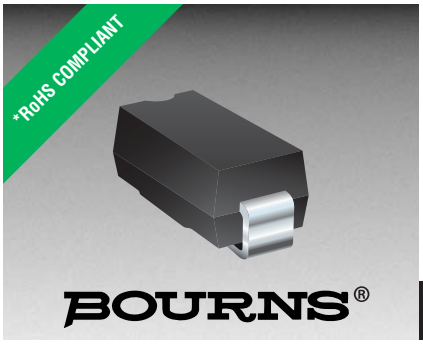



## Features

- 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 °C Unless Otherwise Noted)

| Parameter | Symbol | CD214A- | | | | | | Unit |
|---|---|---|---|---|---|---|---|---|
| | | B220 | B230 | B240 | B240L | B250 | B260 | |
| Forward Voltage (Max.) ($I_f$ = 2 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 °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 | °C/W |
| Storage Temperature | $T_{STG}$ | -55 to +150 | | | | | | °C |
| Junction Temperature | $T_J$ | -55 to +125 | | | | | | °C |

** Thermal resistance junction to lead.

## How To Order

**CD 214A - B 2 40 L LF**

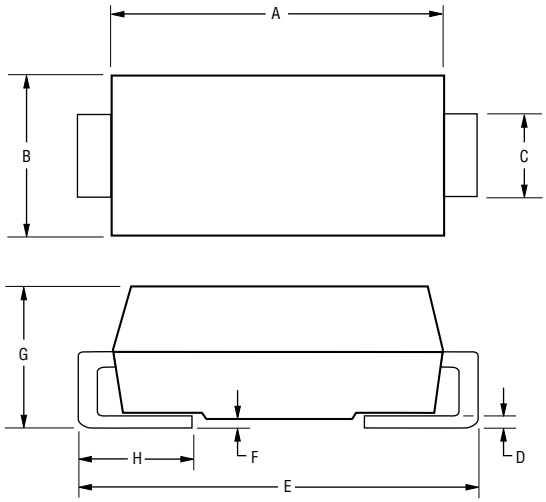
- Common Code
  - Chip Diode
- Package
  - • 214A = SMA/DO-214AC
- Model
  - B = Schottky Barrier Series
- Average Forward Current ($I_O$) Code
  - 2 = 2 A (Code x 1000 mA = Average Forward Current)
- Reverse Voltage ($V_R$) Code
  - 30 = 30 V
  - 40 = 40 V
  - 60 = 60 V
- Forward Voltage Suffix (Applies 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)

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

# CD214A-B220 ~ B260 Schottky Barrier Rectifier Chip Diode

BOURNS®

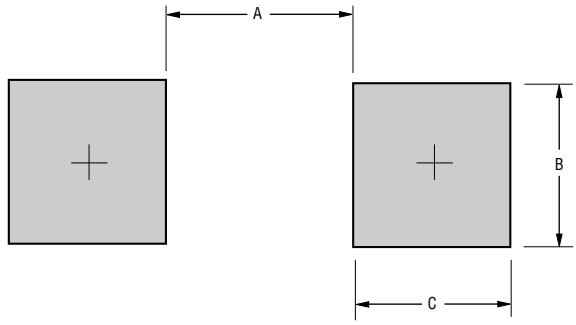
## Product Dimensions




| Dimension | SMA (DO-214AC) |
|---|---|
| A | 4.06 - 4.57 (0.160 - 0.180) |
| B | 2.29 - 2.92 (0.090 - 0.115) |
| C | 1.27 - 1.63 (0.050 - 0.064) |
| D | 0.15 - 0.31 (0.006 - 0.110) |
| E | 4.83 - 5.59 (0.190 - 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




| Dimension | SMA (DO-214AC) |
|---|---|
| A (Max.) | 2.69 (0.106) |
| B (Min.) | 2.10 (0.083) |
| C (Min.) | 1.27 (0.050) |

DIMENSIONS: MM / (INCHES)

## Physical Specifications

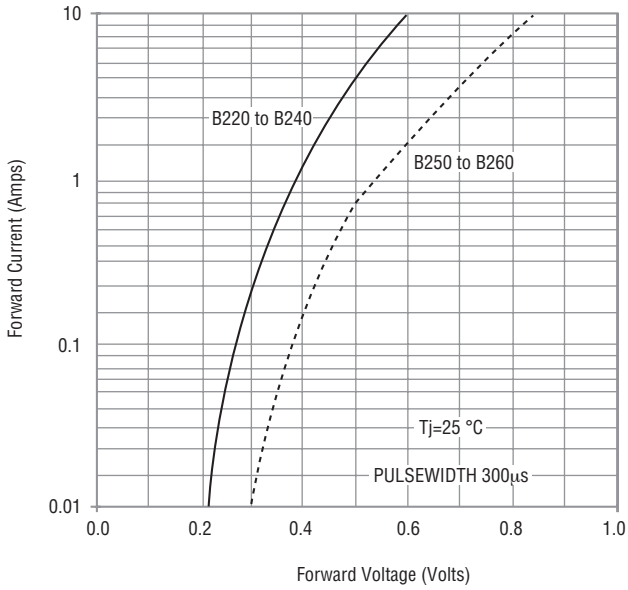
Case .....Molded plastic
Polarity .....Indicated by cathode band
Weight .....0.002 ounces / 0.064 grams

## Typical Part Marking

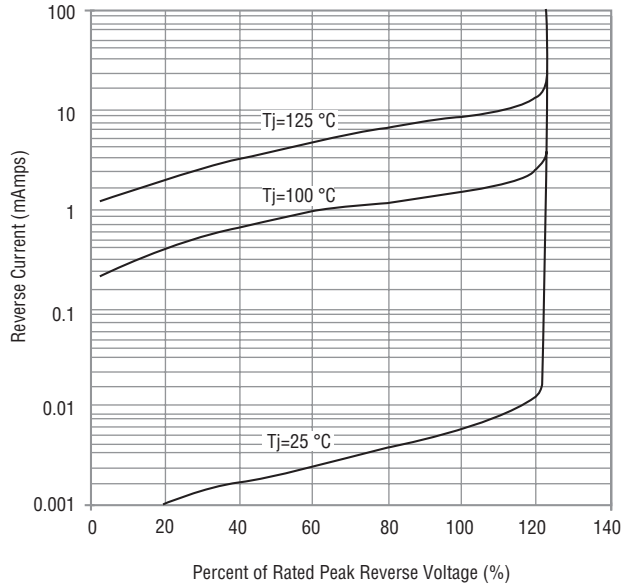
CD214A-B220 ..... B 220A
CD214A-B230 ..... B 230A
CD214A-B240 ..... B 240A
CD214A-B240L ..... B 240LA
CD214A-B250 ..... B 250A
CD214A-B260 ..... B 260A

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

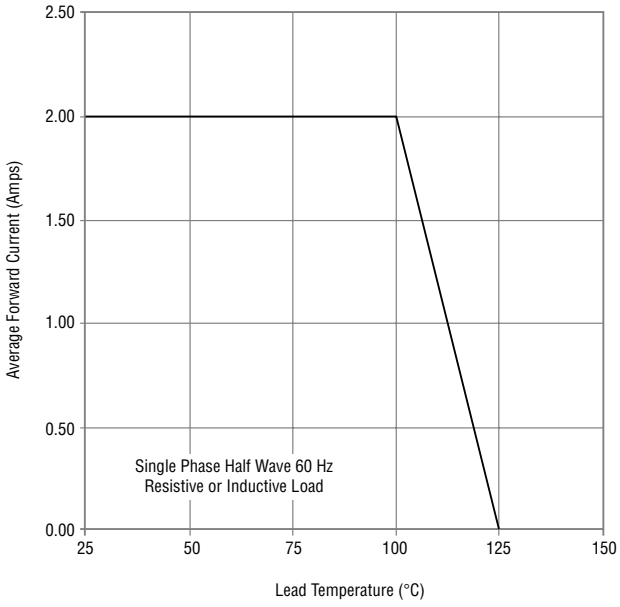
### Forward Characteristics



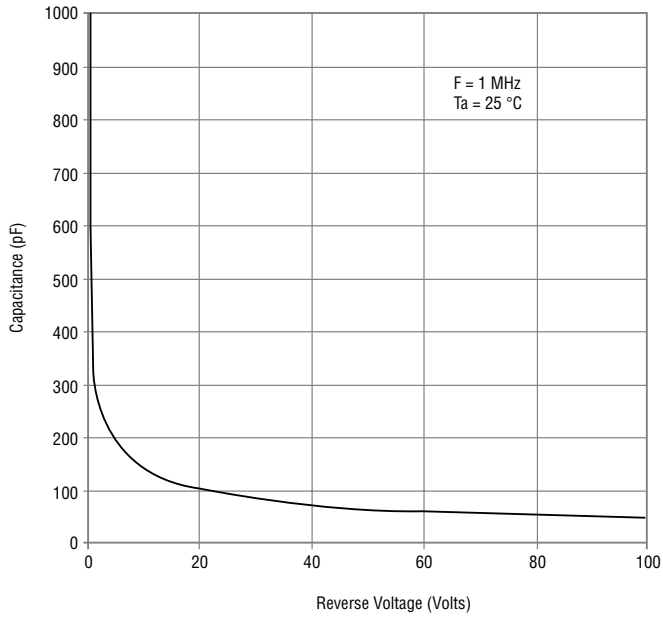

### Reverse Characteristics




### Derating Curve

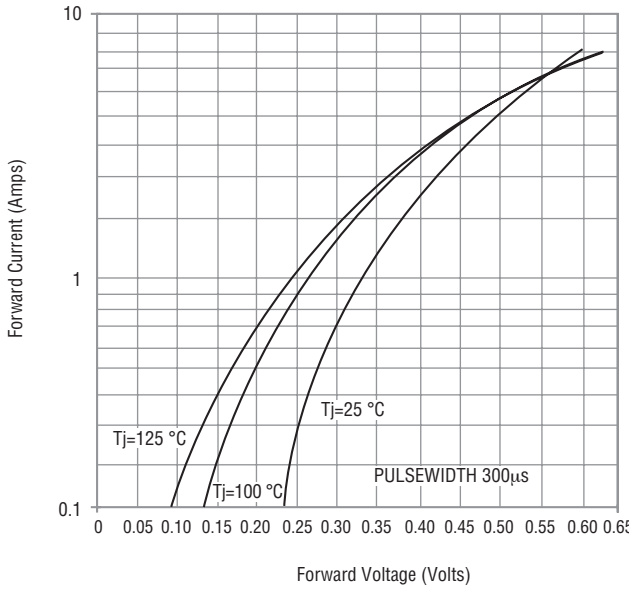



### Capacitance Between Terminals

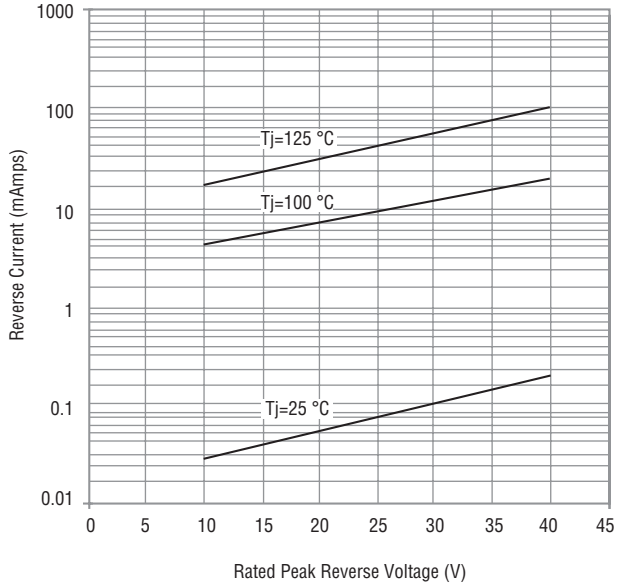


## Rating and Characteristic Curves: CD214A-B240L

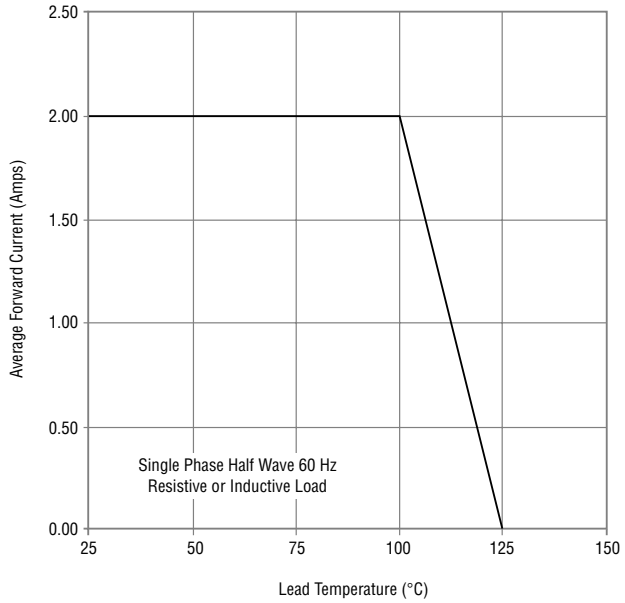
### Forward Characteristics



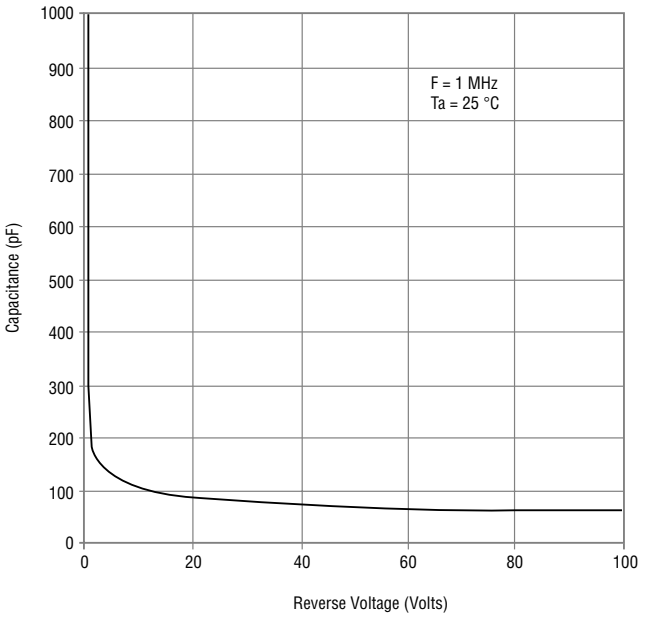

### Reverse Characteristics




### Derating Curve

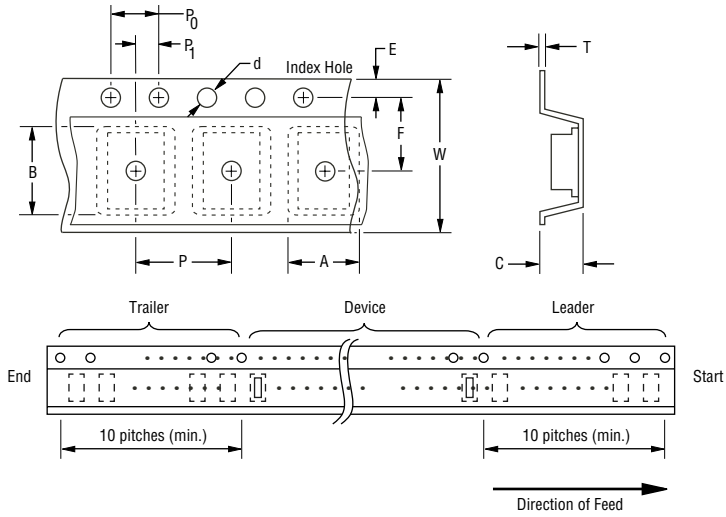


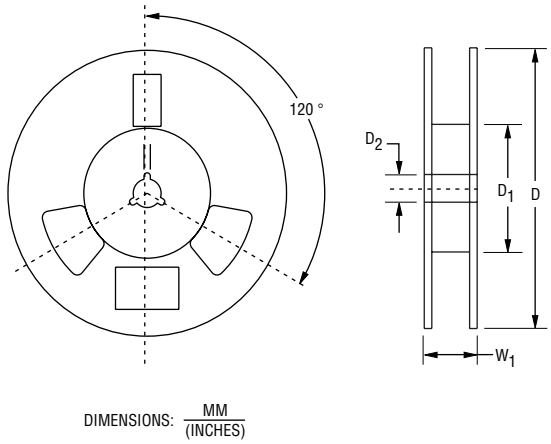

### Capacitance Between Terminals



## 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 | SMA (DO-214AC) |
|---|---|---|
| Carrier Width | A | 2.90 ± 0.10 (0.114 - 0.004) |
| Carrier Length | B | 5.59 ± 0.10 (0.220 - 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 | -- | 5,000 |

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