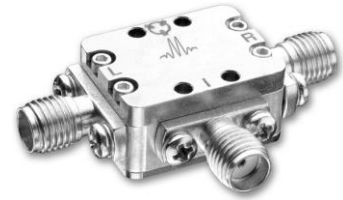


## DOUBLE-BALANCED MIXERS

## M1-0212

### Features

- LO/RF 2.0 to 12.0 GHz
- IF DC to 2.0 GHz
- 6.0 dB Typical Conversion Loss
- 35 dB Typical LO to RF Isolation
- Ultra-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 LO drive level (dBm)
Conversion Loss (dB)	2.0-12.0 2.0-12.0	2.0-12.0 2.0-12.0	DC-1.0 1.0-2.0		6.0 7.0	7.5 8.5	
Isolation (dB)				20	See Plots		
LO-RF	2.0-12.0	2.0-12.0					
LO-IF	2.0-12.0	2.0-12.0					
RF-IF	2.0-12.0	2.0-12.0					
Input 1 dB Compression (dBm)	2.0-12.0	2.0-12.0			+2 +5 +8 +11		L (+7 to +10) M (+10 to +13) N (+13 to +16) H (+16 to +19)
Input Two-Tone Third Order Intercept Point (dBm)	2.0-12.0	2.0-12.0			+12 +15 +18 +21		L (+7 to +10) 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.							
Package Options				Examples			
Connectorized		<u>P</u>		M1-0212LP			
Package Options Not Recommended for New Designs				Examples			
Microstrip <sup>1,2</sup>		<u>E</u>		<u>M1-0212</u> (Model)	<u>L</u> (Diode Option)	<u>E</u> (Package)	<u>-2</u> (I-Port Configuration)

<sup>1</sup>Connectorized test fixtures available for most microstrip packages. Consult factory.

<sup>2</sup>For non-connectorized packages, specify I-port configuration by adding -1 or -2 suffix to model number. Default is -2 configuration when not specified.

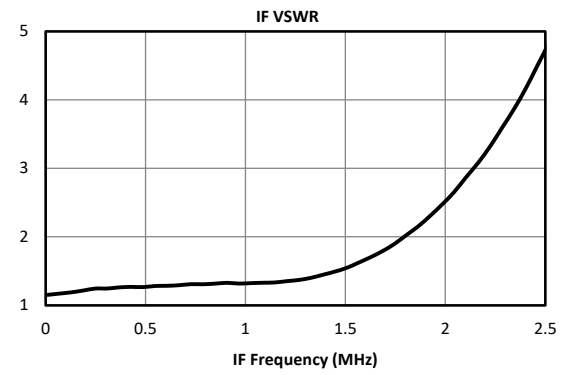
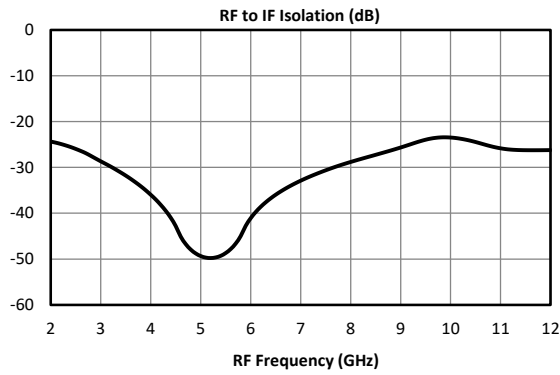
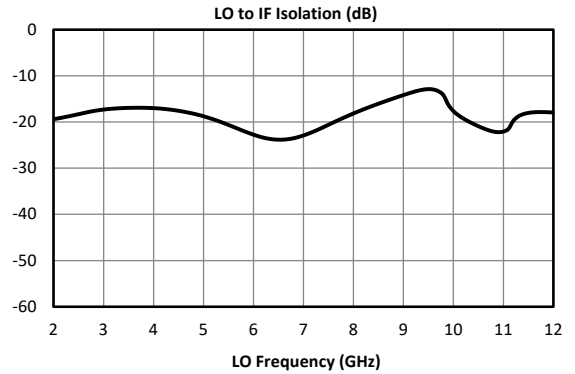
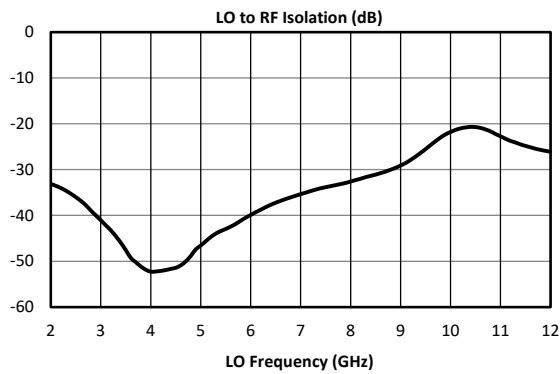
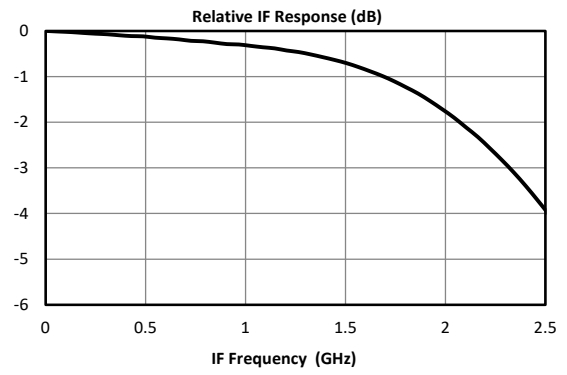
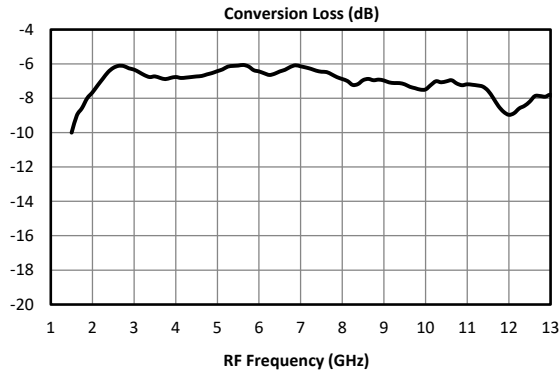
# DOUBLE-BALANCED MIXERS

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LO/RF 2.0 to 12.0 GHz  
IF DC to 2.0 GHz

## Typical Performance



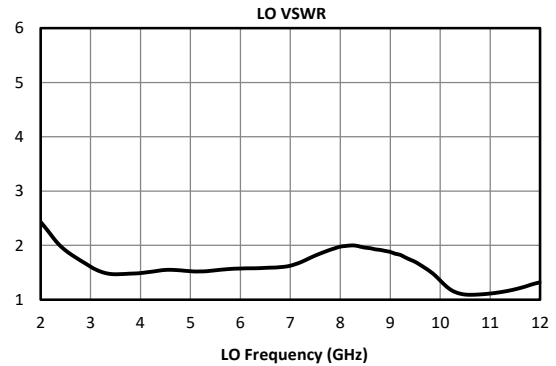
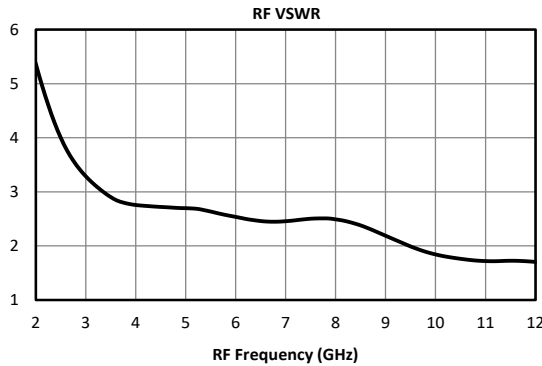
# DOUBLE-BALANCED MIXERS

**M1-0212**

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LO/RF 2.0 to 12.0 GHz  
IF DC to 2.0 GHz

## Typical Performance (cont.)



## Revision History

Revision Code	Revision Date	Comment
-	2006	Initial Release
A	September 2020	Electrical Specifications - LO to RF Isolation Min Updated

### DATA SHEET NOTES:

- Mixer Conversion Loss Plot IF frequency is 100 MHz.
- Mixer Noise Figure typically measures within +0.5 dB of conversion loss for IF frequencies greater than 5 MHz.
- 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.
- Conversion Loss typically degrades less than 0.5 dB at +100°C and improves less than 0.5 dB at -55°C.
- Maximum input power is +23 dBm at +25°C, derated linearly to +20 dBm at +100°C.
- Specifications are subject to change without notice. Contact Marki Microwave for the most recent specifications and data sheets.
- Standard configuration for A, B, and C outlines are with connectors and bottom spacer.
- Catalog mixer circuits are continually improved. Configuration control requires custom mixer model numbers and specifications.

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