

Features

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

Applications

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

CD214C-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-214AB (SMC) 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 100 V.



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

Parameter	Symbol	CD214C-				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}	100				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 (@ $T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Parameter	Symbol	Condition or Model	Min.	Typ.	Max.	Unit
Maximum Instantaneous Forward Voltage (NOTE 1)	V_F	$I_F = 1\text{ A}$		0.38		V
		CD214C-B320R				
		CD214C-B340R				
		CD214C-B360R		0.48		
		CD214C-B3100R		0.58		
	$I_F = 3\text{ A}$	CD214C-B320R		0.47	0.5	
		CD214C-B340R		0.65	0.7	
		CD214C-B360R		0.78	0.85	
		CD214C-B3100R				
DC Reverse Current	I_R	$V_R = V_{RRM}$		0.025	0.5	mA
Typical Junction Capacitance	C_J	$V_R = 4\text{ V}, f = 1.0\text{ MHz}$		180		pF
Typical Thermal Resistance (NOTE 2)	Junction to Ambient	$R_{\theta JA}$		55		$^\circ\text{C/W}$
	Junction to Lead	$R_{\theta JL}$		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.

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

Specifications are subject to change without notice.

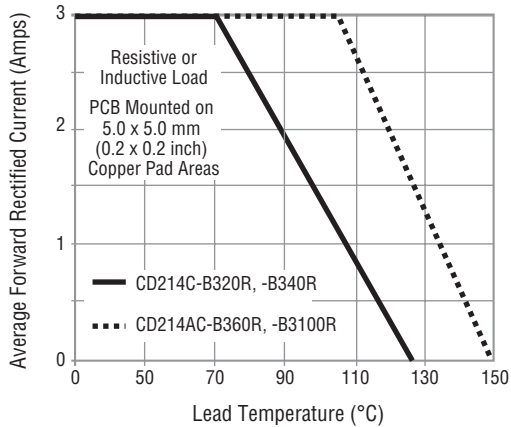
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications.

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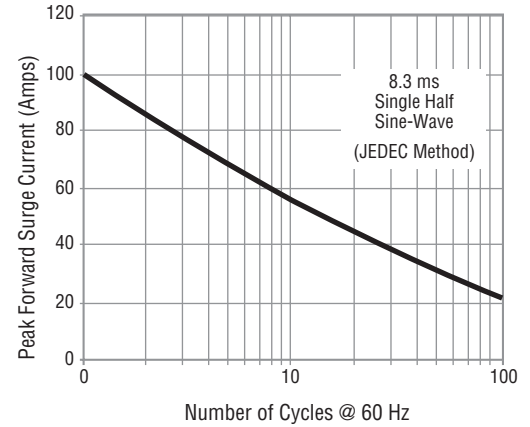
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Performance Graphs

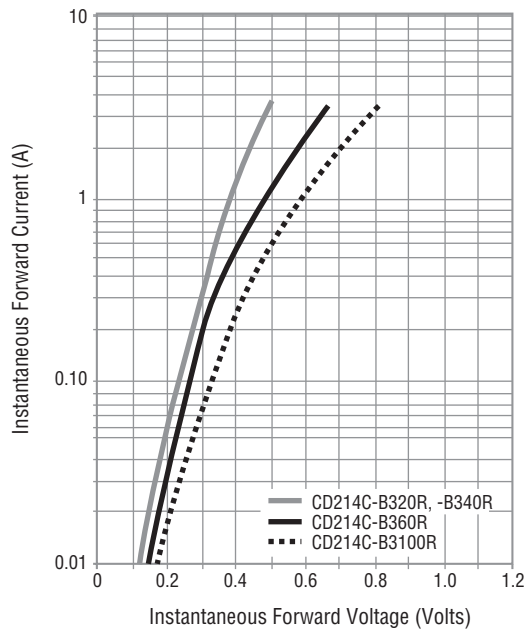
Forward Current Derating Curve



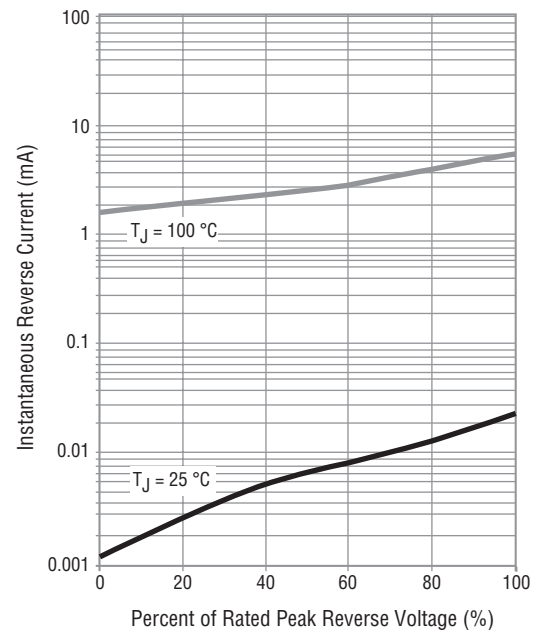
Maximum Peak Forward Surge Current



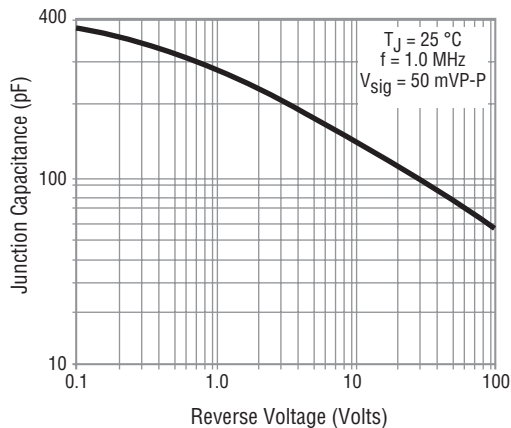
Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance

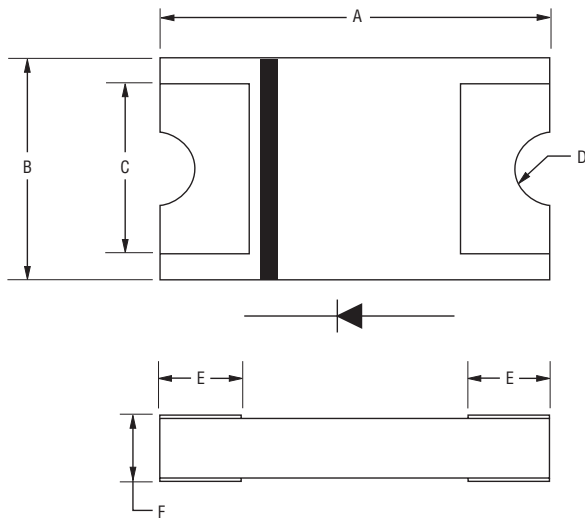


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Product Dimensions



Dimension	CD214C-B3 Series
A	8.0 ± 0.10 (0.315 ± 0.004)
B	5.0 ± 0.10 (0.197 ± 0.004)
C	3.90 TYP. (0.154)
D	0.80 ± 0.02 (0.031 ± 0.001)
E	1.95 ± 0.10 (0.077 ± 0.004)
F	1.10 ± 0.15 (0.043 ± 0.006)

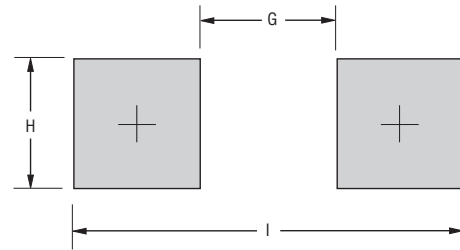
DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

How to Order

CD 214C - B 3 20 R

Common Code _____
 CD = Chip Diode
 Package _____
 214C = SMC/DO-214AB 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

Recommended Pad Layout



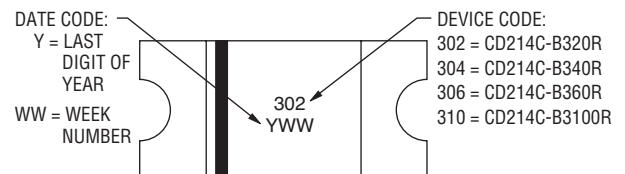
Dimension	CD214C-B3 Series
G	4.10 MAX. (0.161)
H	3.90 MIN. (0.154)
I	11.90 REF. (0.469)

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

Environmental Specifications

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

Typical Part Marking



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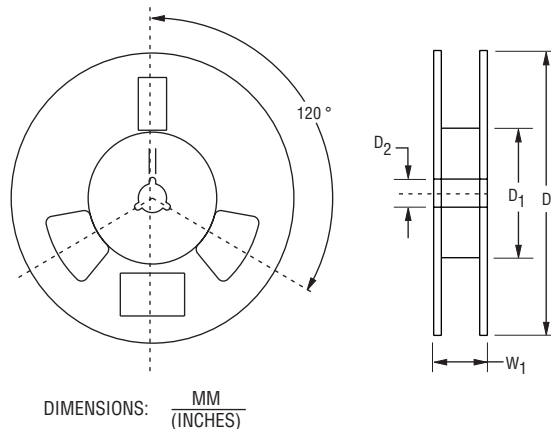
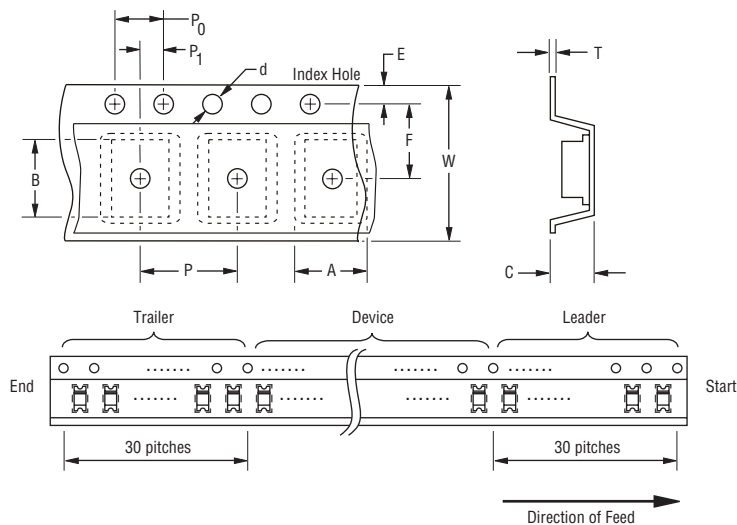
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Packaging Information

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



Item	Symbol	CD214C-B3 Series
Carrier Width	A	$\frac{5.56 \pm 0.10}{(0.219 \pm 0.004)}$
Carrier Length	B	$\frac{8.18 \pm 0.10}{(0.322 \pm 0.004)}$
Carrier Depth	C	$\frac{2.50}{(0.098)} \text{ MAX.}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$
Reel Outside Diameter	D	$\frac{330 \pm 2.0}{(12.992 \pm 0.079)}$
Reel Inner Diameter	D ₁	$\frac{50.0}{(1.969)} \text{ MIN.}$
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	$\frac{7.50 \pm 0.10}{(0.295 \pm 0.004)}$
Punch Hole Pitch	P	$\frac{8.00 \pm 0.10}{(0.315 \pm 0.004)}$
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	$\frac{0.40}{(0.016)} \text{ MAX.}$
Tape Width	W	$\frac{16.00 \pm 0.30}{(0.630 \pm 0.012)}$
Reel Width	W ₁	$\frac{22.7}{(0.893)} \text{ MAX.}$
Quantity per Reel	--	3,000

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