Schottky Zero Bias Detector Diode

Features
- Can be used without external DC bias
- Exhibits uniform Rv characteristics
- High Voltage Sensitivity
- P Type Schottky Diode
- Available in chip form (ODS-1261)
- RoHS Compliant* and 260°C Reflow Compatible

Description and Applications
The MA4E931Z2-1261A Zero Bias Detector (ZBD) diode is suitable for use in microstrip or stripline detector circuits. These chips can be used in automatic assembly processes due to their 0.004” gold bond pads and sturdy construction. Designed for high volume, low cost, detector applications.

Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Unit</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature</td>
<td>T_{OP}</td>
<td>°C</td>
<td>-65 to +150</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>T_{STG}</td>
<td>°C</td>
<td>-65 to +150</td>
</tr>
<tr>
<td>Incident RF Power (CW)</td>
<td>P_T</td>
<td>mW</td>
<td>75</td>
</tr>
<tr>
<td>Reverse Voltage @ 25 °C</td>
<td>V_R</td>
<td>V</td>
<td>3</td>
</tr>
</tbody>
</table>

RF Performance @ 10.0 GHz @ +25 °C

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Conditions</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangential Signal Sensitivity</td>
<td>BW = 2 MHz Video NF = 3.5 dB</td>
<td>-52 dBm min</td>
</tr>
<tr>
<td>Video Impedance (Rv)</td>
<td>BW = 2 MHz</td>
<td>2.5KΩ min 4.5KΩ max</td>
</tr>
<tr>
<td>Voltage Output (Eo)</td>
<td>BW = 2 MHz</td>
<td>5.0 mV min</td>
</tr>
</tbody>
</table>

Electrical Specifications @ +25 °C

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Condition</th>
<th>Symbol</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakdown Voltage</td>
<td>I_R = 1.0 mA</td>
<td>V_B</td>
<td>3.0 V min.</td>
</tr>
<tr>
<td>Forward Voltage</td>
<td>I_F = 1.0 mA</td>
<td>V_F</td>
<td>150 mV typ.</td>
</tr>
</tbody>
</table>
