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 , MHz )</td>
<td>pF</td>
<td>—</td>
<td>0.08</td>
<td>0.12</td>
</tr>
<tr>
<td>Total Capacitance Package</td>
<td>( V_R = 10 , V, , 1 , MHz )</td>
<td>pF</td>
<td>—</td>
<td>0.48</td>
<td>0.60</td>
</tr>
<tr>
<td>Style: ET47p</td>
<td></td>
<td></td>
<td>0.28</td>
<td>0.37</td>
<td></td>
</tr>
<tr>
<td>T54p</td>
<td></td>
<td></td>
<td>0.21</td>
<td>0.29</td>
<td></td>
</tr>
<tr>
<td>T55p</td>
<td></td>
<td></td>
<td>0.33</td>
<td>0.37</td>
<td></td>
</tr>
<tr>
<td>T89p</td>
<td></td>
<td></td>
<td>0.21</td>
<td>0.29</td>
<td></td>
</tr>
<tr>
<td>Series Resistance</td>
<td>( I_F = 10 , mA, , 500 , MHz )</td>
<td>( \Omega )</td>
<td>—</td>
<td>2.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Lifetime</td>
<td>( I_F = 10 , mA, , I_R = 6 , 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^\circ C/W)</td>
</tr>
<tr>
<td>Operating &amp; Storage</td>
<td>(-65^\circ C , \text{to} , +150^\circ 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.
Outline Drawings

C11/C12

Top contact is Anode except for MSS20,000 and MSS36,000 series dices.

ET47

1 = ANODE (ET47)
CATHODE (ET47P)
2 = ANODE (ET47)
CATHODE (ET47P)
Outline Drawings

**T54 / T54p**

- Height: 78 [1.981]
- 12 [0.395] Cathode (T54)
- 10 [0.254] Anode (T54p)
- Ceramic Body: 44 [1.118]
- Height: 34 [0.864]
- Height: 48 [1.219]

**T55 / T55p**

- Diameter: 0.45 [1.397]
- Height: 0.55 [1.43]

**T89 / T89p**

- Diameter: 124 [3.150]
- Height: 110 [3.023]
- 11 [0.279] max.
- Diameter: 212 [5.385]
- Height: 136 [3.525]
- Diameter: 126 [3.200]
- 3–48 UNC–2A

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