**Product Summary**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>$V_{RRM}$ (V)</td>
<td>$I_D$ (A)</td>
<td>$V_{F \text{ MAX}}$ (V)</td>
<td>$I_{R \text{ MAX}}$ (µA)</td>
</tr>
<tr>
<td>100</td>
<td>0.5</td>
<td>0.73</td>
<td>25</td>
</tr>
</tbody>
</table>

**Features**

- Low Forward Voltage Drop ($V_F$) and Low Reverse Leakage ($I_R$)
- Excellent High Temperature Stability
- Patented Super Barrier Rectifier SBR® Technology
- Low Profile Package with Excellent Thermal Dissipation
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. “Green” Device (Note 3)

**Description and Applications**

The SBR05M100BLP has four diodes in full bridge configuration packaged in the low profile DFN package. Offering low forward voltage drop and excellent high temperature stability, this device is ideal for use as Bridge Diodes where small footprint and low profile is desired.

**Mechanical Data**

- Case: U-DFN3030-4
- Case Material: Molded Plastic “Green” Molding Compound, UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish – NiPdAu Over Copper Lead Frame, Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.02 grams (Approximate)

**Ordering Information** (Note 4)

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Case</th>
<th>Packaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>SBR05M100BLP-7</td>
<td>U-DFN3030-4</td>
<td>3000/Tape &amp; Reel</td>
</tr>
</tbody>
</table>

Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated’s definitions of Halogen- and Antimony-free, “Green” and Lead-free.
3. Halogen- and Antimony-free “Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**Marking Information**

DA = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: D = 2016)
M = Month (ex: 9 = September)

Date Code Key

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>D</td>
<td>E</td>
<td>F</td>
<td>G</td>
<td>H</td>
<td>I</td>
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<table>
<thead>
<tr>
<th>Month</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>O</td>
<td>N</td>
<td>D</td>
</tr>
</tbody>
</table>

SBR05M100BLP

Document number: DS31109 Rev. 9 - 2

www.diodes.com
Maximum Ratings (@Ta = +25°C, unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>Peak Repetitive Reverse Voltage</td>
<td>VRRM</td>
<td>100</td>
<td>V</td>
</tr>
<tr>
<td>Working Peak Reverse Voltage</td>
<td>VRWM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DC Blocking Voltage</td>
<td>VRM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RMS Reverse Voltage</td>
<td>VR RMS</td>
<td>70</td>
<td>V</td>
</tr>
<tr>
<td>Average Rectified Output Current</td>
<td>IO</td>
<td>500</td>
<td>mA</td>
</tr>
<tr>
<td>Non-Repetitive Peak Forward Surge Current 8.3ms</td>
<td>IFSM</td>
<td>8</td>
<td>A</td>
</tr>
<tr>
<td>Single Half Sine-Wave Superimposed on Rated Load (Per Diode)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thermal Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Symbol</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Dissipation (Note 5)</td>
<td>PD</td>
<td>-</td>
<td>0.56</td>
<td>W</td>
</tr>
<tr>
<td>Thermal Resistance Junction to Ambient Air (Note 5)</td>
<td>RJA</td>
<td>-</td>
<td>222</td>
<td>°C/W</td>
</tr>
<tr>
<td>Thermal Resistance Junction to Ambient Air (Note 6)</td>
<td>RJA</td>
<td>-</td>
<td>149</td>
<td>°C/W</td>
</tr>
<tr>
<td>Operating and Storage Temperature Range</td>
<td>TJ, TSTG</td>
<td>-55 to +150</td>
<td>°C</td>
<td></td>
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</table>

Electrical Characteristics (@Ta = +25°C, unless otherwise specified.)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Symbol</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
<th>Test Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Breakdown Voltage</td>
<td>VBRIR</td>
<td>100</td>
<td></td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Forward Voltage (Per Diode)</td>
<td>VF</td>
<td></td>
<td>0.54</td>
<td>0.60</td>
<td>V</td>
<td>IF = 0.25A, TJ = +25°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.67</td>
<td>0.73</td>
<td>V</td>
<td>IF = 0.5A, TJ = +25°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.56</td>
<td>0.63</td>
<td>V</td>
<td>IF = 0.5A, TJ = +125°C</td>
</tr>
<tr>
<td>Reverse Current (Note 7) (Per Diode)</td>
<td>IR</td>
<td></td>
<td>0.3</td>
<td>25</td>
<td>μA</td>
<td>Vf = 100V, TJ = +25°C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>32</td>
<td>250</td>
<td>μA</td>
<td>Vf = 100V, TJ = +125°C</td>
</tr>
</tbody>
</table>

Notes:
5. FR-4 PCB, 2 oz. copper, minimum recommended pad layout per http://www.diodes.com/package-outlines.html.
7. Short duration pulse test used to minimize self-heating effect.
Fig. 3 Typical Reverse Characteristics

Fig. 4 Forward Current Derating Curve

Fig. 5 Operating Temperature Derating
Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

U-DFN3030-4

Dimensions | Value (in mm)
---|---
C | 1.300
G1 | 0.100
G2 | 0.150
G3 | 0.300
G4 | 0.115
G5 | 0.135
G6 | 0.170
G7 | 0.500
G8 | 0.500
R | 0.150
X | 0.500
X1 | 1.375
X2 | 1.225
X3 | 1.175
Y | 1.980
Y1 | 1.015
Y2 | 0.715
Y3 | 0.650

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

U-DFN3030-4
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