**CD1206-S01575 Switching Chip Diode**

**Features**
- RoHS compliant*
- Leadless
- High speed

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**General Information**

The markets of portable communications, computing and video equipment are challenging the semiconductor industry to develop increasingly smaller electronic components.

Bourns offers small-signal high-speed Switching Diodes for switching digital signal applications, in compact chip package 1206 size format, which offers PCB real estate savings and are considerably smaller than competitive parts. The Switching Diodes offer a forward current of 150 mA and a reverse voltage of 75 V. The diodes are RoHS compliant and are compatible with lead-free manufacturing processes, conforming to many industry and government regulations on lead-free components.

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 (@ TA = 25 °C Unless Otherwise Noted)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>CD1206-S01575</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward Voltage (Max.)</td>
<td>VF</td>
<td>1.00</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(I&lt;sub&gt;F&lt;/sub&gt; = 50 mA)</td>
<td></td>
</tr>
<tr>
<td>Capacitance Between Terminals (Max.)</td>
<td>CT</td>
<td>3</td>
<td>pF</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(f = 100 MHz, V&lt;sub&gt;F&lt;/sub&gt; = 0 V DC)</td>
<td></td>
</tr>
<tr>
<td>Reverse Recovery Time (Max.)</td>
<td>t&lt;sub&gt;rr&lt;/sub&gt;</td>
<td>4</td>
<td>nS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(V&lt;sub&gt;r&lt;/sub&gt; = 6V, I&lt;sub&gt;F&lt;/sub&gt; = 10 mA, R&lt;sub&gt;L&lt;/sub&gt; = 100 Ω)</td>
<td></td>
</tr>
<tr>
<td>Reverse Current (Max.)</td>
<td>I&lt;sub&gt;R&lt;/sub&gt;</td>
<td>2.5</td>
<td>μA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(V&lt;sub&gt;r&lt;/sub&gt; = 75 V)</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>CD1206-S01575</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repetitive Peak Reverse Voltage</td>
<td>V&lt;sub&gt;RRM&lt;/sub&gt;</td>
<td>100</td>
<td>V</td>
</tr>
<tr>
<td>Reverse Voltage</td>
<td>V&lt;sub&gt;R&lt;/sub&gt;</td>
<td>75</td>
<td>V</td>
</tr>
<tr>
<td>Average Forward Current</td>
<td>I&lt;sub&gt;O&lt;/sub&gt;</td>
<td>150</td>
<td>mA</td>
</tr>
<tr>
<td>Forward Current, Surge</td>
<td>I&lt;sub&gt;Surge&lt;/sub&gt;</td>
<td>4</td>
<td>A</td>
</tr>
<tr>
<td>Power Dissipation</td>
<td>PD</td>
<td>400</td>
<td>mW</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>T&lt;sub&gt;STG&lt;/sub&gt;</td>
<td>-55 to +125</td>
<td>°C</td>
</tr>
<tr>
<td>Junction Temperature</td>
<td>T&lt;sub&gt;J&lt;/sub&gt;</td>
<td>-55 to +125</td>
<td>°C</td>
</tr>
</tbody>
</table>

### How To Order

- **Common Code**: Chip Diode
- **Package**: 1206
- **Model**: S = High Speed Switching
- **Average Forward Current (I<sub>O</sub>) Code**: 015 = 150 mA
  - (Code x 1000 mA = Average Forward Current)
- **Reverse Voltage (V<sub>r</sub>) Code**: 75 = 75 V

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*RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice. Users should verify actual device performance in their specific applications. The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

**WARNING** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)
**CD1206-S01575 Switching Chip Diode**

**Product Dimensions**

<table>
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<tr>
<th>Dimensions</th>
<th>1206</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Max.)</td>
<td>3.00 (0.118)</td>
</tr>
<tr>
<td>B (Min.)</td>
<td>1.60 (0.063)</td>
</tr>
<tr>
<td>C (Min.)</td>
<td>1.40 (0.055)</td>
</tr>
</tbody>
</table>

**Recommended Pad Layout**

**Physical Specifications**

- Case: 1206 (3216) Molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band
- Mounting Position: Any

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Rating and Characteristic Curves: CD1206-S01575

**Forward Characteristics**

- Forward Current (mAmps)
  - 0.0 0.2 0.4 0.6 0.8 1.0 1.2

- Forward Voltage (Volts)
  - 0.0 10 125

**Reverse Characteristics**

- Reverse Current (nA)
  - 1.0 10.0 100.0

- Reverse Voltage (Volts)
  - 0 0.1 1.0 10.0 100.0

**Derating Curve**

- I0 Current (%)
  - 0 25 50 75 100 125 150

- Ambient Temperature (°C)
  - 0 25 50 75 100 125 150

**Capacitance Between Terminals**

- Capacitance Between Terminals (pF)
  - 5.0 4.0 3.0 2.0 1.0 0.0

- Reverse Voltage (Volts)
  - 0 2 4 6 8 10 12 14

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Packaging Information

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

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**Item** | **Symbol** | **1206**
---|---|---
Carrier Width | A | 1.70 ± 0.10 (0.067 - 0.004)
Carrier Length | B | 3.40 ± 0.10 (0.134 - 0.004)
Carrier Depth | C | 1.25 ± 0.10 (0.049 - 0.004)
Sprocket Hole | d | 1.55 ± 0.10 (0.061 - 0.004)
Reel Outside Diameter | D | 178 (7.008)
Reel Inner Diameter | D₁ | 60.0 (2.362) MIN.
Feed Hole Diameter | D₂ | 13.0 ± 0.20 (0.512 - 0.008)
Sprocket Hole Position | E | 1.75 ± 0.10 (0.069 - 0.004)
Punch Hole Position | F | 3.50 ± 0.05 (0.138 - 0.002)
Punch Hole Pitch | P | 4.00 ± 0.10 (0.157 - 0.004)
Punch Hole Pitch | P₀ | 4.00 ± 0.10 (0.157 - 0.004)
Embossment Center | P₁ | 2.00 ± 0.05 (0.079 - 0.002)
Overall Tape Thickness | T | 0.20 ± 0.05 (0.008 - 0.002)
Tape Width | W | 8.00 ± 0.20 (0.315 - 0.008)
Reel Width | W₁ | 13.5 MAX. (0.531)
Quantity per Reel | -- | 5,000

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

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