MMPN080x Series

PIN Diodes

Features
- High Isolation
- Broadband Performance up to 50 GHz

Description
The MMPN series are distributed PIN diodes that are integrated into a 50 Ω microstrip transmission line. These PIN diodes are designed to be operated as shunt, reflective attenuators.

Electrical Specifications: \( T_A = +25°C \)

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency (GHz)</th>
<th>Maximum Reversed Current (nA)</th>
<th>Minimum Breakdown Voltage (V)</th>
<th>Maximum Insertion Loss (dB)</th>
<th>Minimum Return Loss (dB)</th>
<th>Minimum Isolation (dB)</th>
<th>Outline</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMPN080045</td>
<td>2 - 20</td>
<td>100</td>
<td>200</td>
<td>1</td>
<td>12</td>
<td>30</td>
<td>C50</td>
</tr>
<tr>
<td>MMPN080150</td>
<td>2 - 35</td>
<td>200</td>
<td>200</td>
<td>3</td>
<td>12</td>
<td>50</td>
<td>C51</td>
</tr>
<tr>
<td>Test Conditions</td>
<td>( V_R = 30 ) V</td>
<td>( I_R = 10 ) µA</td>
<td>( V_R = 0 ) V</td>
<td>( V_R = 0 ) V</td>
<td>( I_F = 40 ) mA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Voltage</td>
<td>200 V</td>
</tr>
<tr>
<td>Forward Current</td>
<td>150 mA</td>
</tr>
<tr>
<td>Thermal Resistance</td>
<td>60°C CW</td>
</tr>
<tr>
<td>Junction Temperature</td>
<td>+175°C</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-65°C to +200°C</td>
</tr>
<tr>
<td>Mounting / Bonding Temperature</td>
<td>+320°C for 10 seconds</td>
</tr>
</tbody>
</table>
Typical RF Performance Curves @ +25°C

Insertion Loss & Isolation - MMPN080045

Insertion Loss & Isolation - MMPN080150

Outline Drawings

C50

C51
MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM’s Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppels or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.