Schottky Diodes

Features
- For general purpose applications
- Metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring. The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching and low logic level applications.
- This diode is also available in the MiniMELF case with type designation LL5711 and LL6263.

Mechanical Data
Case: DO-35 Glass Case
Weight: approx. 125 mg
Packaging Codes/Options:
TR / 10 k per 13 " reel (52 mm tape), 50 k/box
TAP / 10 k per Ammopack (52 mm tape), 50 k/box

Parts Table
<table>
<thead>
<tr>
<th>Part</th>
<th>Ordering code</th>
<th>Marking</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1N5711</td>
<td>1N5711-TR or 1N5711-TAP</td>
<td>-</td>
<td>Tape and Reel / Ammopack</td>
</tr>
<tr>
<td>1N6263</td>
<td>1N6263-TR or 1N6263-TAP</td>
<td>-</td>
<td>Tape and Reel / Ammopack</td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings
$T_{\text{amb}} = 25 \, ^\circ\text{C}$, 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>Peak inverse voltage</td>
<td></td>
<td>1N5711</td>
<td>$V_{\text{RRM}}$</td>
<td>70</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1N6263</td>
<td>$V_{\text{RRM}}$</td>
<td>60</td>
<td>V</td>
</tr>
<tr>
<td>Power dissipation (infinite heatsink)</td>
<td></td>
<td></td>
<td>$P_{\text{tot}}$</td>
<td>400$^{1)}$</td>
<td>mW</td>
</tr>
<tr>
<td>Maximum single cycle surge 10 $\mu$s square wave</td>
<td></td>
<td></td>
<td>$I_{\text{FSM}}$</td>
<td>2.0</td>
<td>A</td>
</tr>
</tbody>
</table>

$^{1)}$ Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature
Thermal Characteristics

\[ \text{T}_{\text{amb}} = 25 \, ^{\circ}\text{C}, \text{unless otherwise specified} \]

<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</td>
<td></td>
<td>(R_{\text{thJA}})</td>
<td>0.3 (^1)</td>
<td>(^{\circ}\text{C/mW})</td>
</tr>
<tr>
<td>Junction temperature</td>
<td></td>
<td>(T_{\text{j}})</td>
<td>125</td>
<td>(^{\circ}\text{C})</td>
</tr>
<tr>
<td>Storage temperature range</td>
<td></td>
<td>(T_{\text{S}})</td>
<td>-55 to +175</td>
<td>(^{\circ}\text{C})</td>
</tr>
</tbody>
</table>

\(^1\) Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature

Electrical Characteristics

\[ \text{T}_{\text{amb}} = 25 \, ^{\circ}\text{C}, \text{unless otherwise specified} \]

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test condition</th>
<th>Part</th>
<th>Symbol</th>
<th>Min</th>
<th>Typ.</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse breakdown voltage</td>
<td>(I_R = 10 , \mu\text{A})</td>
<td>1N5711</td>
<td>(V_R)</td>
<td>70</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>(I_R = 10 , \mu\text{A})</td>
<td>1N6263</td>
<td>(V_R)</td>
<td>60</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Leakage current</td>
<td>(V_R = 50 , \text{V})</td>
<td></td>
<td>(I_R)</td>
<td>200</td>
<td></td>
<td></td>
<td>nA</td>
</tr>
<tr>
<td>Forward voltage drop</td>
<td>(I_F = 1.0 , \text{mA})</td>
<td></td>
<td>(V_F)</td>
<td>0.41</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>(I_F = 15 , \text{mA})</td>
<td></td>
<td>(V_F)</td>
<td>1.0</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Junction capacitance</td>
<td>(V_R = 0 , \text{V}, f = 1.0 , \text{MHz})</td>
<td>1N5711</td>
<td>(C_{\text{tot}})</td>
<td>2.0</td>
<td></td>
<td></td>
<td>pF</td>
</tr>
<tr>
<td></td>
<td>(V_R = 0 , \text{V}, f = 1.0 , \text{MHz})</td>
<td>1N6263</td>
<td>(C_{\text{tot}})</td>
<td>2.2</td>
<td></td>
<td></td>
<td>pF</td>
</tr>
<tr>
<td>Reverse recovery time</td>
<td>(I_F = I_R = 5.0 , \text{mA},) recover to 0.1 (I_R)</td>
<td></td>
<td>(t_{\text{rr}})</td>
<td>1.0</td>
<td></td>
<td></td>
<td>ns</td>
</tr>
</tbody>
</table>

Typical Characteristics \((\text{T}_{\text{amb}} = 25 \, ^{\circ}\text{C} \text{unless otherwise specified})\)

![Fig. 1 Typical Variation of Forward Current vs. Forward Voltage](image1)

![Fig. 2 Typical Forward Conduction Curve](image2)
Fig. 3 Typical Variation of Reverse Current at Various Temperatures

Fig. 4 Typical Capacitance Curve as a Function of Reverse Voltage

Package Dimensions in mm (Inches)

ISO Method E
94 9366
Standard Glass Case
54 A.2 DIN 41680
JEDEC DO 35

Cathode Identification

∅ 2.0 (0.08) max.
∅ 0.55 (0.02) max.

26 (1.02) min.
3.9 (0.15) max.
26 (1.02) min.
Ozone Depleting Substances Policy Statement

It is the policy of Vishay Semiconductor GmbH to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operatingsystems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

We reserve the right to make changes to improve technical design and may do so without further notice.

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

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