

DOUBLE-BALANCED MIXERS

M1-0420

Features

- LO/RF 4.0 to 20.0 GHz
- IF DC to 4.0 GHz
- 6.0 dB Typical Conversion Loss
- 35 dB Typical LO to RF Isolation
- Very-Broadband RF and LO



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 LO drive level (dBm) |
|--|----------------------|----------------------|-------------------|-----|---------------------------------|------------|---|
| Conversion Loss (dB) | 4.0-20.0 4.0-20.0 | 4.0-20.0 4.0-20.0 | DC-2.0 2.0-4.0 | | 6.0 7.5 | 8.0 9.0 | |
| Isolation (dB) | | | | 20 | 35 30 25 | | |
| LO-RF | 4.0-20.0 | 4.0-20.0 | | | | | |
| LO-IF | 4.0-20.0 | 4.0-20.0 | | | | | |
| RF-IF | 4.0-20.0 | 4.0-20.0 | | | | | |
| Input 1 dB Compression (dBm) | 4.0-20.0 | 4.0-20.0 | | | +2 +5 +8 +11 +14 | | L (+7 to +10) M (+10 to +13) N (+13 to +16) H (+16 to +19) S (+19 to +22) |
| Input Two-Tone Third Order Intercept Point (dBm) | 4.0-20.0 | 4.0-20.0 | | | +12 +15 +18 +21 +24 | | L (+7 to +10) M (+10 to +13) N (+13 to +16) H (+16 to +19) S (+19 to +22) |

Part Number Options

| Please specify diode level and package style by adding to model number. | | | | | | | |
|---|----------|--|--|---------------------------|----------------------------|-----------------------|-------------------------------------|
| Package Options | | | | Examples | | | |
| Connectorized | <u>P</u> | | | M1-0420LP | | | |
| Package Options Not Recommended for New Designs | | | | Examples | | | |
| Microstrip ^{1,2} | <u>E</u> | | | <u>M1-0420</u> (Model) | <u>L</u> (Diode Option) | <u>E</u> (Package) | <u>-2</u> (I-Port Configuration) |

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.

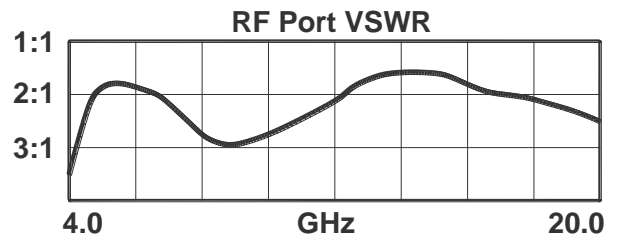
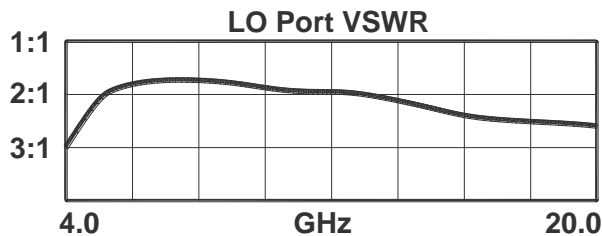
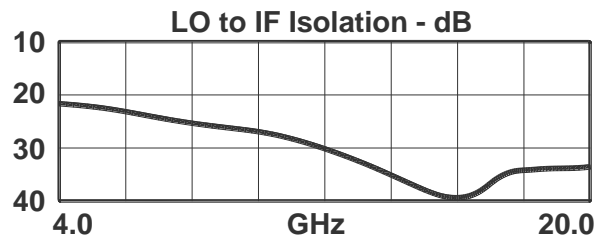
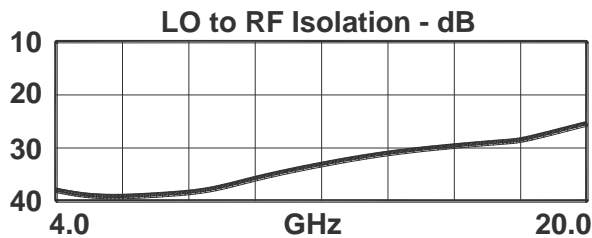
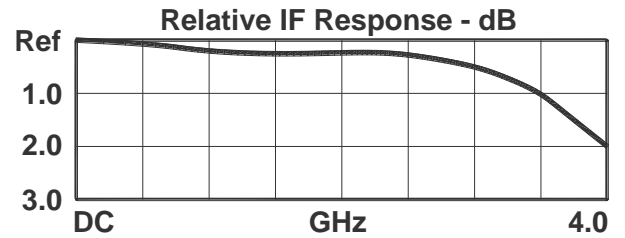
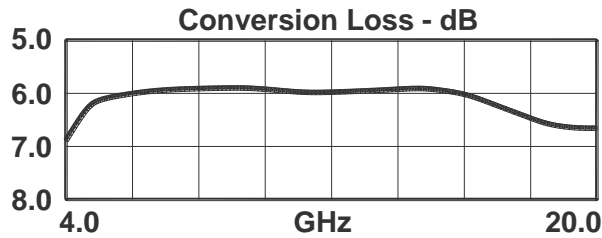
DOUBLE-BALANCED MIXERS

Page 2

M1-0420

LO/RF 4.0 to 20.0 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.

Marki Microwave reserves the right to make changes to the product(s) or information contained herein without notice. Marki Microwave makes no warranty, representation, or guarantee regarding the suitability of its products for any particular purpose, nor does Marki Microwave assume any liability whatsoever arising out of the use or application of any product.

© Marki Microwave, Inc.



215 Vineyard Court, Morgan Hill, CA 95037 | Ph: 408.778.4200 | Fax 408.778.4300 | info@markimicrowave.com

www.markimicrowave.com