



Features

- Lead free versions available
- RoHS compliant (lead free version)*
- SMA package
- Surface mount
- Very low forward voltage drop

CD214A-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-214AC (SMA) 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, easy to handle on standard pick and place equipment and their flat configuration makes roll away much more difficult.

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

Parameter	Symbol	CD214A-						Unit
		B220	B230	B240	B240L	B250	B260	
Forward Voltage (Max.) ($I_f = 2\text{ A}$)	V_F	0.5	0.5	0.5	0.43	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	2.0	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	CD214A-						Unit
		B220	B230	B240	B240L	B250	B260	
Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	40	50	60	V
Reverse Voltage	V_R	20	30	40	40	50	60	V
Maximum RMS Voltage	V_{RMS}	14	21	28	28	35	42	V
Avg. Forward Current	I_O	2						A
Forward Current, Surge Peak (60 Hz, 1 cycle)	I_{surge}	50	50	50	25	50	50	A
Typical Thermal Resistance**	$R_{\theta JL}$	15	15	15	18	15	15	$^\circ\text{C}/\text{W}$
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

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

www.bourns.com

How To Order

Common Code _____ **CD 214A - B 2 40 L** _____
 Chip Diode
 Package _____
 • 214A = SMA/DO-214AC
 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 _____
 30 = 30 V
 40 = 40 V
 60 = 60 V
 Forward Voltage Suffix _____
 L = Low Forward Voltage V_f (CD214-B240L)
 Terminations _____
 LF = 100 % Sn (lead free)
 Blank = Sn/Pb

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

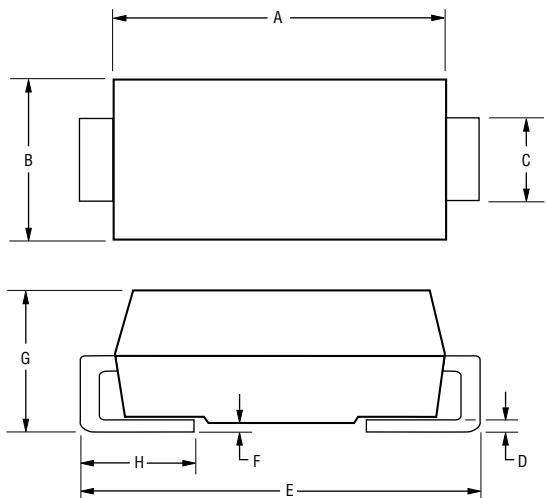
Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

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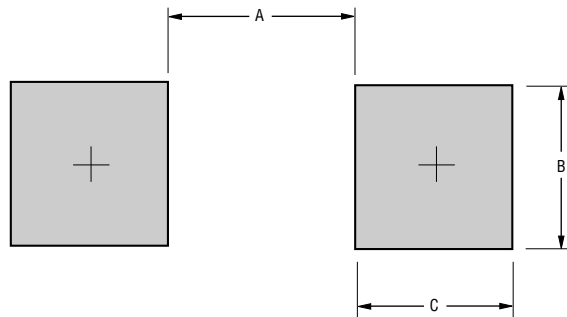
Product Dimensions



Dimension	SMA (DO-214AC)
A	$\frac{4.06 - 4.57}{(0.160 - 0.180)}$
B	$\frac{2.29 - 2.92}{(0.090 - 0.115)}$
C	$\frac{1.27 - 1.63}{(0.050 - 0.064)}$
D	$\frac{0.15 - 0.31}{(0.006 - 0.110)}$
E	$\frac{4.83 - 5.59}{(0.190 - 0.220)}$
F	$\frac{0.05 - 0.20}{(0.002 - 0.008)}$
G	$\frac{2.01 - 2.62}{(0.080 - 0.103)}$
H	$\frac{0.76 - 1.52}{(0.030 - 0.060)}$

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

Recommended Pad Layout



Dimension	SMA (DO-214AC)
A (Max.)	$\frac{2.69}{(0.106)}$
B (Min.)	$\frac{2.10}{(0.083)}$
C (Min.)	$\frac{1.27}{(0.050)}$

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

Physical Specifications

CaseMolded plastic
 PolarityIndicated by cathode band
 Weight0.002 ounces / 0.064 grams

Typical Part Marking

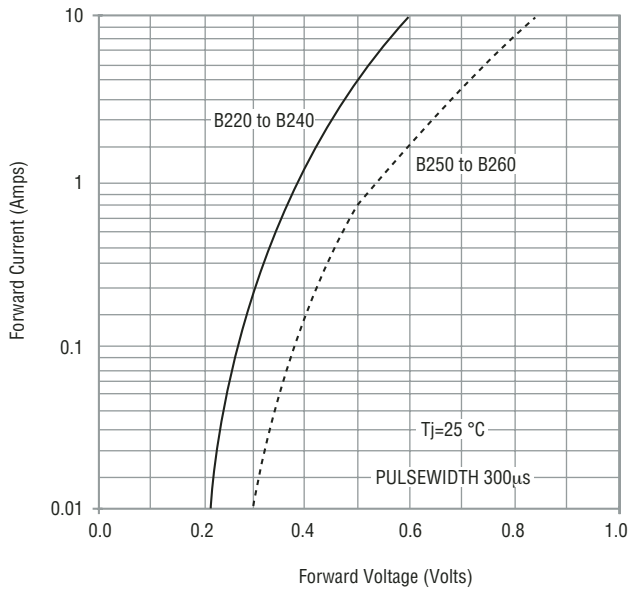
CD214A-B220 **B** 220
 CD214A-B230 **B** 230
 CD214A-B240 **B** 240
 CD214A-B240L **B** 240L
 CD214A-B250 **B** 250
 CD214A-B260 **B** 260

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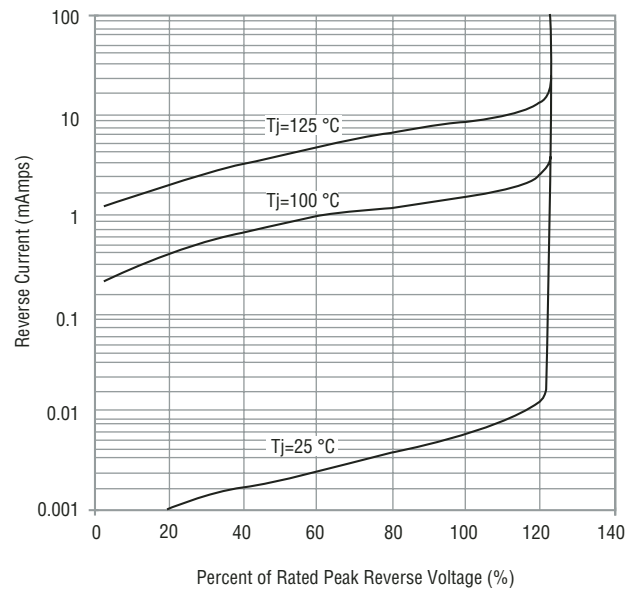


Rating and Characteristic Curves: CD214A-B220, CD214A-B230, CD214A-B240, CD214A-B250 & CD214A-B260

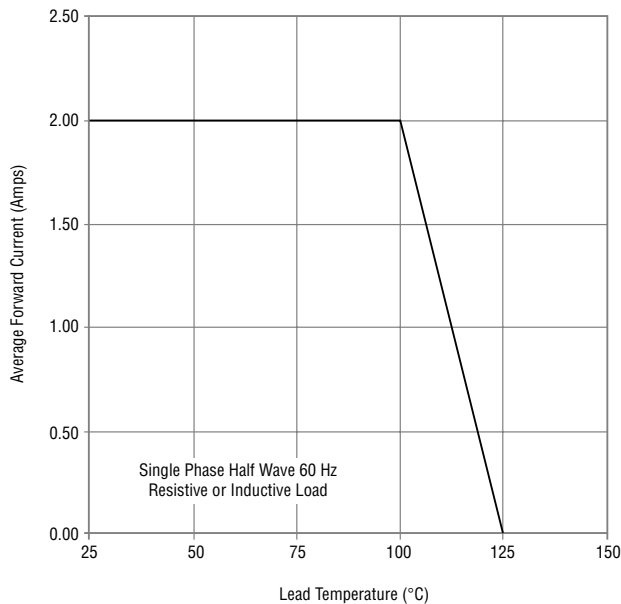
Forward Characteristics



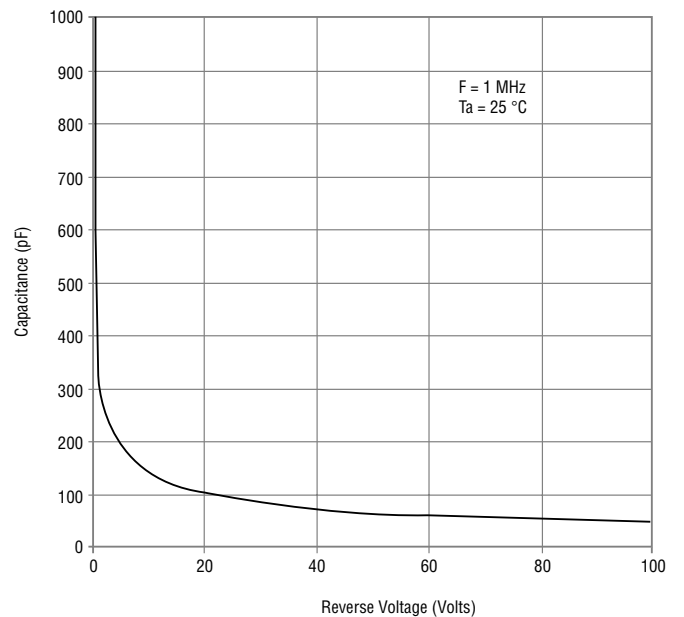
Reverse Characteristics



Derating Curve



Capacitance Between Terminals



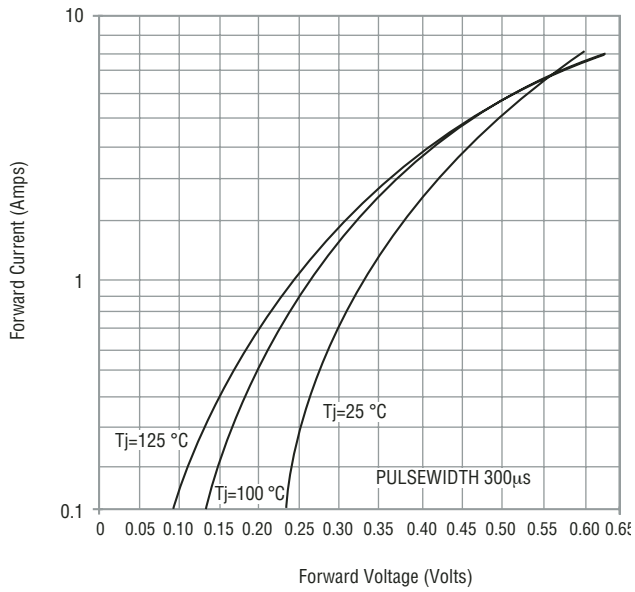
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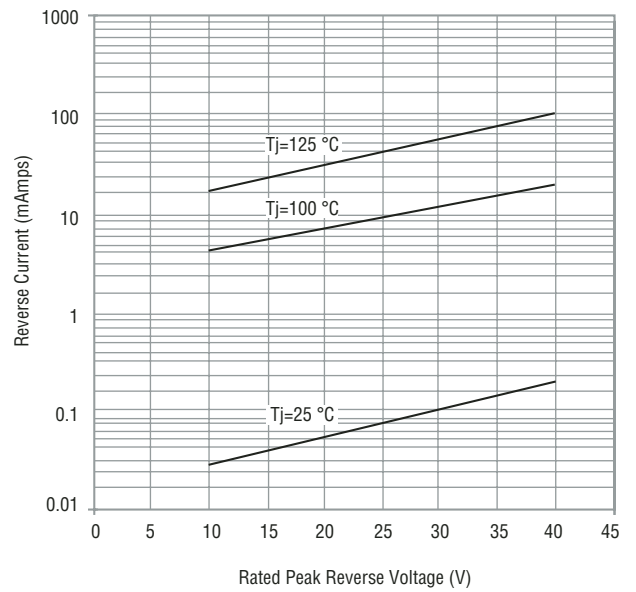


Rating and Characteristic Curves: CD214A-B240L

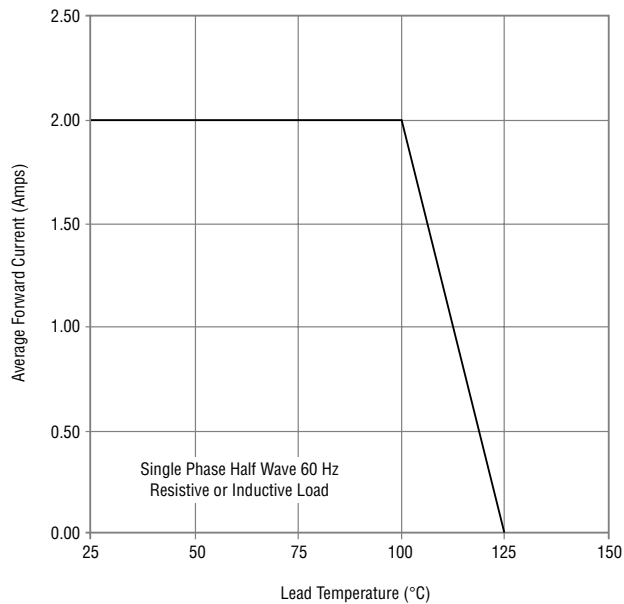
Forward Characteristics



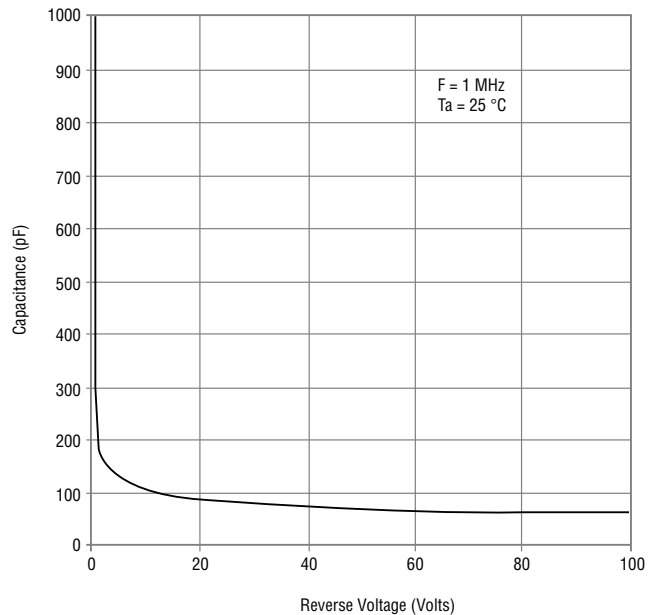
Reverse Characteristics



Derating Curve



Capacitance Between Terminals

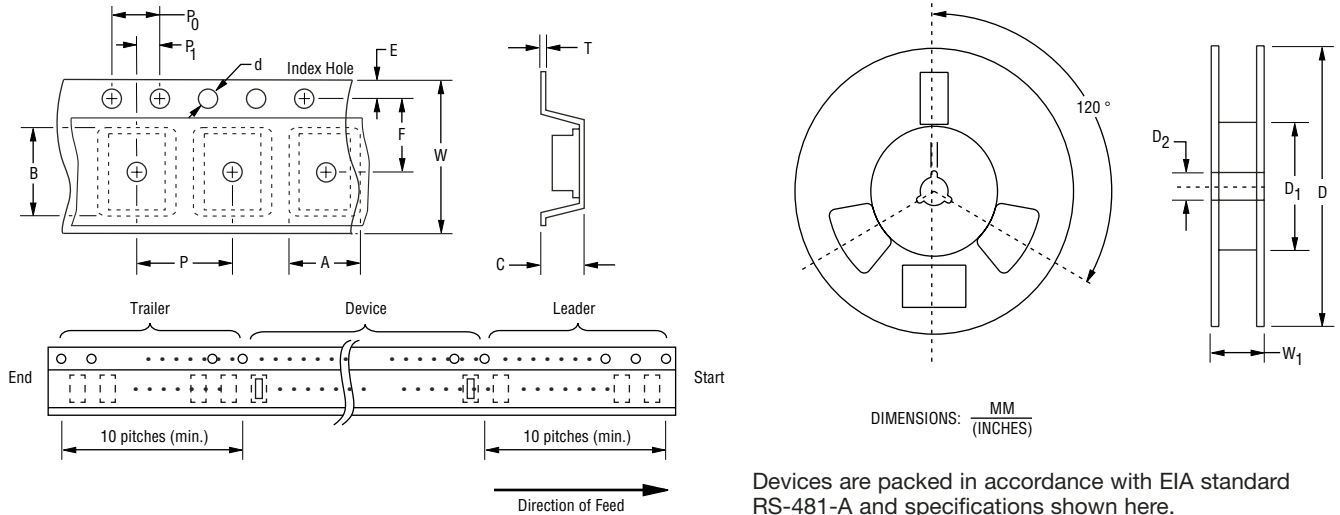


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Packaging Information

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



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

Item	Symbol	SMA (DO-214AC)
Carrier Width	A	$\frac{2.90 \pm 0.10}{(0.114 - 0.004)}$
Carrier Length	B	$\frac{5.59 \pm 0.10}{(0.220 - 0.004)}$
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	$\frac{50.0}{(1.969)}$ 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	$\frac{18.4}{(0.724)}$ MAX.
Quantity per Reel	--	5,000

REV. 02/05

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