



Features

- RoHS compliant*
- 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 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 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	$^\circ\text{C/W}$
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

Common Code CD 214A - B 2 40 L LF

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)

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

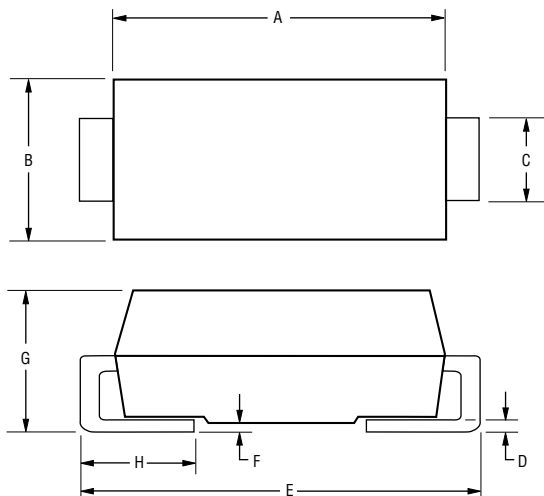
Specifications are subject to change without notice.

Customers should verify actual device performance in their specific applications.

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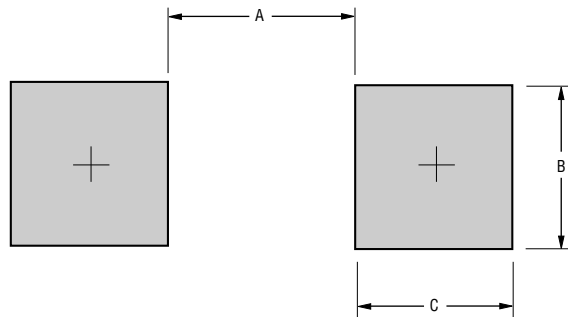
Product Dimensions



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

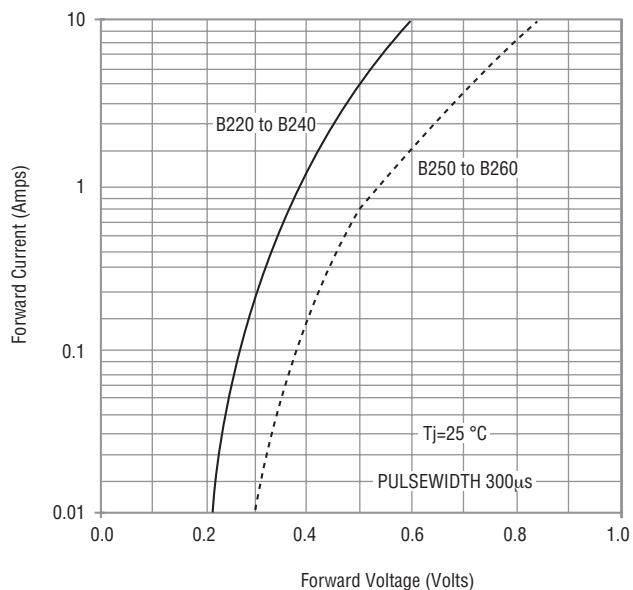
CD214A-B220 **B** 220A
CD214A-B230 **B** 230A
CD214A-B240 **B** 240A
CD214A-B240L **B** 240LA
CD214A-B250 **B** 250A
CD214A-B260 **B** 260A

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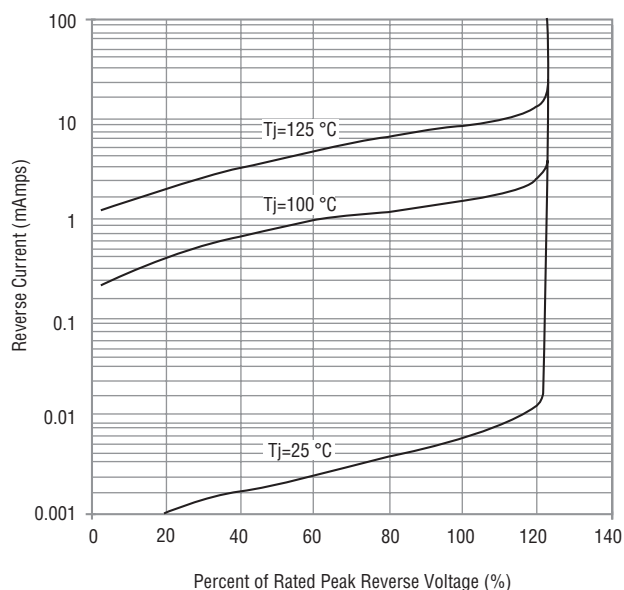
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Rating and Characteristic Curves: CD214A-B220, CD214A-B230, CD214A-B240, CD214A-B250 & CD214A-B260

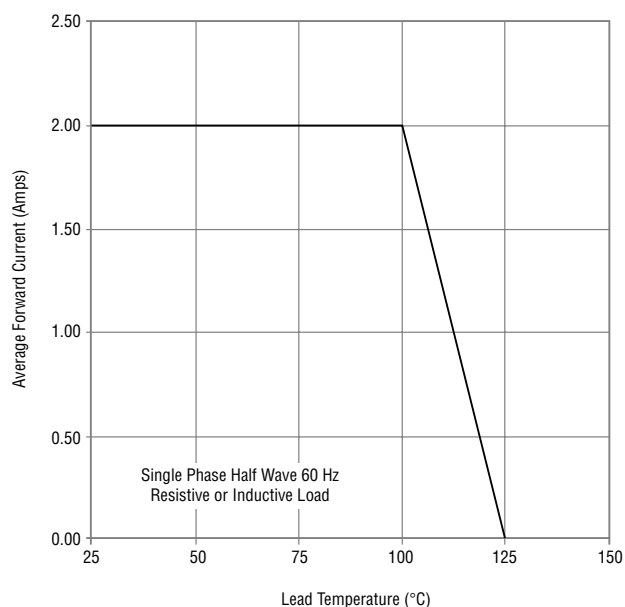
Forward Characteristics



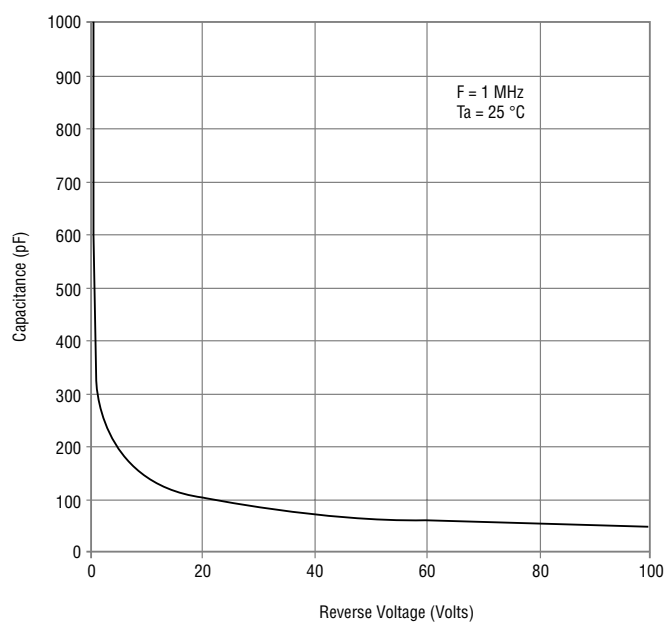
Reverse Characteristics



Derating Curve



Capacitance Between Terminals

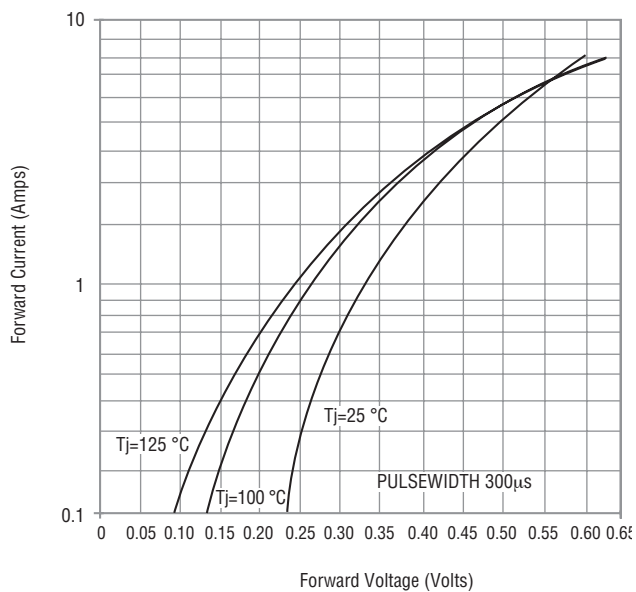


CD214A-B220 ~ B260 Schottky Barrier Rectifier Chip Diode

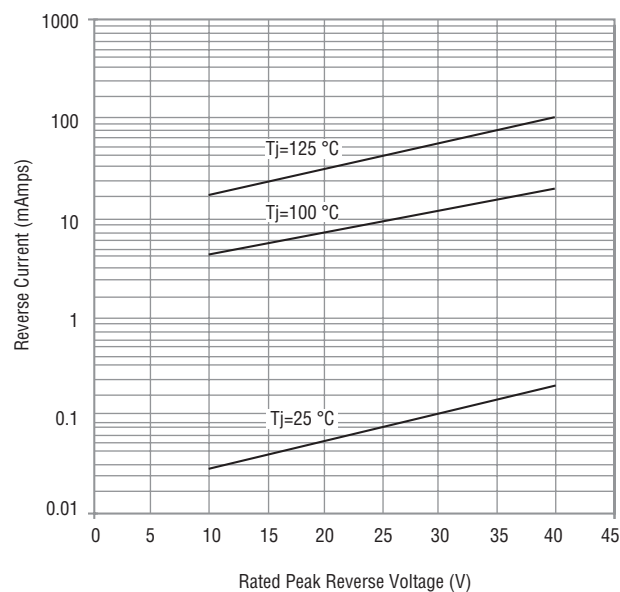
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Rating and Characteristic Curves: CD214A-B240L

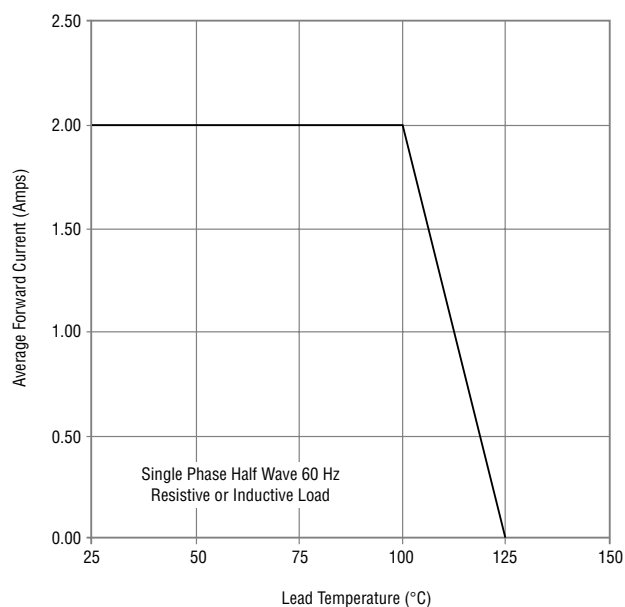
Forward Characteristics



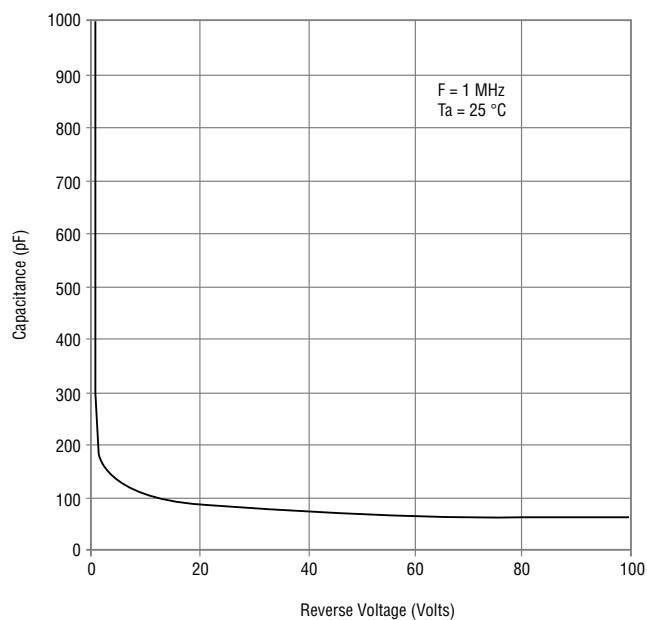
Reverse Characteristics



Derating Curve



Capacitance Between Terminals

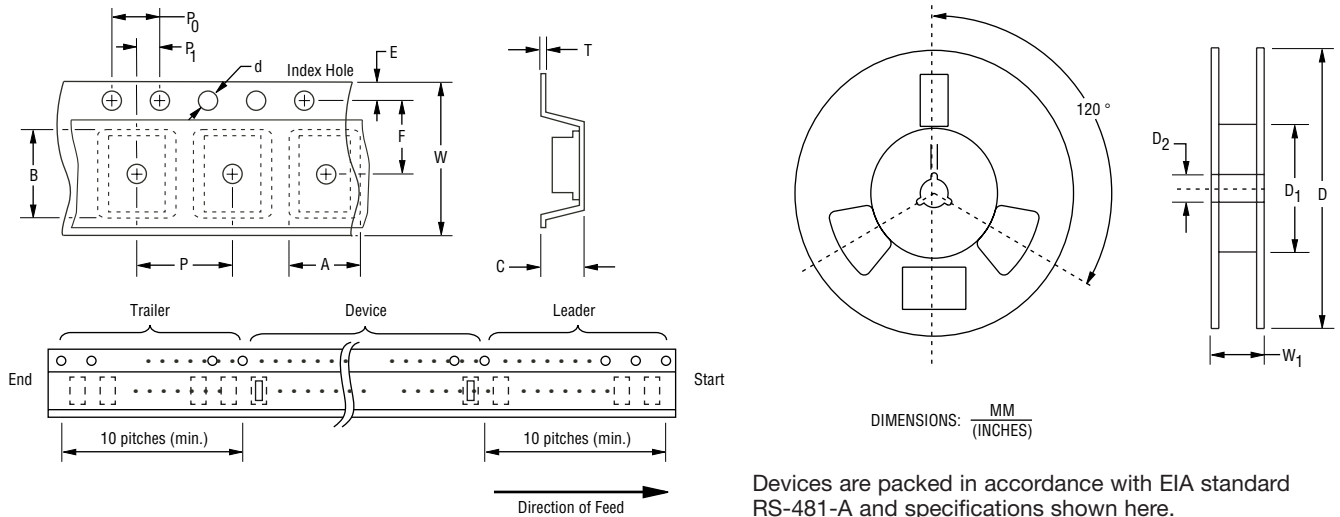


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Packaging Information

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



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	$\frac{50.0}{(1.969)} \text{ MIN.}$
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	--	5,000

REV. 06/11

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