Features

- Passive Type: No DC biasing required
- RF Frequency: 3-14 GHz
- IF Bandwidth: DC-3 GHz
- Conversion Loss: 8 dB
- LO/RF Isolation: 35 dB
- Input P1dB: +12 dBm
- Die Size: 1.485 x 1.5 x 0.1 mm

Typical Applications

- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

TA = +25°C, IF = 100MHz, LO = +13dBm

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Min.</th>
<th>Typ.</th>
<th>Max.</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF Frequency (RF/LO)</td>
<td>3-14</td>
<td></td>
<td></td>
<td>GHz</td>
</tr>
<tr>
<td>IF Frequency (IF)</td>
<td>DC-3</td>
<td></td>
<td></td>
<td>GHz</td>
</tr>
<tr>
<td>Conversion Loss</td>
<td>8</td>
<td></td>
<td></td>
<td>dB</td>
</tr>
<tr>
<td>Isolation “LO to RF”</td>
<td>35</td>
<td></td>
<td></td>
<td>dB</td>
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<tr>
<td>Isolation “LO to IF”</td>
<td>40</td>
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<td>dB</td>
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<tr>
<td>Isolation “RF to IF”</td>
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<td>dB</td>
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<td>Input 1dB Compression</td>
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<td></td>
<td>dBm</td>
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<tr>
<td>Input Third Order Intercept (IIP3)</td>
<td>22</td>
<td></td>
<td></td>
<td>dBm</td>
</tr>
</tbody>
</table>
MMX003 GaAs pHEMT MMIC Mixer 3-14GHz

Conversion Gain vs. LO Driver

Isolation

IF Bandwidth

Input P1dB
**MMX003**

**GaAs pHEMT MMIC**
**Mixer 3-14GHz**

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**Outline Drawing:**
All Dimensions in mm

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<table>
<thead>
<tr>
<th>Pad Number</th>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>RF</td>
<td>DC coupling 50Ω Impedance</td>
</tr>
<tr>
<td>2</td>
<td>LO</td>
<td>DC coupling 50Ω Impedance</td>
</tr>
<tr>
<td>3</td>
<td>IF</td>
<td>DC coupling 50Ω Impedance</td>
</tr>
<tr>
<td>Die bottom</td>
<td>GND</td>
<td>Die bottom must be connected to RF/DC ground.</td>
</tr>
</tbody>
</table>

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**Notes:**
1. Die thickness: 100um
2. Typical bond pad is 100*100 μm²
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die is grounded
6. No connection required for unlabeled bond pads

**Maximum Ratings:**
1. RF/IF input power: +21dBm
2. Local oscillator drive power: +24dBm
3. Storage temperature: -65°C to +150°C
4. Operating temperature: -55°C to +85°C