

Features

- RoHS compliant*
- SMA package
- Surface mount
- Very low forward voltage drop



The Model CD214A-B2xR Series is the recommended replacement.

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, are easy to handle on standard pick and place equipment and their flat configuration minimizes roll away.

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 VDC.

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.

How to Order

CD 214A - B 2 40 L LF

Common Code	_____	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 (Applies to -B240L only)	_____	L = Low Forward Voltage V_f (-B240L only) No Space in P/N = Not Low Forward Voltage
Terminations	_____	LF = 100 % Sn (RoHS Compliant*)

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*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

Specifications are subject to change without notice.

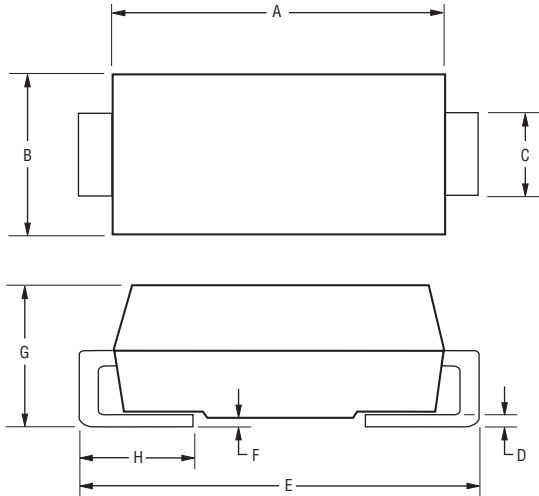
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

CD214A-B220 ~ B260 Schottky Barrier Rectifier Chip Diode



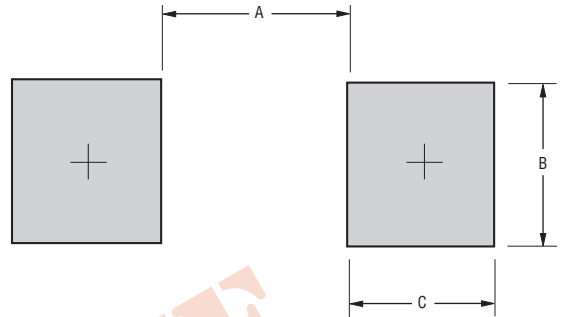
Product Dimensions



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	$\frac{2.90}{(0.114)}$
B	$\frac{2.40}{(0.094)}$
C	$\frac{2.30}{(0.091)}$

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

Physical Specifications

Case Molded plastic
 Polarity Indicated by cathode band
 Weight 0.002 ounces / 0.064 grams

Typical Part Marking

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

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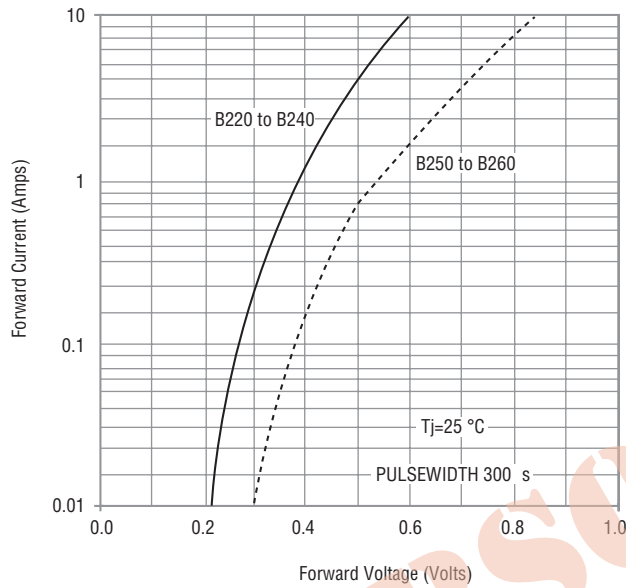
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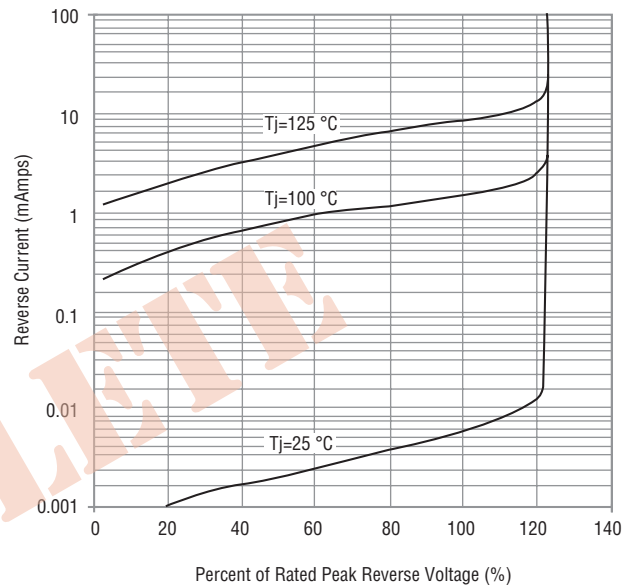
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Rating and Characteristic Curves: CD214A-B220, CD214A-B230, CD214A-B240, CD214A-B250 & CD214A-B260

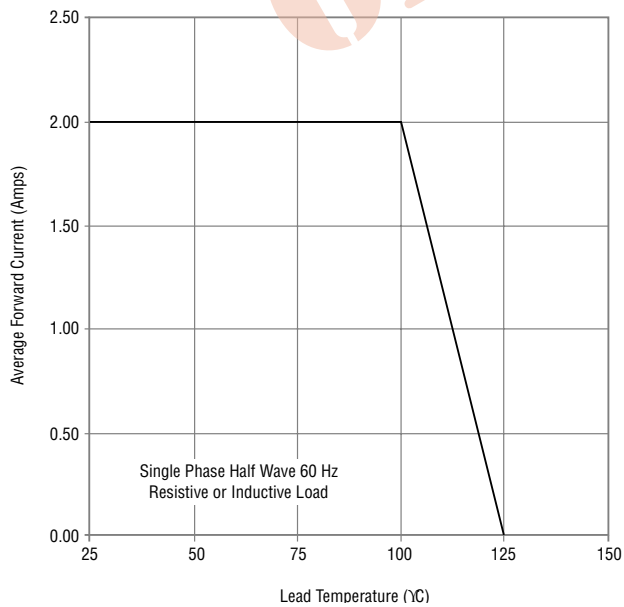
Forward Characteristics



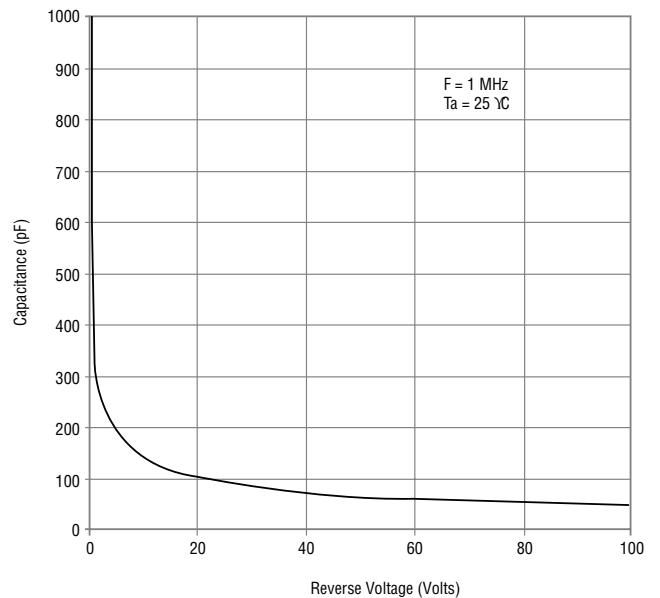
Reverse Characteristics



Derating Curve



Capacitance Between Terminals



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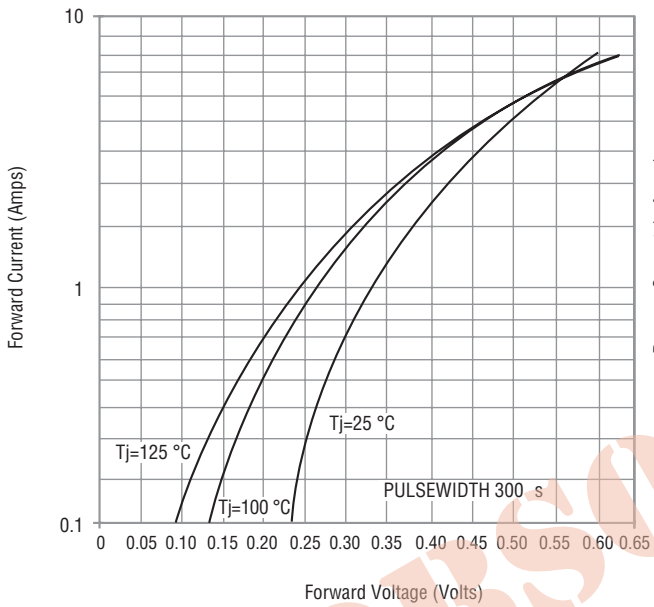
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CD214A-B220 ~ B260 Schottky Barrier Rectifier Chip Diode

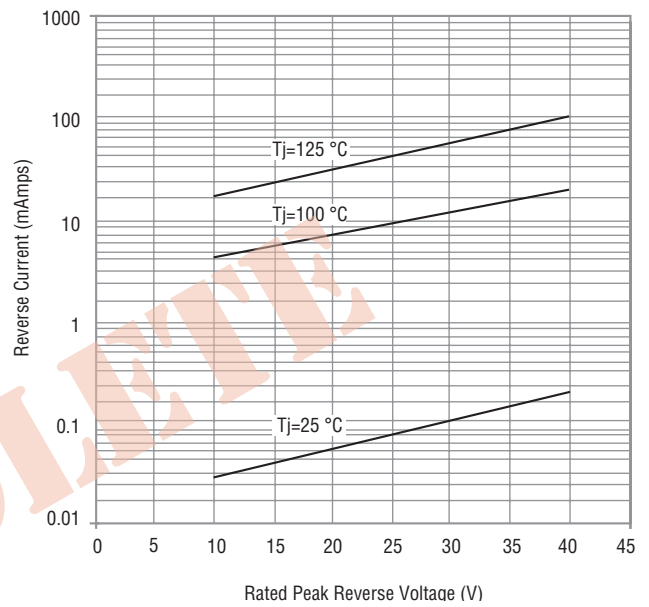


Rating and Characteristic Curves: CD214A-B240L

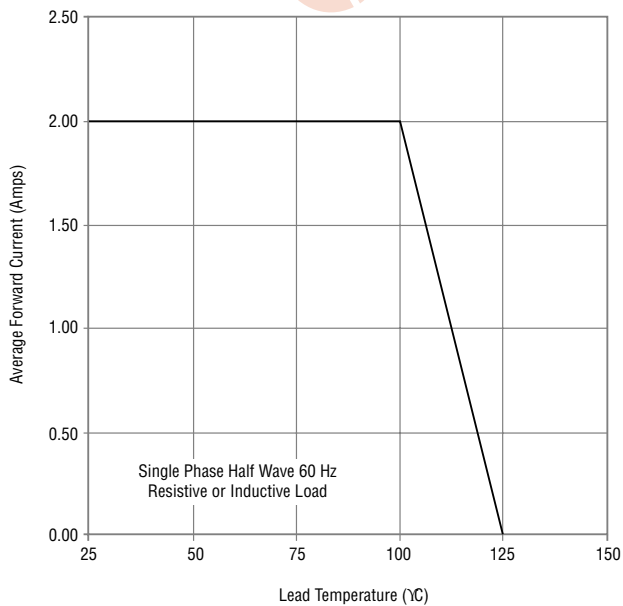
Forward Characteristics



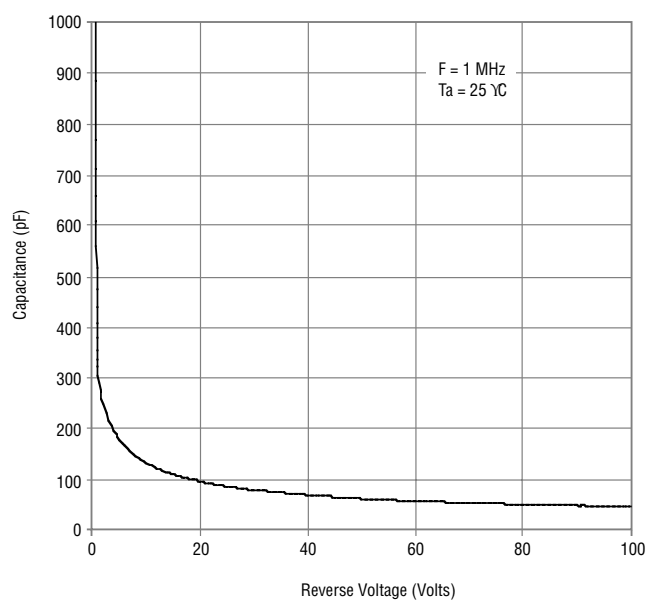
Reverse Characteristics



Derating Curve



Capacitance Between Terminals



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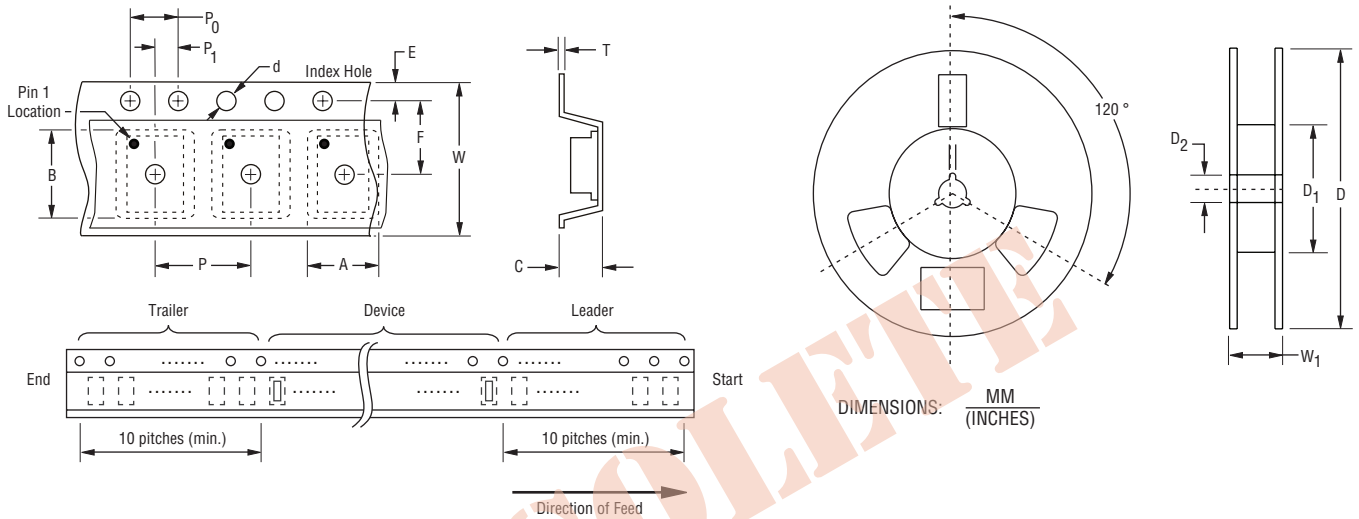
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Packaging Information

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



Item	Symbol	SMA (DO-214AC)
Carrier Width	A	$\frac{2.90 \pm 0.10}{(0.114 \pm 0.004)}$
Carrier Length	B	$\frac{5.59 \pm 0.10}{(0.220 \pm 0.004)}$
Carrier Depth	C	$\frac{2.36 \pm 0.10}{(0.093 \pm 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$
Reel Outside Diameter	D	$\frac{3.30}{(12.992)}$
Reel Inner Diameter	D ₁	$\frac{50.0}{(1.969)}$ MIN.
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$
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	$\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$
Overall Tape Thickness	T	$\frac{0.30 \pm 0.10}{(0.012 \pm 0.004)}$
Tape Width	W	$\frac{12.00 \pm 0.20}{(0.472 \pm 0.008)}$
Reel Width	W ₁	$\frac{18.4}{(0.724)}$ MAX.
Quantity per Reel	--	5,000

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

REV. 01/18

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