

## TRIPLE-BALANCED MIXERS

**M2-0003**



### Features

- LO/RF .005 to 3.0 GHz
- IF .0002 to 2.0 GHz
- 6.5 dB Typical Conversion Loss
- 35 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)	.005-3.0 .005-3.0	.005-3.0 .005-3.0	.0002-1.0 .0002-2.0		6.5 7.5	8.0 9.0	
Isolation (dB)							
LO-RF	.005-3.0	.005-3.0		25	35		
LO-IF	.005-3.0	.005-3.0			40		
RF-IF	.005-3.0	.005-3.0			35		
Input 1 dB Compression (dBm)	.005-3.0	.005-3.0			+5		L (+13 to +16 )
Input Two-Tone Third Order Intercept Point (dBm)	.005-3.0	.005-3.0			+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>	<u>A</u>	M2-0003LA, M2-0003LE-2	
Microstrip <sup>2,3</sup>	<u>E</u>	<u>M2-0003</u> (Model)	<u>L</u> (Diode Option) <u>E</u> (Package) <u>-2</u> (I-Port Configuration)
Surface Mount <sup>2,3</sup>	<u>EZ</u>		

<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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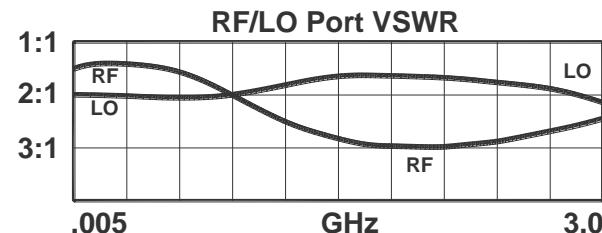
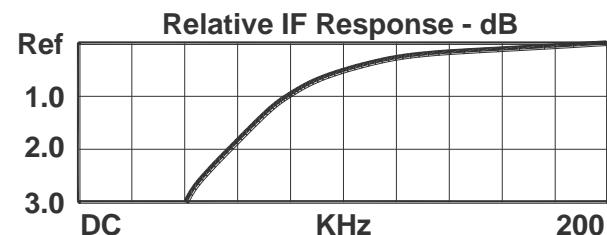
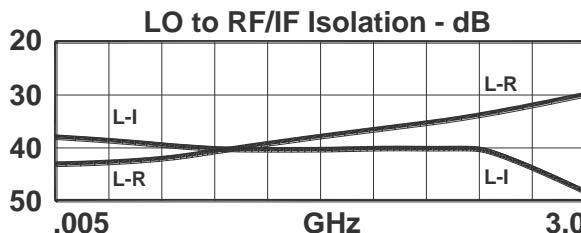
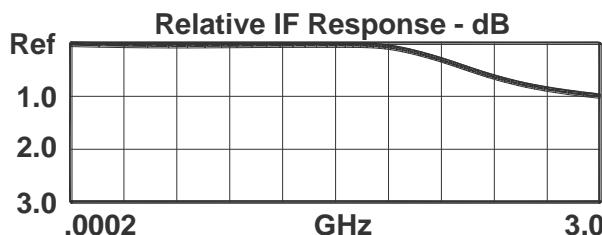
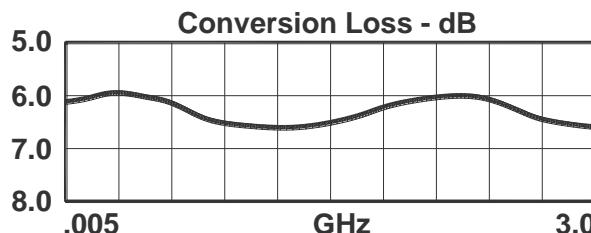
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**LO/RF .005 to 3.0 GHz**  
**IF .0002 to 2.0 GHz**

Typical Performance



### DATA SHEET NOTES:

1. Mixer Conversion Loss Plot IF frequency is 100 MHz.
2. Mixer Noise Figure typically measures within  $\pm 0.5$  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  $+100^{\circ}\text{C}$  and improves less than 0.5 dB at  $-55^{\circ}\text{C}$ .
5. Maximum input power is +26 dBm at  $+25^{\circ}\text{C}$ , derated linearly to +23 dBm at  $+100^{\circ}\text{C}$ .
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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