MACOM Extends Leadership in Diodes with Broadband Shunt Diodes in Ultra Small Plastic Packages
Value Proposition

- The MACOM **Shunt PIN Diode Series** is designed for customers who need a versatile, low cost, ultra-small Shunt PIN diode element for land mobile radio, wireless infrastructure and test instrument applications. Unlike the competition, MACOM’s small, 1.5 X 1.2 mm plastic package reduces board space while enabling broadband performance comparable to chip-scale devices. Typical applications include high power switching through 6GHz with incident power up to 100W. Boasting excellent performance, low cost and easy implementation, the Shunt PIN Diode series offers a winning combination for customers looking for high-power diode solutions.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Units</th>
<th>MADP-011027-14150T</th>
<th>MADP-011028-14150T</th>
<th>MADP-011029-14150T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>GHz</td>
<td>0.05-12</td>
<td>0.05-12</td>
<td>0.05-12</td>
</tr>
<tr>
<td>Capacitance (@-50V)</td>
<td>pF</td>
<td>0.24</td>
<td>0.24</td>
<td>0.31</td>
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<tr>
<td>Series Resistance</td>
<td>Ω</td>
<td>1.9</td>
<td>3.4</td>
<td>1.5</td>
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<tr>
<td>Breakdown Voltage</td>
<td>V</td>
<td>100 (min)</td>
<td>200 (min)</td>
<td>500 (min)</td>
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<tr>
<td>Power Dissipation</td>
<td>W</td>
<td>3.3</td>
<td>4.3W max</td>
<td>7.5</td>
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<tr>
<td>Size</td>
<td>-</td>
<td>1.5 x 1.2</td>
<td>1.5 x 1.2</td>
<td>1.5 x 1.2</td>
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<tr>
<td>Process</td>
<td>-</td>
<td>Si</td>
<td>Si</td>
<td>Si</td>
</tr>
</tbody>
</table>
Product Performance and Details

Features:
• 3 terminal LPF broadband shunt structure
• Lead-Free 1.5 x 1.2mm 6-Lead DFN package
• 25 dB shunt isolation

Key Specifications
• >100 W peak power handling
• <0.1 dB Shunt Insertion Loss
• 0.05 – 12 GHz Frequency

Applications:
Multi-Market Applications including:
• Land Mobile
• Radios
• Industrial, Medical, Scientific
• Electronic Warfare, Aerospace and Defense.

Better than Competition:
• Smaller Size
• Higher breakdown voltage (MADP-011029 Cermachip™ technology)
• Low Shunt inductance; High isolation / Low loss