**Features**
- RoHS compliant*
- Low profile
- Surface mount
- Very low forward voltage drop

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**CD216A-B120L-B140 MITE 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 DO-216AA size chip package formats, which offer PCB real estate savings and are considerably smaller than competitive parts. The Schottky Barrier Rectifier Diodes offer a forward current of 1 A with a choice of repetitive peak reverse voltage of 20 V up to 40 V.

Bourns® Chip Diodes conform to JEDEC standards, are easy to handle with standard pick and place equipment and their flat configuration minimizes roll away.

**Electrical Characteristics (@ TA = 25 °C Unless Otherwise Noted)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>CD216-</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Voltage (Max.) (I_T = 1 A)</td>
<td>V_F</td>
<td>B120L</td>
<td>B120R</td>
</tr>
<tr>
<td>Typical Junction Capacitance**</td>
<td>C_T</td>
<td>90</td>
<td>75</td>
</tr>
<tr>
<td>Reverse Current (Max.) ( @ Rated V_R)</td>
<td>I_R</td>
<td>400</td>
<td>10</td>
</tr>
</tbody>
</table>

**Absolute Ratings (@ TA = 25 °C Unless Otherwise Noted)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>CD216-</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetitive Peak Reverse Voltage</td>
<td>V_RRM</td>
<td>B120L</td>
<td>B120R</td>
</tr>
<tr>
<td>DC Blocking Voltage</td>
<td>V_DO</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>RMS Voltage</td>
<td>V_RMS</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Average Forward Current @ T_L = 130 °C</td>
<td>I_O</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Peak Forward Surge Current***</td>
<td>I_FSM</td>
<td>0.34</td>
<td>0.455</td>
</tr>
<tr>
<td>Max. Instantaneous Forward Voltage****</td>
<td>V_F</td>
<td>0.45</td>
<td>0.53</td>
</tr>
<tr>
<td>Max. Instantaneous Reverse Current</td>
<td>I_R</td>
<td>0.4</td>
<td>0.0100</td>
</tr>
<tr>
<td>@ V_R = 40 V</td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ V_R = 30 V</td>
<td>0.0010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ V_R = 20 V</td>
<td>0.0005</td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ V_R = 10 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>@ V_R = 5 V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal Resistance</td>
<td>R_QJL</td>
<td>35</td>
<td>°C/W</td>
</tr>
<tr>
<td>Junction to Lead (Anode)</td>
<td>R_QJTAB</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Junction to Cathode</td>
<td>R_QJA</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>Junction to Ambient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>T_STG</td>
<td>-55 to +150</td>
<td>°C</td>
</tr>
<tr>
<td>Junction Temperature</td>
<td>T_J</td>
<td>-55 to +125</td>
<td>°C</td>
</tr>
</tbody>
</table>

*Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.

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**WARNING** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Users should verify actual device performance in their specific applications.

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CD216A-B120L~B140 MITE Chip Diode

Product Dimensions

Recommended Pad Layout

Physical Specifications

Typical Part Marking

How to Order

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CD216A-B120L~B140 MITE Chip Diode

Rating & Characteristic Curves: CD216A-B120L

**Forward Characteristics**

![Forward Characteristics Graph]

**Reverse Characteristics**

![Reverse Characteristics Graph]

**Derating Curve**

![Derating Curve Graph]

**Capacitance Between Terminals**

![Capacitance Between Terminals Graph]

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**OBSOLETE**
CD216A-B120L~B140 MITE Chip Diode

Rating & Characteristic Curves: CD216A-B120R

**Forward Characteristics**

- **Forward Current (Amps):** 0.2, 0.4, 0.6, 0.8
- **Forward Voltage (Volts):** Ta = 25 °C, Pulsed width: 300 μs, 1000 μs

**Reverse Characteristics**

- **Reverse Current (µA):** 0, 5, 10, 15, 20, 25
- **Reverse Voltage (Volts):** Ta = 25 °C, 100 °C, 125 °C

**Derating Curve**

- **Average Forward Current (Amps):** 0.00, 0.02, 0.05, 0.25, 0.75, 1.00, 1.25
- **Load Temperature (°C):** 25, 50, 75, 100, 125, 150

**Capacitance Between Terminals**

- **Capacitance (pF):** 0, 25, 50, 75, 100, 125, 150
- **Reverse Voltage (Volts):** F = 1 MHz, Ta = 25 °C

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Rating & Characteristic Curves: CD216A-B130L

**Forward Characteristics**

- Forward Current (Amps): 0, 0.2, 0.4, 1
- Forward Voltage (Volts): 0.6, 0.8, 1
- Ta = 25 °C
- Pulsewidth: 300 µs

**Reverse Characteristics**

- Reverse Current (µA): 0, 5, 10, 15, 20, 35
- Reverse Voltage (Volts): 25, 30
- Ta = 25 °C
- 100 °C
- 125 °C

**Derating Curve**

- Average Forward Current (Amps)
- Lead Temperature (°C): 25, 50, 75, 100, 125, 150
- Single Phase Half Wave 60 Hz
- Resistive or Inductive Load

**Capacitance Between Terminals**

- Capacitance (pF)
- F = 1 MHz
- Ta = 25 °C

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CD216A-B120L~B140 MITE Chip Diode

Rating & Characteristic Curves: CD216A-B140

Forward Characteristics

Reverse Characteristics

Derating Curve

Capacitance Between Terminals

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CD216A-B120L~B140 MITE Chip Diode

Packaging Information

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

<table>
<thead>
<tr>
<th>Item</th>
<th>Symbol</th>
<th>DO-216AA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carrier Width</td>
<td>A</td>
<td>2.90 ± 0.10 (0.114 ± 0.004)</td>
</tr>
<tr>
<td>Carrier Length</td>
<td>B</td>
<td>5.30 ± 0.10 (0.209 ± 0.004)</td>
</tr>
<tr>
<td>Carrier Depth</td>
<td>C</td>
<td>1.37 ± 0.10 (0.054 ± 0.004)</td>
</tr>
<tr>
<td>Sprocket Hole Position</td>
<td>D</td>
<td>1.55 ± 0.05 (0.061 ± 0.002)</td>
</tr>
<tr>
<td>Reel Outside Diameter</td>
<td>D</td>
<td>178</td>
</tr>
<tr>
<td>Reel Inner Diameter</td>
<td>D₁</td>
<td>75.0 MIN. (2.953)</td>
</tr>
<tr>
<td>Feed Hole Diameter</td>
<td>D₂</td>
<td>13.0 ± 0.20 (0.512 ± 0.008)</td>
</tr>
<tr>
<td>Sprocket Hole Position</td>
<td>E</td>
<td>1.75 ± 0.10 (0.069 ± 0.004)</td>
</tr>
<tr>
<td>Punch Hole Position</td>
<td>F</td>
<td>5.50 ± 0.05 (0.217 ± 0.002)</td>
</tr>
<tr>
<td>Punch Hole Pitch</td>
<td>P</td>
<td>4.00 ± 0.10 (0.157 ± 0.004)</td>
</tr>
<tr>
<td>Sprocket Hole Pitch</td>
<td>P₀</td>
<td>4.00 ± 0.10 (0.157 ± 0.004)</td>
</tr>
<tr>
<td>Embossment Center</td>
<td>P₁</td>
<td>2.00 ± 0.05 (0.079 ± 0.002)</td>
</tr>
<tr>
<td>Overall Tape Thickness</td>
<td>T</td>
<td>0.40 ± 0.10 (0.016 ± 0.004)</td>
</tr>
<tr>
<td>Tape Width</td>
<td>W</td>
<td>12.00 ± 0.20 (0.472 ± 0.008)</td>
</tr>
<tr>
<td>Reel Width</td>
<td>W₁</td>
<td>18.4 (0.724) MAX.</td>
</tr>
<tr>
<td>Quantity per Reel</td>
<td>--</td>
<td>3,000</td>
</tr>
</tbody>
</table>

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

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