RF PIN Diodes

Features
- Wide frequency range 10 MHz to 1 GHz

Applications
Current controlled HF resistance in adjustable attenuators

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>Type differentiation</th>
<th>Ordering code</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA479G</td>
<td>$V_R = 30 , \text{V}$, $Z_R &gt; 5 , \text{k}\Omega$</td>
<td>BA479G-TR or BA479G-TAP</td>
<td>Tape and Reel / Ammopack</td>
</tr>
<tr>
<td>BA479S</td>
<td>$V_R = 30 , \text{V}$, $Z_R &gt; 9 , \text{k}\Omega$</td>
<td>BA479S-TR or BA479S-TAP</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>Symbol</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse voltage</td>
<td></td>
<td>$V_R$</td>
<td>30</td>
<td>V</td>
</tr>
<tr>
<td>Forward current</td>
<td></td>
<td>$I_F$</td>
<td>50</td>
<td>mA</td>
</tr>
</tbody>
</table>

Thermal Characteristics
$T_{\text{amb}} = 25 \, ^\circ\text{C}$, unless otherwise specified

<table>
<thead>
<tr>
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<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junction ambient</td>
<td>$l = 4 , \text{mm}$, $T_L = \text{constant}$</td>
<td>$R_{\text{thJA}}$</td>
<td>350</td>
<td>KW</td>
</tr>
<tr>
<td>Junction temperature</td>
<td></td>
<td>$T_j$</td>
<td>125</td>
<td>°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td></td>
<td>$T_{\text{stg}}$</td>
<td>-55 to +125</td>
<td>°C</td>
</tr>
</tbody>
</table>

Electrical Characteristics
$T_{\text{amb}} = 25 \, ^\circ\text{C}$, unless otherwise specified

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test condition</th>
<th>Part</th>
<th>Symbol</th>
<th>Min</th>
<th>Typ.</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward voltage</td>
<td>$I_F = 20 , \text{mA}$</td>
<td></td>
<td>$V_F$</td>
<td>1</td>
<td></td>
<td></td>
<td>V</td>
</tr>
<tr>
<td>Reverse current</td>
<td>$V_R = 30 , \text{V}$</td>
<td></td>
<td>$I_R$</td>
<td>50</td>
<td></td>
<td></td>
<td>nA</td>
</tr>
<tr>
<td>Diode capacitance</td>
<td>$f = 100 , \text{MHz}$, $V_R = 0$</td>
<td></td>
<td>$C_D$</td>
<td>0.5</td>
<td></td>
<td></td>
<td>pF</td>
</tr>
<tr>
<td>Differential forward</td>
<td>$f = 100 , \text{MHz}$, $I_F = 1.5 , \text{mA}$</td>
<td></td>
<td>$r_f$</td>
<td>50</td>
<td></td>
<td></td>
<td>Ω</td>
</tr>
</tbody>
</table>
BA479G/BA479S
Vishay Semiconductors

**Typical Characteristics** \((T_{\text{amb}} = 25^\circ\text{C} \text{ unless otherwise specified})\)

<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 impedance</td>
<td>(f = 100\ \text{MHz}, V_R = 0)</td>
<td>BA479G</td>
<td>(z_r)</td>
<td>5</td>
<td></td>
<td></td>
<td>k\Omega</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BA479S</td>
<td>(z_r)</td>
<td>9</td>
<td></td>
<td></td>
<td>k\Omega</td>
</tr>
<tr>
<td>Minority carrier lifetime</td>
<td>(I_F = 10\ \text{mA}, I_Q = 10\ \text{mA})</td>
<td></td>
<td>(\tau)</td>
<td>4</td>
<td></td>
<td></td>
<td>\mu s</td>
</tr>
</tbody>
</table>

![Fig. 1 Forward Current vs. Forward Voltage](image1.png)

![Fig. 2 Differential Forward Resistance vs. Forward Current](image2.png)

![Fig. 3 Typ. Cross Modulation Distortion vs. Frequency \(f_2\)](image3.png)

- Fig. 1 Forward Current vs. Forward Voltage
- Fig. 2 Differential Forward Resistance vs. Forward Current
- Fig. 3 Typ. Cross Modulation Distortion vs. Frequency \(f_2\)
Package Dimensions in mm (Inches)

ISO Method E

<table>
<thead>
<tr>
<th>Ø 2.0 (0.08) max.</th>
<th>26 (1.02) min.</th>
<th>3.9 (0.15) max.</th>
<th>26 (1.02) min.</th>
</tr>
</thead>
</table>

Standard Glass Case
54 A 2  DIN 41880
JEDEC DO 35

Ø 0.55 (0.02) max.
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
   operating systems 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:

   respectively
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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