Silicon NIP Diode

Features

- Rugged Construction
- Fully Passivated
- Low Leakage
- Available in Both Chip and Package Styles
- Screening per MIL-PRF-19500 and MIL-PRF-38534 Available

Description

The MNP0008 Series are silicon NIP diodes that feature a fully passivated mesa construction for low leakage and reliability.

Electrical Specifications: \( T_C = +25^\circ C \)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test Conditions</th>
<th>Units</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage Breakdown</td>
<td>( I_R = 10 \mu A )</td>
<td>V</td>
<td>100</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Junction Capacitance</td>
<td>( V_R = 10 V, 1 \text{ MHz} )</td>
<td>pF</td>
<td>—</td>
<td>0.08</td>
<td>0.12</td>
</tr>
<tr>
<td>Total Capacitance</td>
<td>( V_R = 10 V, 1 \text{ MHz} )</td>
<td>pF</td>
<td>—</td>
<td>0.48</td>
<td>0.60</td>
</tr>
<tr>
<td>Package Style:</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>ET47p</td>
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<tr>
<td>T54p</td>
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<td>T55p</td>
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<tr>
<td>T89p</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Series Resistance</td>
<td>( I_F = 10 \text{ mA}, 500 \text{ MHz} )</td>
<td>( \Omega )</td>
<td>—</td>
<td>2.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Lifetime</td>
<td>( I_F = 10 \text{ mA}, I_R = 6 \text{ mA}, 50% )</td>
<td>ns</td>
<td>—</td>
<td>150</td>
<td>—</td>
</tr>
<tr>
<td>I Layer</td>
<td></td>
<td>( \mu m )</td>
<td>—</td>
<td>10</td>
<td>—</td>
</tr>
</tbody>
</table>

Absolute Maximum Ratings\(^1,2\)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Absolute Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reverse Voltage</td>
<td>100 V</td>
</tr>
<tr>
<td>Thermal Resistance</td>
<td>+50°C/W</td>
</tr>
<tr>
<td>Operating &amp; Storage Temperature</td>
<td>-65°C to +150°C</td>
</tr>
</tbody>
</table>

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

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Outline Drawings

**C11/C12**
- Dimensions: 17 [4.32], 13 [3.33], ≥ 2 [0.051]
- Top Contact
- Back Contact
- Top contact is Anode except for MSS20,000 and MSS36,000 series diodes
- Units: mils (mm)

**ET47**
- Dimensions: 0.042 [1.067], 0.038 [0.965]
- 2 places: 0.270 [6.858] MIN.
- 1 = ANODE (ET47)
- 2 = ANODE (ET47)
- Epoxy Encapsulation
- Units: inches (mm)

For further information and support please visit: [https://www.macom.com/support](https://www.macom.com/support)
Outline Drawings

**T54 / T54p**

- 86 [2.184] Dia
- 78 [1.981]
- 12 [0.395]
- 10 [0.254]
- Ceramic Body
- 44 [1.118]
- 34 [0.864]
- 52 [1.321] Dia
- 48 [1.219]

**T55 / T55p**

- Ø .045 [1.397]
- .055 [1.143]

**T89 / T89p**

- 124 [3.150]
- 110 [3.023]
- 27 [0.886] max.
- 80 [2.032] dia. nom.
- 138 [3.505]
- 128 [3.200]
- 3–48 UNC–2A

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