



Features

- Lead free versions available
- RoHS compliant (lead free version)*
- Reverse voltage from 20 to 60 V
- Forward current of 2 A
- High current capability
- For use in low voltage high frequency inverters, free wheeling and polarity protection applications

CD214B-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-214AA (SMB) 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, are easy to handle with standard pick and place equipment and the flat configuration minimizes roll away.

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

Parameter	Symbol	CD214B-					Unit
		B220	B230	B240	B250	B260	
Forward Voltage (Max.) ($I_F = 2\text{ A}$)	V_F	0.5	0.5	0.5	0.7	0.7	V
Typical Junction Capacitance*	C_T	200					pF
Reverse Current (Max.) at Rated V_R	I_R	0.5	0.5	0.5	0.5	0.5	mA

* Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.

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

Parameter	Symbol	CD214B-					Unit
		B220	B230	B240	B250	B260	
Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	V
Reverse Voltage	V_R	20	30	40	50	60	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	V
Avg. Forward Current	I_O	2					A
Forward Current, Surge Peak (60 Hz, 1 cycle)	I_{surge}	50	50	50	50	50	A
Typical Thermal Resistance**	$R_{\theta JL}$	15	15	15	15	15	$^\circ\text{C/W}$
Storage Temperature	T_{STG}	-55 to +150					$^\circ\text{C}$
Junction Temperature	T_J	-55 to +125					$^\circ\text{C}$

** Thermal resistance junction to lead.



Reliable Electronic Solutions

Asia-Pacific:

Tel: +886-2 2562-4117 • Fax: +886-2 2562-4116

Europe:

Tel: +41-41 768 5555 • Fax: +41-41 768 5510

The Americas:

Tel: +1-951 781-5500 • Fax: +1-951 781-5700

www.bourns.com

*RoHS Directive 2002/95/EC Jan 27 2003 including Annex

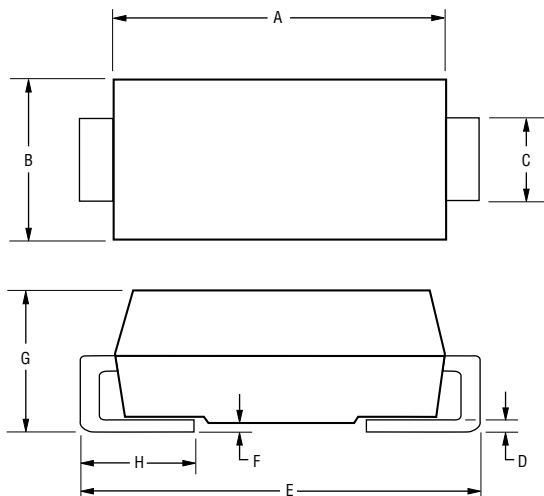
Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

CD214B-B220 ~ B260 Schottky Barrier Rectifier Chip Diode

BOURNS®

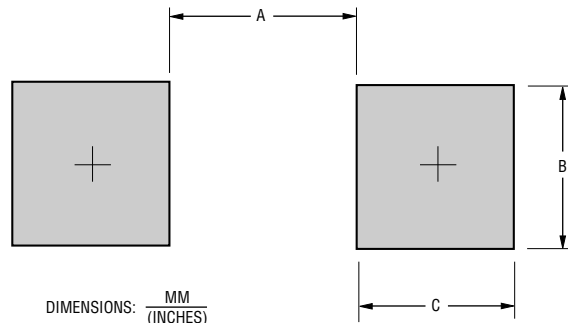
Product Dimensions



Dimension	SMB (DO-214AA)
A	4.06 - 4.57 (0.160 - 0.180)
B	3.30 - 3.94 (0.130 - 0.155)
C	1.96 - 2.21 (0.078 - 0.087)
D	0.15 - 0.31 (0.006 - 0.112)
E	5.21 - 5.59 (0.205 - 0.220)
F	0.05 - 0.20 (0.002 - 0.008)
G	2.01 - 2.62 (0.080 - 0.103)
H	0.76 - 1.52 (0.030 - 0.060)

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

Recommended Pad Layout



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

Dimension	SMB (DO-214AA)
A (Max.)	2.69 (0.106)
B (Min.)	2.10 (0.083)
C (Min.)	1.27 (0.050)

Physical Specifications

CaseMolded plastic
PolarityIndicated by cathode band
Weight0.003 ounces / 0.093 grams

Typical Part Marking

CD214B-B220 **B 220B**
CD214B-B230 **B 230B**
CD214B-B240 **B 240B**
CD214B-B250 **B 250B**
CD214B-B260 **B 260B**

How To Order

Common Code _____
Chip Diode _____
Package _____
• 214B = SMB/DO-214AA
Model _____
B = Schottky Barrier Series
Average Forward Current (I_O) Code _____
2 = 2 A (Code x 1000 mA = Average Forward Current)
Reverse Voltage (V_R) Code _____
20 = 20 V
30 = 30 V
40 = 40 V
50 = 50 V
60 = 60 V
Terminations _____
LF = 100 % Sn (lead free)
Blank = Sn/Pb

CD 214B - B 2 30

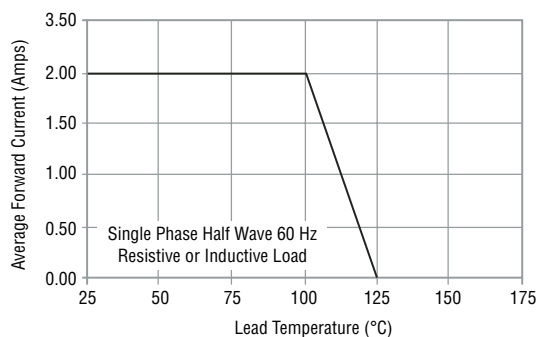
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

CD214B-B220 ~ B260 Schottky Barrier Rectifier Chip Diode

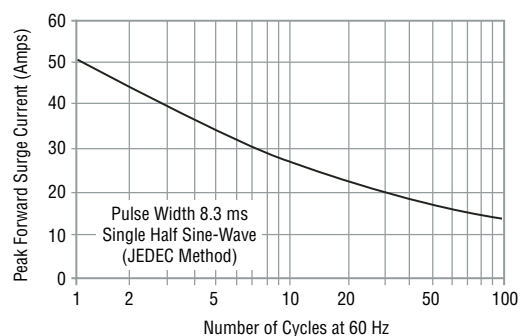
BOURNS®

Rating and Characteristic Curves

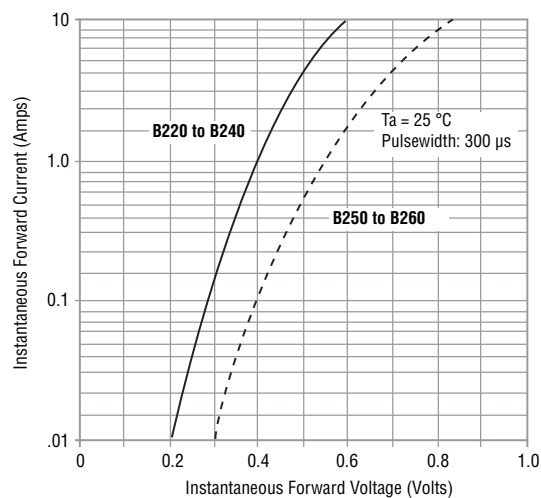
Forward Current Derating Curve



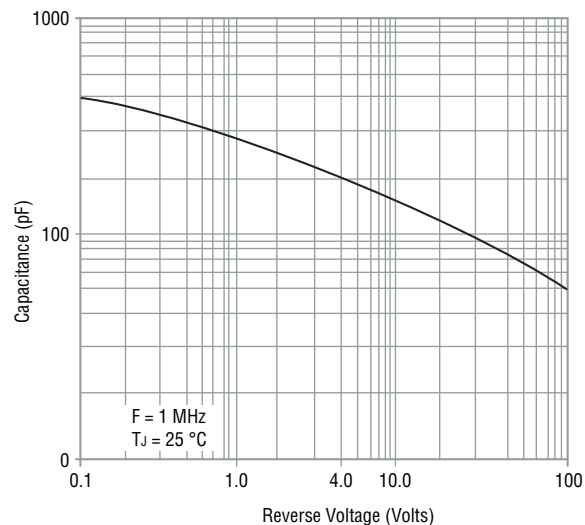
Maximum Non-Repetitive Surge Current



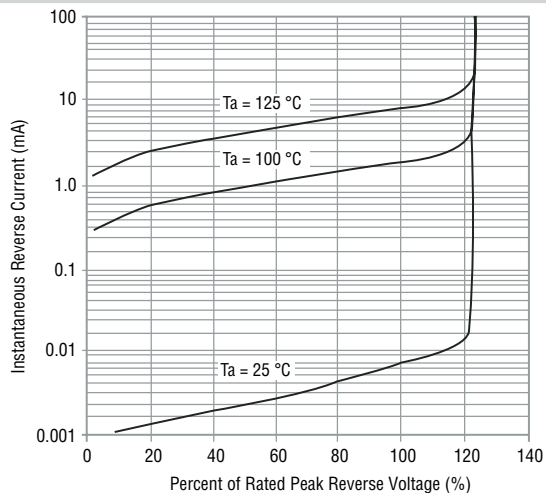
Typical Forward Characteristics



Typical Junction Capacitance



Typical Reverse Characteristics



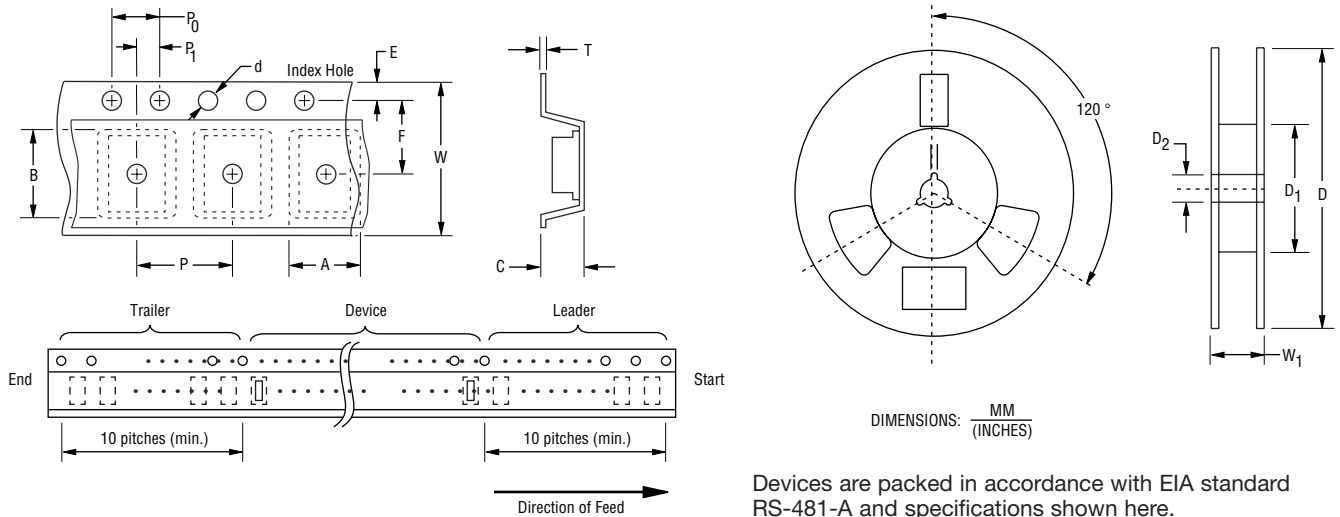
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

CD214B-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	SMB (DO-214AA)
Carrier Width	A	$\frac{4.94 \pm 0.10}{(0.194 - 0.004)}$
Carrier Length	B	$\frac{5.57 \pm 0.10}{(0.219 - 0.004)}$
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 ₁	$\frac{50.0}{(1.969)} \text{ MIN.}$
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.20}{(0.512 - 0.008)}$
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 ₀	$\frac{4.00 \pm 0.10}{(0.157 - 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.05}{(0.079 - 0.002)}$
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 ₁	$\frac{18.4}{(0.724)} \text{ MAX.}$
Quantity per Reel	--	3,000