TRIPLE-BALANCED MIXERS

Features
- LO/RF .01 to 26.5 GHz
- IF .001 to 6.0 GHz
- 8.0 dB Typical Conversion Loss
- Ultra-Broadband RF, LO, and IF

Electrical Specifications - Specifications guaranteed from -55 to +100°C, measured in a 50-Ohm system.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>LO (GHz)</th>
<th>RF (GHz)</th>
<th>IF (GHz)</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Diode Option LO drive level (dBm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion Loss (dB)</td>
<td>.01-26.5</td>
<td>.01-26.5</td>
<td>.001-6.0</td>
<td>8.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isolation (dB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LO-RF</td>
<td>.01-26.5</td>
<td>.01-26.5</td>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>LO-IF</td>
<td>.01-26.5</td>
<td>.01-26.5</td>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>RF-IF</td>
<td>.01-26.5</td>
<td>.01-26.5</td>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Input 1 dB Compression (dBm)</td>
<td>.01-26.5</td>
<td>.01-26.5</td>
<td></td>
<td></td>
<td></td>
<td>+5</td>
<td>L (+15 to +18)</td>
</tr>
<tr>
<td>Input Two-Tone Third Order Intercept Point (dBm)</td>
<td>.01-26.5</td>
<td>.01-26.5</td>
<td></td>
<td></td>
<td></td>
<td>+15</td>
<td>L (+15 to +18)</td>
</tr>
</tbody>
</table>

Part Number Options

Please specify diode level and package style by adding to model number.

<table>
<thead>
<tr>
<th>Package Options</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectorized</td>
<td>P M2-0026LP</td>
</tr>
<tr>
<td>Microstrip 1,2</td>
<td>E M2-0026 (Model) L (Diode Option) E (Package) 2 (I-Port Configuration)</td>
</tr>
</tbody>
</table>

1Connectorized test fixtures available for most microstrip packages. Consult factory.
2For non-connectorized packages, specify I-port configuration by adding –1 or –2 suffix to model number. Default is –2 configuration when not specified.

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TRIPLE-BALANCED MIXERS

Typical Performance

- **Low-End RF Conversion Loss (dB)**
  - Graph shows conversion loss from RF frequency (MHz) 0 to 10.
  - Conversion loss ranges from approximately -10 to -10 dB.

- **Conversion Loss (dB)**
  - Graph shows conversion loss from RF frequency (GHz) 0 to 26.
  - Conversion loss ranges from approximately -20 to 0 dB.

- **Low-End Relative IF Response (dB)**
  - Graph shows relative IF response from IF frequency (MHz) 0.1 to 1.
  - Response ranges from approximately -6 to 0 dB.

- **Relative IF Response (dB)**
  - Graph shows relative IF response from IF frequency (GHz) 0 to 8.
  - Response ranges from approximately -6 to 0 dB.

- **LO to RF Isolation (dB)**
  - Graph shows LO to RF isolation from LO frequency (GHz) 0 to 26.
  - Isolation ranges from approximately -50 to 0 dB.

- **LO to IF Isolation (dB)**
  - Graph shows LO to IF isolation from LO frequency (GHz) 0 to 26.
  - Isolation ranges from approximately -50 to 0 dB.
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M2-0026
LO/RF .01 to 26.5 GHz
IF .001 to 6.0 GHz

Typical Performance

DATA SHEET NOTES:
1. Mixer Conversion Loss Plot IF frequency is 100 MHz.
2. Mixer Noise Figure typically measures within +0.5 dB of conversion loss for IF frequencies greater than 5 MHz.
3. Conversion Loss typically degrades less than 0.5 dB for LO drives 2 dB below the lowest and 3 dB above highest nominal LO drive levels.
4. Conversion Loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C.
5. Maximum input power is +26 dBm at +25°C, derated linearly to +23 dBm at +100°C.
6. Specifications are subject to change without notice. Contact Marki Microwave for the most recent specifications and data sheets.
7. Standard configuration for A and B outlines are with connectors and bottom spacer.
8. Catalog mixer circuits are continually improved. Configuration control requires custom mixer model numbers and specifications.

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