TRIPLE-BALANCED MIXERS

Features

- LO/RF 2.0 to 40.0 GHz
- IF .001 to 6.0 GHz
- 9.0 dB Typical Conversion Loss
- 30 dB Typical LO to RF Isolation
- Ultra-Broadband RF, LO, and IF
- Available with 2.92 or 2.40 mm Connectors

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>2.0-40.0</td>
<td>2.0-40.0</td>
<td>.001-4.0</td>
<td>9.0</td>
<td>10.0</td>
<td>14.0</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>2.0-40.0</td>
<td>2.0-40.0</td>
<td>4.0-6.0</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LO-IF</td>
<td>2.0-40.0</td>
<td>2.0-40.0</td>
<td></td>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RF-IF</td>
<td>2.0-40.0</td>
<td>2.0-40.0</td>
<td></td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input 1 dB Compression (dBm)</td>
<td>2.0-40.0</td>
<td>2.0-40.0</td>
<td></td>
<td>+5</td>
<td></td>
<td></td>
<td>L (+15 to +20)</td>
</tr>
<tr>
<td>Input Two-Tone Third Order Intercept Point (dBm)</td>
<td>2.0-40.0</td>
<td>2.0-40.0</td>
<td>+15</td>
<td></td>
<td></td>
<td></td>
<td>L (+15 to +20)</td>
</tr>
</tbody>
</table>

Part Number Options

Please specify package style by adding to model number.

<table>
<thead>
<tr>
<th>Package Style(s)</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>P (2.92 mm), PV (2.40 mm)</td>
<td>M2-0240 L P</td>
</tr>
</tbody>
</table>

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**TRIPLE-BALANCED MIXERS**

**M2-0240**

LO/RF 2.0 to 40.0 GHz
IF .001 to 6.0 GHz

**Typical Performance**

![Conversion Loss - dB](chart1)

![Conversion Loss <2 GHz - dB](chart2)

![Relative IF Response - dB](chart3)

![Relative IF Response - dB](chart4)

![LO to RF Isolation - dB](chart5)

![LO to IF Isolation - dB](chart6)

**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. Catalog mixer circuits are continually improved. Configuration control requires custom mixer model numbers and specifications.

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