Schottky Rectifier Surface-Mount

FEATURES
- For surface mounted applications
- Ideal for automated placement
- Low power loss, high efficiency
- Oxide planar chip junction
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Meets JESD 201 class 2 whisker test
- Wave and reflow solderable
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

MECHANICAL DATA
Case: SMF (DO-219AB)
Polarity: color band denotes cathode end
Weight: approx. 15 mg
Packaging codes / options:
GS18/10K per 13" reel (8 mm tape), 50K/box
GS08/3K per 7" reel (8 mm tape), 30K/box
Circuit configuration: single

PARTS TABLE

<table>
<thead>
<tr>
<th>PART</th>
<th>ORDERING CODE</th>
<th>MARKING</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SL02</td>
<td>SL02-GS18 or SL02-GS08</td>
<td>S2</td>
<td>Tape and reel</td>
</tr>
<tr>
<td>SL03</td>
<td>SL03-GS18 or SL03-GS08</td>
<td>S3</td>
<td>Tape and reel</td>
</tr>
</tbody>
</table>

ABSOLUTE MAXIMUM RATINGS \((T_{\text{amb}} = 25 \, ^\circ\text{C}, \text{unless otherwise specified})\)

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>TEST CONDITION</th>
<th>PART</th>
<th>SYMBOL</th>
<th>VALUE</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum repetitive peak reverse voltage</td>
<td></td>
<td>SL02</td>
<td>(V_{\text{BRM}})</td>
<td>20</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SL03</td>
<td>(V_{\text{BRM}})</td>
<td>30</td>
<td>V</td>
</tr>
<tr>
<td>Maximum RMS voltage</td>
<td></td>
<td>SL02</td>
<td>(V_{\text{RMS}})</td>
<td>14</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SL03</td>
<td>(V_{\text{RMS}})</td>
<td>21</td>
<td>V</td>
</tr>
<tr>
<td>Maximum DC blocking voltage</td>
<td></td>
<td>SL02</td>
<td>(V_{\text{DC}})</td>
<td>20</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>SL03</td>
<td>(V_{\text{DC}})</td>
<td>30</td>
<td>V</td>
</tr>
<tr>
<td>Maximum average forward rectified current ((T_L = 109 , ^\circ\text{C}))</td>
<td></td>
<td></td>
<td>(I_{\text{F(AV)}})</td>
<td>1.1</td>
<td>A</td>
</tr>
<tr>
<td>Peak forward surge current 8.3 ms single half sine-wave</td>
<td></td>
<td></td>
<td>(I_{\text{FSM}})</td>
<td>40</td>
<td>A</td>
</tr>
</tbody>
</table>

THERMAL CHARACTERISTICS \((T_{\text{amb}} = 25 \, ^\circ\text{C}, \text{unless otherwise specified})\)

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>TEST CONDITION</th>
<th>SYMBOL</th>
<th>VALUE</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thermal resistance junction to ambient air (^{(1)})</td>
<td></td>
<td>(R_{\text{JUA}})</td>
<td>180</td>
<td>K/W</td>
</tr>
<tr>
<td>Maximum operating junction temperature</td>
<td></td>
<td>(T_j)</td>
<td>125</td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature range</td>
<td></td>
<td>(T_{\text{stg}})</td>
<td>-55 to +150</td>
<td>°C</td>
</tr>
</tbody>
</table>

Note:
\(^{(1)}\) Mounted on epoxy substrate with 3 mm x 3 mm Cu pads (\(\geq 40 \, \mu\text{m} \) thick)
ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

<table>
<thead>
<tr>
<th>PARAMETER</th>
<th>TEST CONDITION</th>
<th>PART</th>
<th>SYMBOL</th>
<th>MIN.</th>
<th>TYP.</th>
<th>MAX.</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instantaneous forward voltage</td>
<td>I_F = 0.5 A</td>
<td>SL02</td>
<td>V_F</td>
<td>0.360</td>
<td>0.385</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SL03</td>
<td>V_F</td>
<td>0.395</td>
<td>0.43</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Typical instantaneous forward voltage</td>
<td>I_F = 1.1 A</td>
<td>SL02</td>
<td>V_F</td>
<td>0.420</td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SL03</td>
<td>V_F</td>
<td>0.450</td>
<td></td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Maximum DC reverse current at rated</td>
<td>T_A = 25 °C</td>
<td>SL02</td>
<td>I_R</td>
<td></td>
<td>250</td>
<td>μA</td>
<td></td>
</tr>
<tr>
<td>DC blocking voltage</td>
<td></td>
<td>SL03</td>
<td>I_R</td>
<td></td>
<td>8</td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T_A = 100 °C</td>
<td>SL02</td>
<td>I_R</td>
<td></td>
<td>130</td>
<td>μA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SL03</td>
<td>I_R</td>
<td></td>
<td>6</td>
<td>mA</td>
<td></td>
</tr>
<tr>
<td>Reverse recovery time</td>
<td></td>
<td>SL02</td>
<td>t_{rr}</td>
<td>&lt; 10</td>
<td></td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SL03</td>
<td>t_{rr}</td>
<td>&lt; 10</td>
<td></td>
<td>ns</td>
<td></td>
</tr>
</tbody>
</table>

Note
(1) Pulse test: 300 μs pulse width, 1 % duty cycle

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

Fig. 1 - Forward Current Derating Curve

Fig. 2 - Typical Junction Capacitance

Fig. 3 - Typical Instantaneous Forward Characteristics - SL02

Fig. 4 - Typical Reverse Current Characteristics - SL02
**PACKAGE DIMENSIONS** in millimeters (inches): **SMF (DO-219AB)**

![Package Dimensions Diagram]

**Fig. 5 - Typical Instantaneous Forward Characteristics - SL03**

**Fig. 6 - Typical Reverse Current Characteristics - SL03**

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**BLISTERTAPE DIMENSION** in millimeters: **SMF (DO-219AB)**

<table>
<thead>
<tr>
<th>Mat:</th>
<th>A0</th>
<th>B0</th>
<th>K0</th>
<th>W</th>
<th>T</th>
<th>P0</th>
<th>P2</th>
<th>P1</th>
<th>D0</th>
<th>D1</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS</td>
<td>1.9</td>
<td>4.0</td>
<td>1.5</td>
<td>8.0</td>
<td>0.235</td>
<td>4.0</td>
<td>2.0</td>
<td>4.0</td>
<td>1.5</td>
<td>1</td>
<td>1.75</td>
<td>3.5</td>
</tr>
</tbody>
</table>

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ORIENTATION IN CARRIER TAPE - SMF (DO-219AB)

Unreeling direction

Top view

cathode

SMF

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