

## TRIPLE-BALANCED MIXERS

**M2-0004**

### Features

- LO/RF .01 to 4.0 GHz
- IF .0002 to 3.0 GHz
- 6.5 dB Typical Conversion Loss
- 30 dB Typical LO to RF Isolation
- Ultra-Broadband RF, LO, and IF



**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)	.01-4.0 .01-4.0	.01-4.0 .01-4.0	.0002-1.0 .0002-3.0		6.5 7.5	8.5 10.5	
Isolation (dB)				20			
LO-RF	.01-4.0	.01-4.0			30		
LO-IF	.01-4.0	.01-4.0			35		
RF-IF	.01-4.0	.01-4.0			35		
Input 1 dB Compression (dBm)	.01-4.0	.01-4.0			+5		L (+13 to +16 )
Input Two-Tone Third Order Intercept Point (dBm)	.01-4.0	.01-4.0			+15		L (+13 to +16 )

### Part Number Options

Please specify diode level and package style by adding to model number.					
Package Styles		Examples			
Connectorized <sup>1</sup>	<a href="#">A</a>	M2-0004LA, M2-0004LE-2			
Microstrip <sup>2,3</sup>	<a href="#">E</a>	<a href="#">M2-0004</a>	<a href="#">L</a>	<a href="#">E</a>	<a href="#">-2</a>
Surface Mount <sup>2,3</sup>	<a href="#">EZ</a>	(Model)	(Diode Option)	(Package)	(I-Port Configuration)

<sup>1</sup>B, C, P style connectorized packages available (not recommended for new designs).

<sup>2</sup>Connectorized test fixtures available for most microstrip and surface mount packages. Consult factory.

<sup>3</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.

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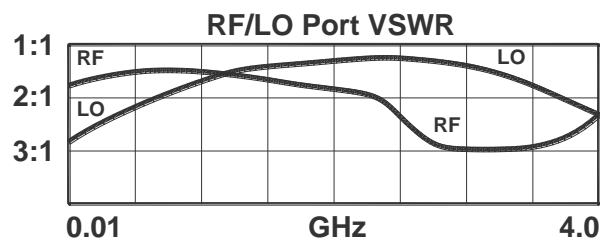
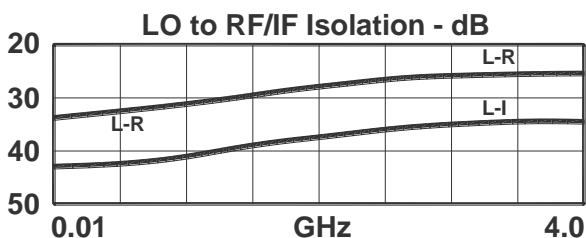
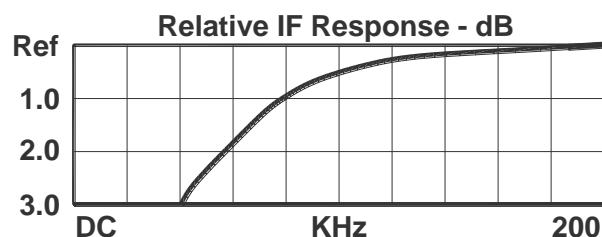
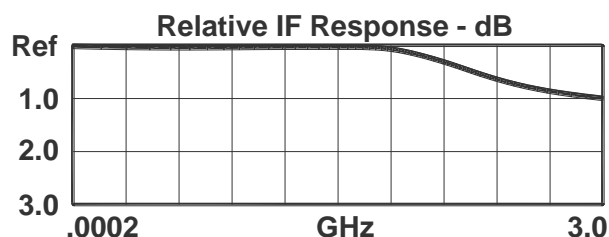
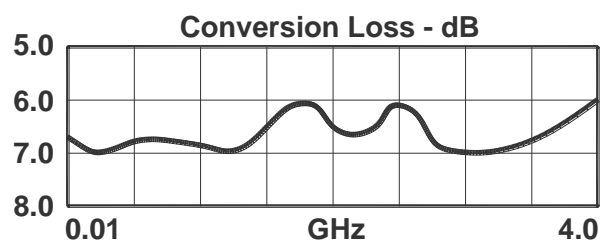
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LO/RF .01 to 4.0 GHz  
IF .0002 to 3.0 GHz

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, 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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