

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

CD214A-B2xR 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 ship package compatible with DO-214AC (SMA) size format. 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.



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

Parameter	Symbol	CD214A-					Unit
		B220R	B220LR	B240R	B240LR	B260R	
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	20	20	40	40	60	V
Maximum Average Forward Current	I _{F(AV)}	2					A
Maximum Peak Forward Surge Current (8.3 ms Single Half Sine-Wave)	I _{FSM}	50					A
Operating Junction Temperature Range	T _{OPR}	-55 to +125					°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	CD214A-B220R CD214A-B240R		0.41		V
			CD214A-B260R		0.5		
			CD214A-B220LR CD214A-B240LR		0.34		
		I _F = 2 A	CD214A-B220R CD214A-B240R		0.49	0.5	
			CD214A-B260R		0.6	0.7	
			CD214A-B220LR CD214A-B240LR		0.39	0.4	
DC Reverse Current	I _R	V _R = V _{RRM}	CD214A-B220R CD214A-B240R CD214A-B260R		0.025	0.2	mA
			CD214A-B220LR CD214A-B240LR		0.28	1	
Typical Junction Capacitance	C _J	V _R = 4 V, f = 1.0 MHz		115		pF	
Typical Thermal Resistance (NOTE 2)	Junction to Ambient	R _{θJA}	CD214A-B220R CD214A-B240R CD214A-B260R		75		°C/W
	Junction to Lead	R _{θJL}	CD214A-B220LR CD214A-B240LR		70		
					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.

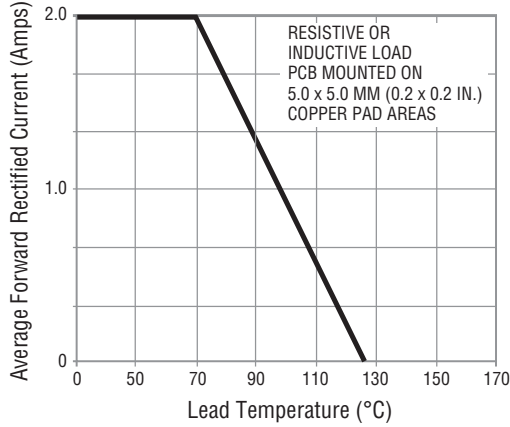


WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

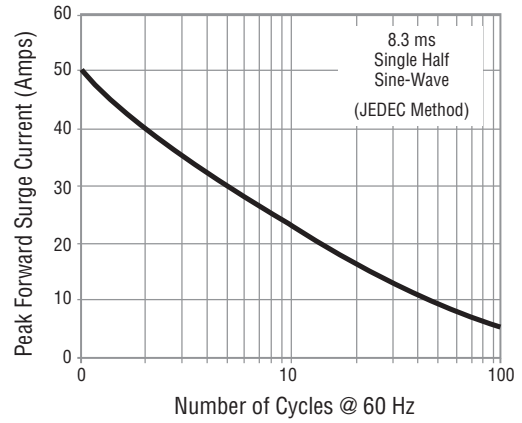
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.
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Performance Graphs

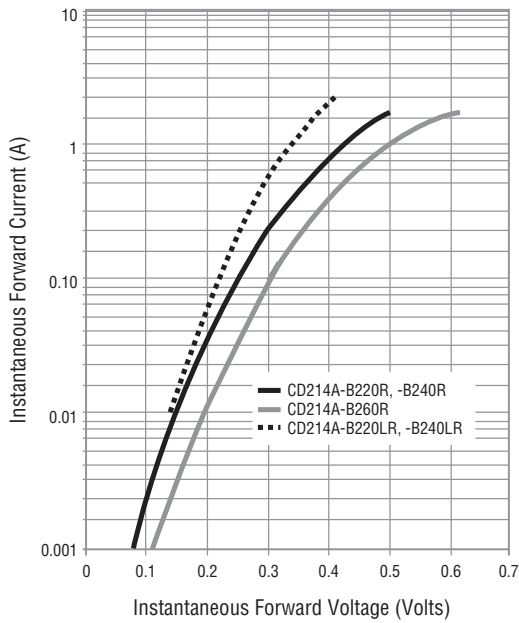
Forward Current Derating Curve



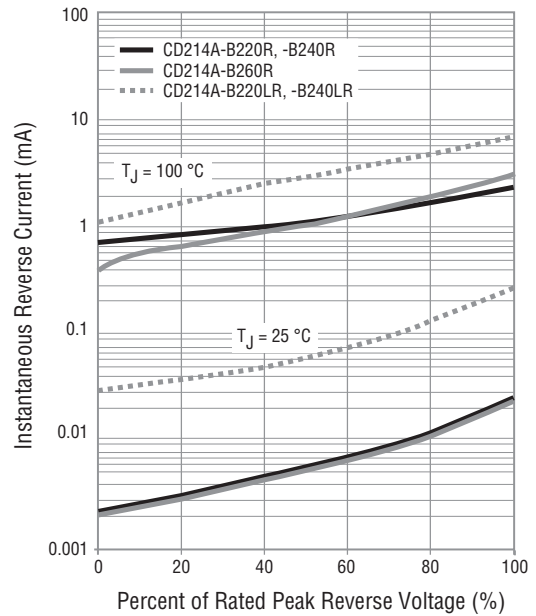
Maximum Peak Forward Surge Current



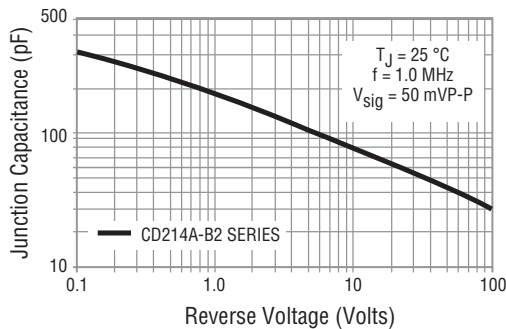
Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance

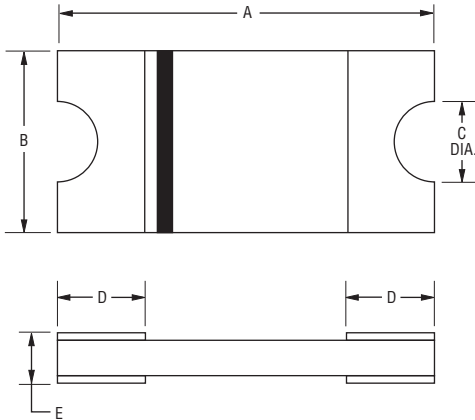


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CD214A-B2xR Series Schottky Barrier Rectifier Chip Diode



Product Dimensions



Dimension	CD214A-B2 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	$\frac{0.96 + 0.20/-0.10}{(0.038 + 0.008/-0.004)}$

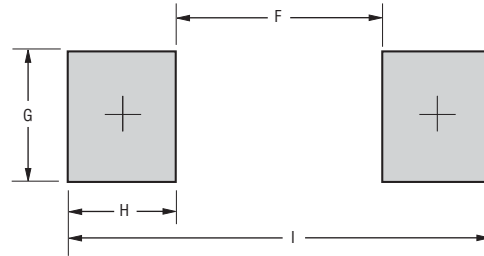
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

How to Order

CD 214A - B 2 20 L R

- Common Code _____
- CD = Chip Diode
- Package _____
- 214A = SMA/DO-214AC Compatible
- Model _____
- B = Schottky Barrier Series
- Maximum Average Forward Rectified Current _____
- 2 = 2 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



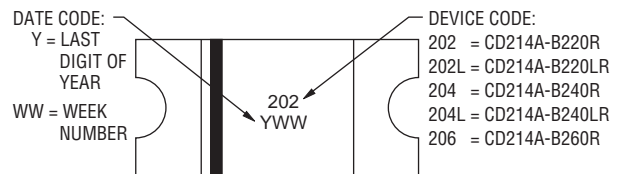
Dimension	CD214A-B2 Series
F	$\frac{2.60}{(0.102)}$ MAX.
G	$\frac{1.47}{(0.058)}$ MIN.
H	$\frac{1.27}{(0.050)}$ MIN.
I	$\frac{5.14}{(0.202)}$ REF.

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

Environmental Specifications

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

Typical Part Marking



DATE CODE:
Y = LAST
DIGIT OF
YEAR
WW = WEEK
NUMBER

DEVICE CODE:
202 = CD214A-B220R
202L = CD214A-B220LR
204 = CD214A-B240R
204L = CD214A-B240LR
206 = CD214A-B260R

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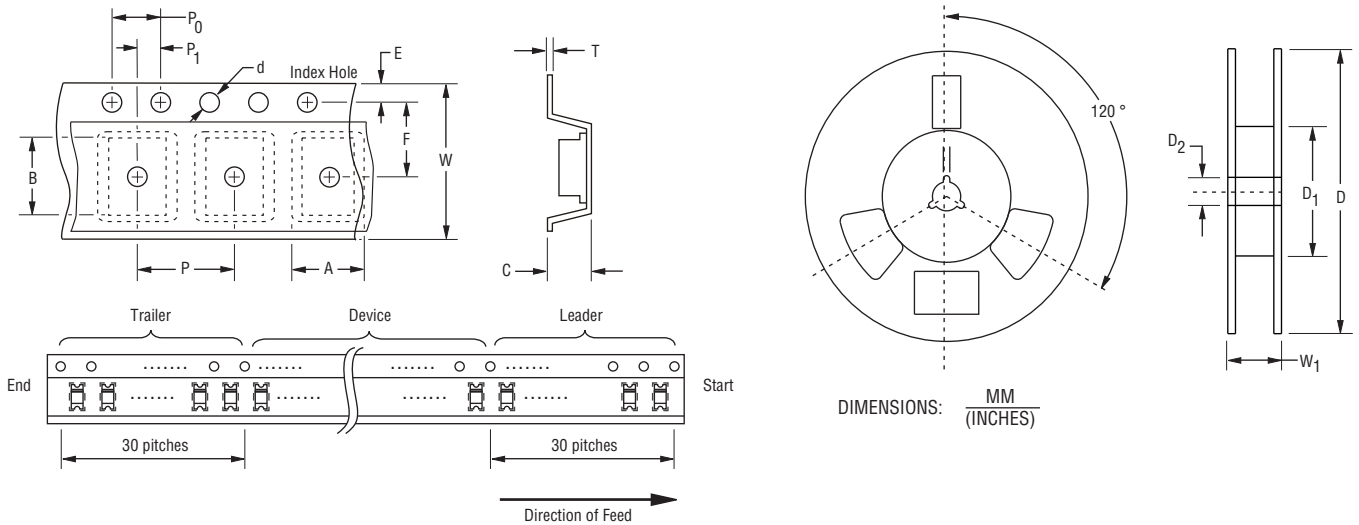
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CD214A-B2xR Series Schottky Barrier Rectifier Chip Diode

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Packaging Information

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



Item	Symbol	CD214A-B2 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 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	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
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	--	3,000

BOURNS®

Asia-Pacific:

Tel: +886-2 2562-4117

Email: asiacus@bourns.com

Europe:

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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