Radius)	$\frac{0.695}{(0.027)}$ TYP.
E	$\frac{1.15 \pm 0.1}{(0.045 \pm 0.004)}$
F	$\frac{1.10 \pm 0.15}{(0.043 \pm 0.006)}$

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

Typical Part Marking



Recommended Pad Layout



Dimension	CD214B-B3 Series
G	$\frac{2.65}{(0.104)}$ MAX.
H	$\frac{3.00}{(0.118)}$ MIN.
I	$\frac{6.65}{(0.262)}$ REF.

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

Environmental Specifications

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

How to Order

Common Code _____
CD = Chip Diode

Package _____
214B = SMB/DO-214AA 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
100 = 100 V

CD 214B - B 3 20 R

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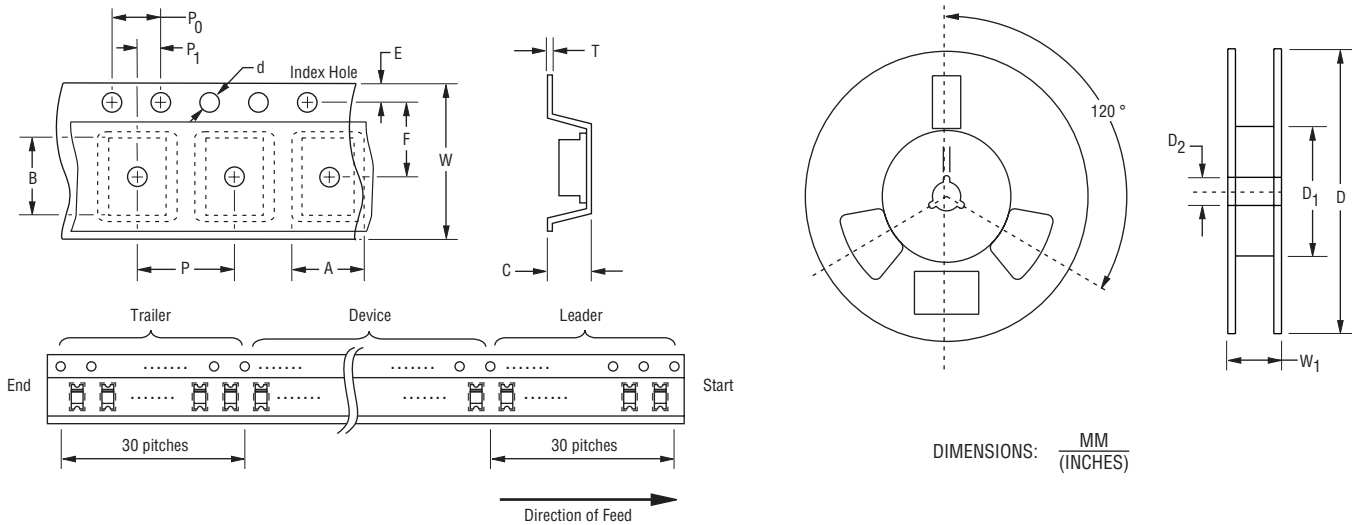
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Packaging Information

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



Item	Symbol	CD214B-B3 Series
Carrier Width	A	$\frac{3.70 \pm 0.10}{(0.146 \pm 0.004)}$
Carrier Length	B	$\frac{5.40 \pm 0.10}{(0.213 \pm 0.004)}$
Carrier Depth	C	$\frac{1.65 \pm 0.10}{(0.065 \pm 0.004)}$
Sprocket Hole	d	$\frac{1.50 \pm 0.10}{(0.059 \pm 0.004)}$
Reel Outside Diameter	D	$\frac{330 \pm 2.0}{(12.992 \pm 0.079)}$
Reel Inner Diameter	D ₁	$\frac{50.0}{(1.969)}$ MIN.
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.50}{(0.512 \pm 0.020)}$
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	$\frac{8.00 \pm 0.10}{(0.157 \pm 0.004)}$
Sprocket Hole Pitch	P ₀	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.10}{(0.079 \pm 0.004)}$
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 ₁	$\frac{18.7}{(0.736)}$ MAX.
Quantity per Reel	--	5,000

BOURNS®

Asia-Pacific: Tel: +886-2 2562-4117

Email: asiacus@bourns.com

EMEA: Tel: +36 88 885 877

Email: eurocus@bourns.com

The Americas: Tel: +1-951 781-5500

Email: americus@bourns.com

www.bourns.com

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