DOUBLE-BALANCED MIXERS

Features
- LO/RF 4.0 to 12.0 GHz
- IF DC to 4.0 GHz
- 5.0 dB Typical Conversion Loss
- 40 dB Typical LO to RF Isolation
- Very-Broadband LO and RF
- For a list of recommended LO driver amps for all mixers and IQ mixers, see here.

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

| Parameter                      | LO (GHz) | RF (GHz) | IF (GHz) | Min | Typ | Max | Diode Option
|-------------------------------|----------|----------|----------|-----|-----|-----|----------------
| Conversion Loss (dB)          | 4.0-12.0 | 4.0-12.0 | DC-1.0   | 5.0 | 6.0 | 8.0 | LO drive level (dBm)
|                              | 4.0-12.0 | 4.0-12.0 | 1.0-4.0  |     |     |     |                 
| Isolation (dB)                | 4.0-12.0 | 4.0-12.0 | 25       | 40  | 30  | 25  | LO-RF
| LO-IF                         | 4.0-12.0 | 4.0-12.0 |          |     |     |     |                 
| RF-IF                         | 4.0-12.0 | 4.0-12.0 |          |     |     |     |                 
| Input 1 dB Compression (dBm)  | 4.0-12.0 | 4.0-12.0 |          | +2  | +5  | +8  | L (+7 to +10)
|                              |          |          |          |     |     |     | M (+10 to +13)
|                              |          |          |          |     |     |     | N (+13 to +16)
|                              |          |          |          |     |     |     | H (+16 to +19)
| Input Two-Tone Third Order    | 4.0-12.0 | 4.0-12.0 |          | +12 | +15 | +18 | L (+7 to +10)
| Intercept Point (dBm)         |          |          |          |     |     |     | M (+10 to +13)
|                              |          |          |          |     |     |     | N (+13 to +16)
|                              |          |          |          |     |     |     | H (+16 to +19)

Part Number Options

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

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1Connectorized test fixtures available for most microstrip packages. Consult factory.
2For non-connecterized packages, specify 1-port configuration by adding –1 or –2 suffix to model number. Default is –2 configuration when not specified.
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M1-0412

LO/RF 4.0 to 12.0 GHz
IF DC to 4.0 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 +23 dBm at +25°C, derated linearly to +20 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, B, and C 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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