

Features

- Lead free versions available
- RoHS compliant (lead free version)*
- Reverse voltage from 20 to 60 V
- Forward current of 1 A
- High current capability
- For use in low voltage high frequency inverters, free wheeling and polarity protection applications

CD214B-B120 ~ B160 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 most competitive parts. The Schottky Rectifier Diodes offer a forward current of 1 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 °C Unless Otherwise Noted)

Parameter	Symbol	CD214B-					Unit
		B120	B130	B140	B150	B160	
Forward Voltage (Max.) (I_f = 2 A)	V_F	0.5	0.5	0.5	0.7	0.7	V
Typical Junction Capacitance*	C_T	110					pF
Reverse Current (Max.) at Rated V_R)	I_R	0.5					mA

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

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

Parameter	Symbol	CD214B-					Unit
		B120	B130	B140	B150	B160	
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	1					A
Forward Current, Surge Peak (60 Hz, 1 cycle)	I_{surge}	30					A
Typical Thermal Resistance**	$R_{\Theta JL}$	20					°C/W
Storage Temperature	T_{STG}	-55 to +150					°C
Junction Temperature	T_J	-55 to +125					°C

** Thermal resistance junction to lead.

BOURNS®
Reliable Electronic Solutions

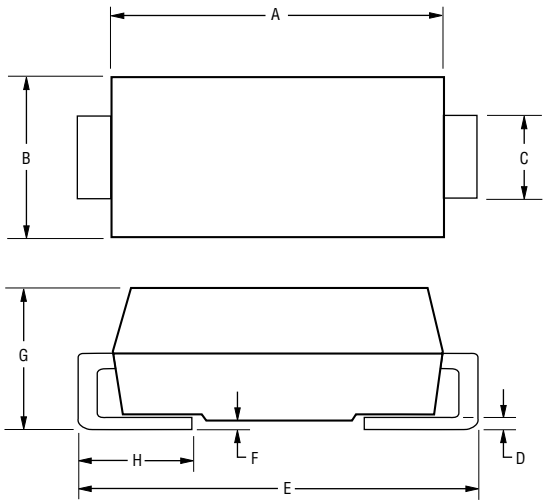
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*RoHS Directive 2002/95/EC Jan 27 2003 including Annex
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

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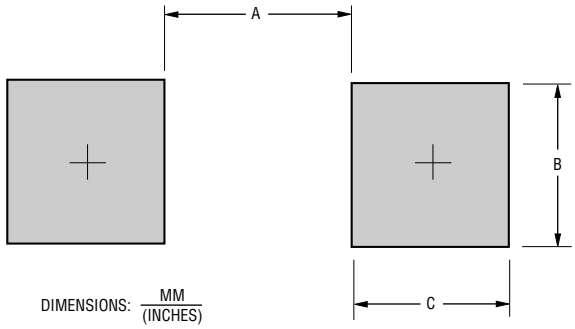
Product Dimensions



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: MM / (INCHES)

Recommended Pad Layout



DIMENSIONS: MM / (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

Case .....Molded plastic
Polarity .....Indicated by cathode band
Weight .....0.003 ounces / 0.093 grams

Typical Part Marking

CD214B-B220 ..... B 120B
CD214B-B230 ..... B 130B
CD214B-B240 ..... B 140B
CD214B-B250 ..... B 150B
CD214B-B260 ..... B 160B

How To Order

CD 214B - B 1 30 __

Common Code
Chip Diode

Package
• 214B = SMB/DO-214AA

Model
B = Schottky Barrier Series

Average Forward Current (I_O) Code
1 = 1 A (Code x 1000 mA = Average Forward Current)

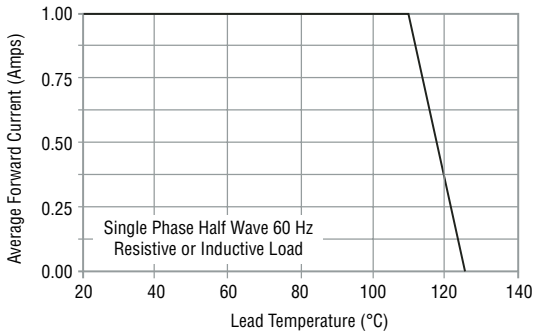
Reverse Voltage (V_R) Code
20 = 20 V
30 = 30 V
40 = 40 V
50 = 50 V
60 = 60 V

Terminations
LF = 100 % Sn (lead free)
Blank = Sn/Pb

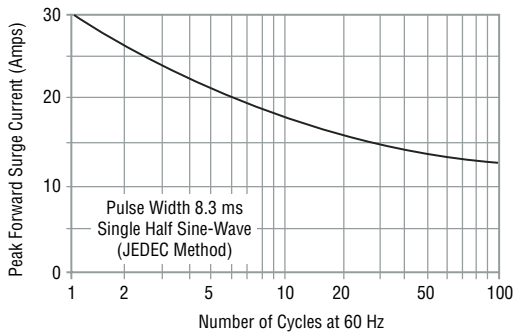
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Rating and Characteristic Curves

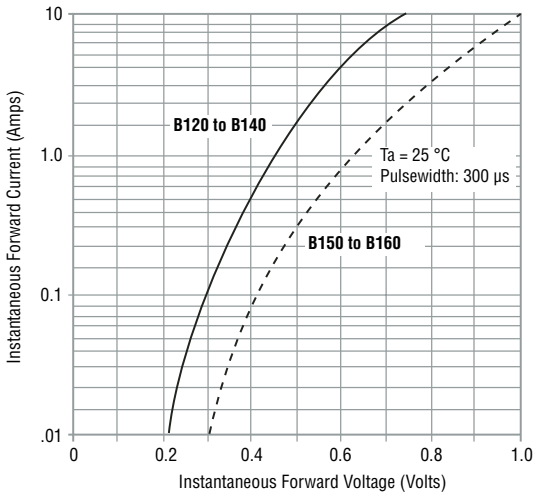
Forward Current Derating Curve



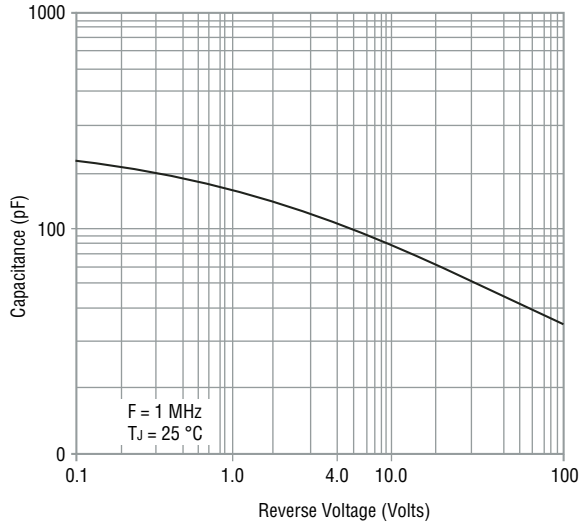
Maximum Non-Repetitive Surge Current



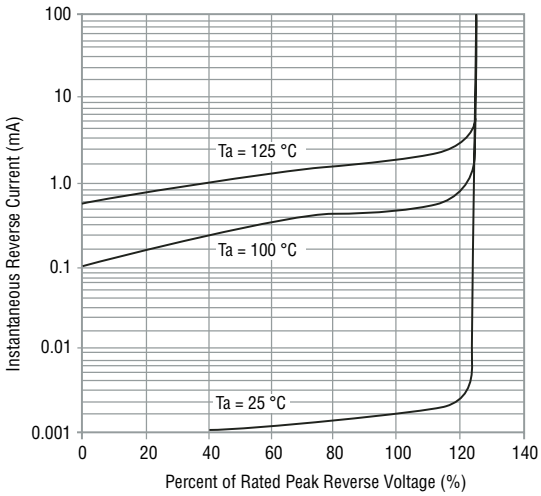
Typical Forward Characteristics



Typical Junction Capacitance



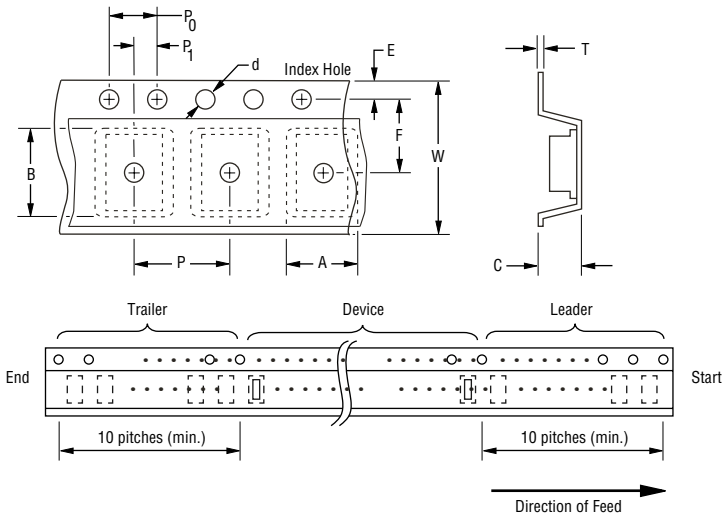
Typical Reverse Characteristics

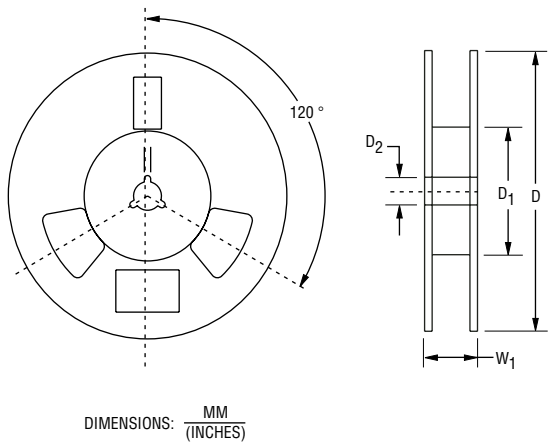


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Packaging Information

The product will be dispensed in Tape and Reel format (see diagram below).





DIMENSIONS: MM / (INCHES)

Devices are packed in accordance with EIA standard RS-481-A and specifications shown here.

Item	Symbol	SMB (DO-214AA)
Carrier Width	A	4.94 ± 0.10 (0.194 - 0.004)
Carrier Length	B	5.57 ± 0.10 (0.219 - 0.004)
Carrier Depth	C	2.36 ± 0.10 (0.093 - 0.004)
Sprocket Hole	d	1.55 ± 0.05 (0.061 - 0.002)
Reel Outside Diameter	D	330 (12.992)
Reel Inner Diameter	D_1	50.0 (1.969) MIN.
Feed Hole Diameter	D_2	13.0 ± 0.20 (0.512 - 0.008)
Sprocket Hole Position	E	1.75 ± 0.10 (0.069 - 0.004))
Punch Hole Position	F	5.50 ± 0.05 (0.217 - 0.002)
Punch Hole Pitch	P	4.00 ± 0.10 (0.157 - 0.004)
Sprocket Hole Pitch	P_0	4.00 ± 0.10 (0.157 - 0.004)
Embossment Center	P_1	2.00 ± 0.05 (0.079 - 0.002)
Overall Tape Thickness	T	0.30 ± 0.10 (0.012 - 0.004)
Tape Width	W	12.00 ± 0.20 (0.472 - 0.008)
Reel Width	W_1	18.4 (0.724) MAX.
Quantity per Reel	--	3,000

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