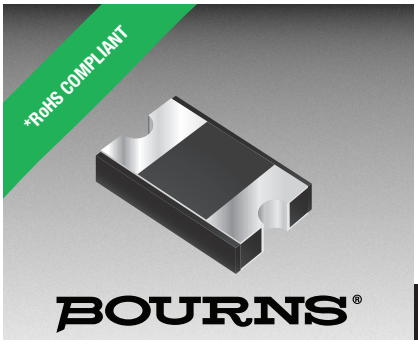



## Features

- RoHS compliant*
- Low profile
- Low power loss, high efficiency
- UL 94V-0 classification

## Applications

- Switch Mode Power Supplies
- Portable equipment batteries
- High frequency rectification
- DC/DC Converters
- Telecommunications

# CD214B-B2xR Series Schottky Barrier Rectifier Chip Diode

## General Information

Portable communications, computing and video equipment manufacturers are challenging the semiconductor industry to develop increasingly smaller electronic components.



Bourns offers Schottky Rectifier Diodes for rectification applications, in a compact chip package compatible with DO-214AA (SMB) 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 100 V.

## Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

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

| Parameter | Symbol | CD214B- | | | | Unit |
|---|---|---|---|---|---|---|
| | | B220R | B240R | B260R | B2100R | |
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 20 | 40 | 60 | 100 | V |
| Maximum Average Forward Current | $I_{F(AV)}$ | 2 | | | | A |
| Maximum Peak Forward Surge Current (8.3 ms Single Half Sine-Wave) | $I_{FSM}$ | 50 | | | | A |
| Operating Junction Temperature Range | $T_{OPR}$ | -55 to +125 | | -55 to +150 | | °C |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | | | | °C |

## Electrical Characteristics (@ $T_A$ = 25 °C Unless Otherwise Noted)

| Parameter | | Symbol | Condition or Model | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|---|
| Maximum Instantaneous Forward Voltage (NOTE 1) | | $V_F$ | $I_F$ = 1 A | CD214B-B220R CD214B-B240R | | 0.41 | | V |
| | | | | CD214B-B260R | | 0.5 | | |
| | | | | CD214B-B2100R | | 0.62 | | |
| | | | $I_F$ = 2 A | CD214B-B220R CD214B-B240R | | 0.49 | 0.5 | |
| | | | | CD214B-B260R | | 0.6 | 0.7 | |
| | | | | CD214B-B2100R | | 0.75 | 0.85 | |
| DC Reverse Current | | $I_R$ | $V_R = V_{RRM}$ | | | 0.025 | 0.2 | mA |
| Typical Junction Capacitance | | $C_J$ | $V_R$ = 4 V, f = 1.0 MHz | | | 115 | | pF |
| Typical Thermal Resistance (NOTE 2) | Junction to Ambient | $R_{\theta JA}$ | | | | 65 | | °C/W |
| | Junction to Lead | $R_{\theta JL}$ | | | | 17 | | |

NOTES:

(1) Pulse width 300 microsecond, 1 % duty cycle.

(2) Mounted on PCB with 5.0 x 5.0 mm (0.2 x 0.2 inch) copper pad areas.

**WARNING Cancer and Reproductive Harm**
www.P65Warnings.ca.gov

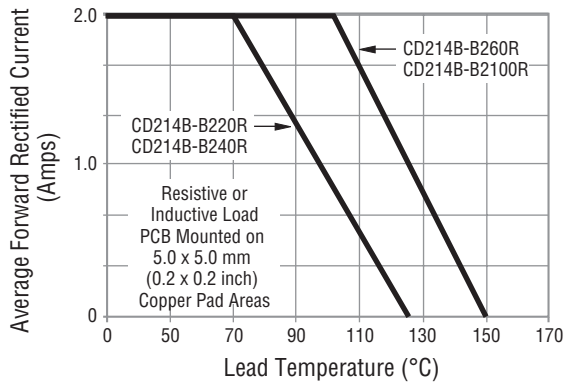
*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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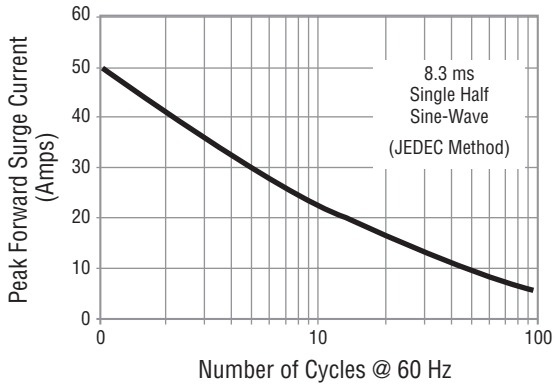
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## Performance Graphs

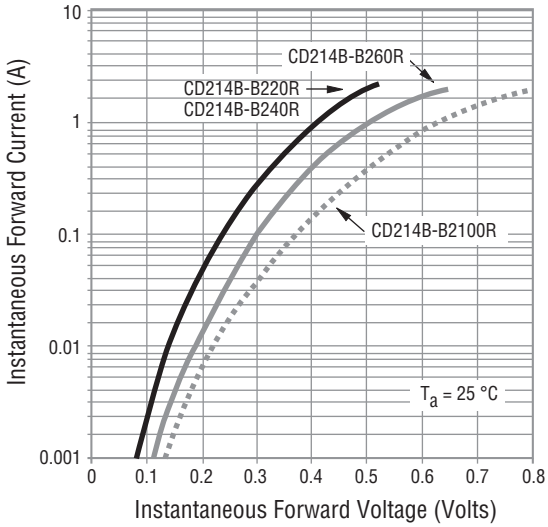
### Forward Current Derating Curve



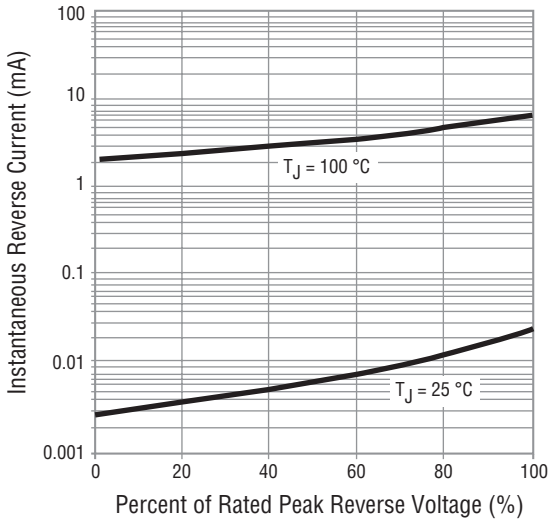

### Max. Peak Forward Surge Current



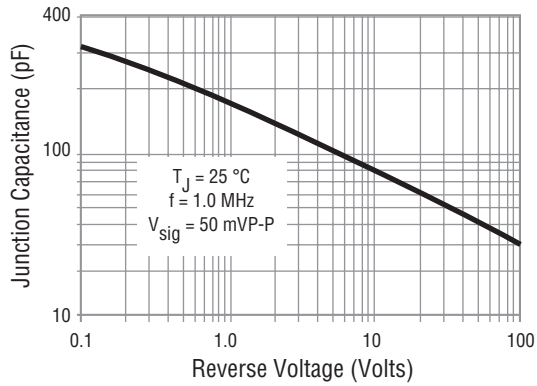

### Typical Instantaneous Forward Characteristics




### Typical Reverse Characteristics



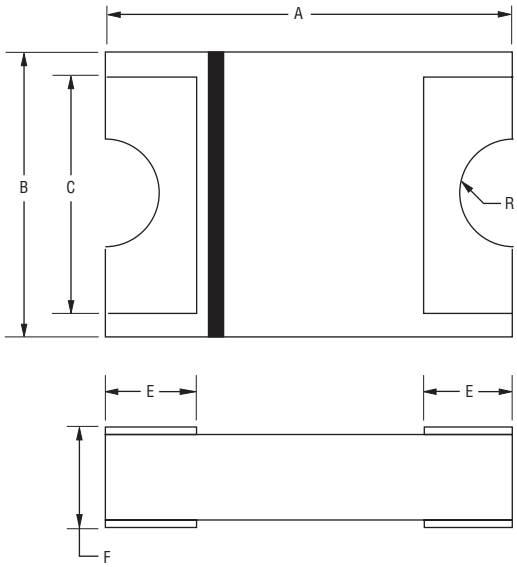

### Typical Junction Capacitance




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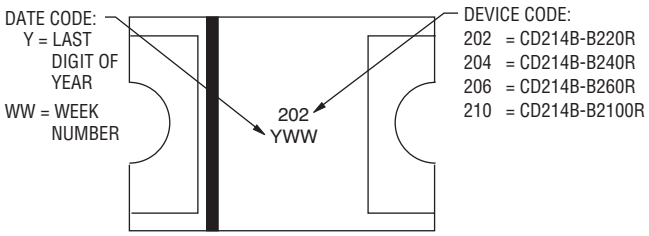
## Product Dimensions



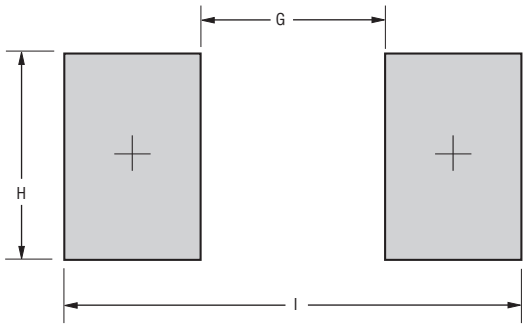

| Dimension | CD214B-B2 Series |
|---|---|
| A | 5.20 ± 0.10 (0.205 ± 0.004) |
| B | 3.60 ± 0.10 (0.142 ± 0.004) |
| C | 3.01 (0.119) TYP. |
| R (Radius) | 0.695 (0.027) TYP. |
| E | 1.15 ± 0.1 (0.045 ± 0.004) |
| F | 1.10 ± 0.15 (0.043 ± 0.006) |

DIMENSIONS: MM (INCHES)

## Typical Part Marking




## Recommended Pad Layout




| Dimension | CD214B-B2 Series |
|---|---|
| G | 2.65 (0.104) MAX. |
| H | 3.00 (0.118) MIN. |
| I | 6.65 (0.262) REF. |

DIMENSIONS: MM (INCHES)

## Environmental Specifications

Moisture Sensitivity Level ..... 1
ESD Classification (HBM) ..... 3B

## How to Order

**CD 214B - B 2 20 R**

Common Code
CD = Chip Diode

Package
214B = SMB/DO-214AA Compatible

Model
B = Schottky Barrier Series

Maximum Average Forward Rectified Current
2 = 2 A

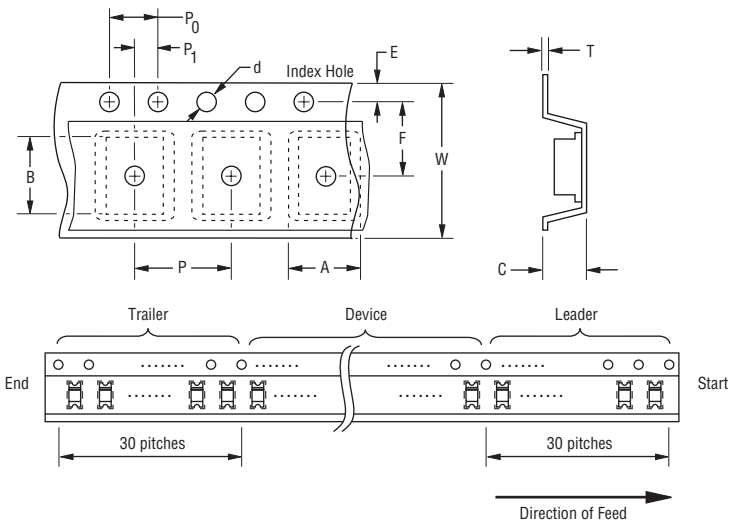
Maximum Repetitive Peak Reverse Voltage
20 = 20 V
40 = 40 V
60 = 60 V
100 = 100 V

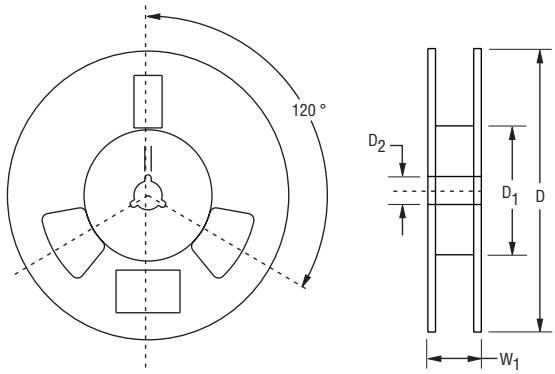
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## Packaging Information

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




DIMENSIONS: MM / (INCHES)

| Item | Symbol | CD214B-B2 Series |
|---|---|---|
| Carrier Width | A | 3.70 ± 0.10 (0.146 ± 0.004) |
| Carrier Length | B | 5.40 ± 0.10 (0.213 ± 0.004) |
| Carrier Depth | C | 1.65 ± 0.10 (0.065 ± 0.004) |
| Sprocket Hole | d | 1.50 ± 0.10 (0.059 ± 0.004) |
| Reel Outside Diameter | D | 330 ± 2.0 (12.992 ± 0.079) |
| Reel Inner Diameter | $D_1$ | 50.0 (1.969) MIN. |
| Feed Hole Diameter | $D_2$ | 13.0 ± 0.50 (0.512 ± 0.020) |
| 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 | 8.00 ± 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 ± 0.10 (0.079 ± 0.004) |
| Overall Tape Thickness | T | 0.40 (0.016) MAX. |
| Tape Width | W | 12.00 ± 0.30 (0.472 ± 0.012) |
| Reel Width | $W_1$ | 18.7 (0.736) MAX. |
| Quantity per Reel | -- | 5,000 |

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