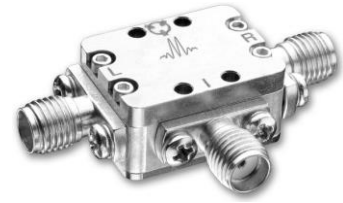


## TRIPLE-BALANCED MIXERS

**M2-0218**

### Features

- LO/RF 2.0 to 18.0 GHz
- IF .001 to 6.0 GHz
- 7.5 dB Typical Conversion Loss
- 25 dB Typical LO to RF Isolation
- Ultra-Broadband RF, LO, and IF
- 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<br>LO drive level (dBm) |
|--|----------|----------|----------|-----|-----|------|--------------------------------------|
| Conversion Loss (dB)                             | 2.0-18.0 | 2.0-18.0 | .001-2.0 |     | 7.5 | 9.5  |                                      |
|  | 2.0-18.0 | 2.0-18.0 | 2.0-4.0  |     | 8.0 | 10.0 |                                      |
|  | 2.0-18.0 | 2.0-18.0 | 4.0-6.0  |     | 8.5 | 11.0 |                                      |
| Isolation (dB)                                   |          |          |          |     |     |      |                                      |
|  | LO-RF    | 2.0-18.0 | 2.0-18.0 | 12  | 25  |      |                                      |
|  | LO-RF    | 4.0-18.0 | 4.0-18.0 | 18  | 27  |      |                                      |
|  | LO-IF    | 2.0-18.0 | 2.0-18.0 |     | 27  |      |                                      |
| RF-IF  | 2.0-18.0 | 2.0-18.0 |          | 25  |     |      |                                      |
| Input 1 dB Compression (dBm)                     | 2.0-18.0 | 2.0-18.0 |          |     | +5  |      | L (+10 to +13)                       |
|  |          |          |          |     | +8  |      | M (+13 to +16)                       |
|  |          |          |          |     | +11 |      | N (+16 to +19)                       |
|  |          |          |          |     | +14 |      | H (+19 to +22)                       |
| Input Two-Tone Third Order Intercept Point (dBm) | 2.0-18.0 | 2.0-18.0 |          |     | +15 |      | L (+10 to +13)                       |
|  |          |          |          |     | +18 |      | M (+13 to +16)                       |
|  |          |          |          |     | +21 |      | N (+16 to +19)                       |
|  |          |          |          |     | +24 |      | H (+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> |  | M2-0218LP                 |                            |                       |                                     |  |
| Package Options Not Recommended for New Designs                         |          |  | Examples                  |                            |                       |                                     |  |
| Microstrip <sup>1,2</sup>   | <u>E</u> |  | <u>M2-0218</u><br>(Model) | <u>L</u><br>(Diode Option) | <u>E</u><br>(Package) | <u>-2</u><br>(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.

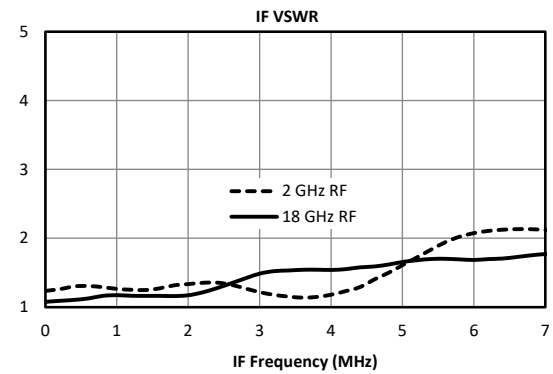
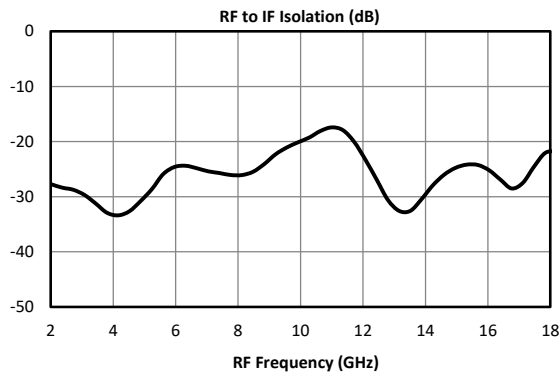
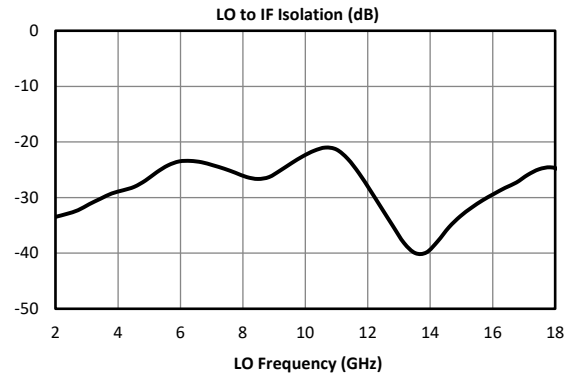
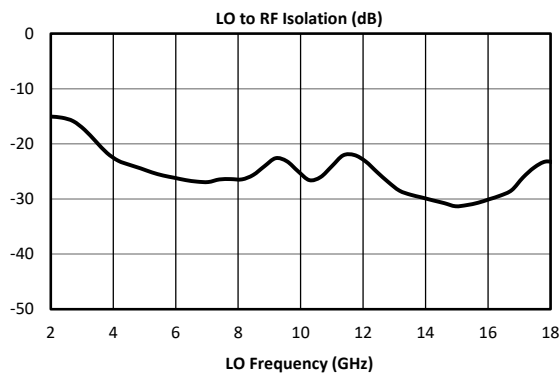
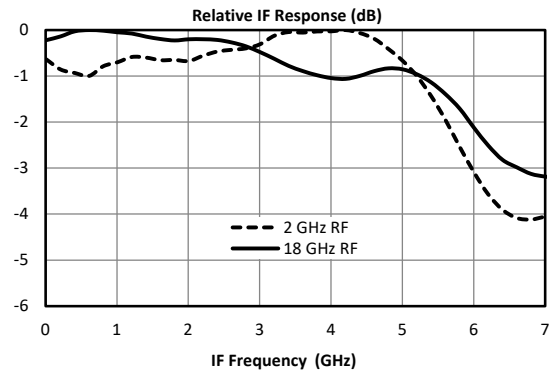
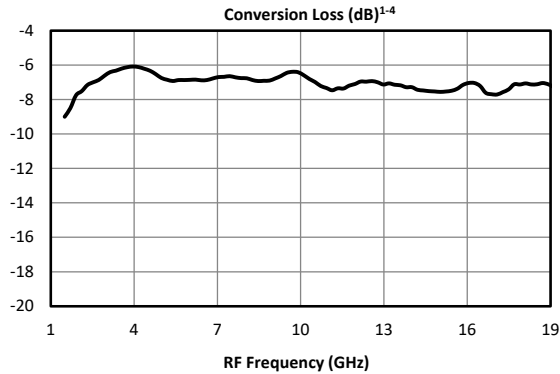
# TRIPLE-BALANCED MIXERS

**M2-0218**

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LO/RF 2.0 to 18.0 GHz  
IF .001 to 6.0 GHz

Typical Performance



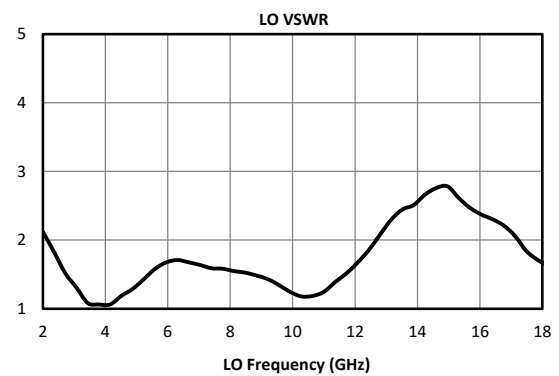
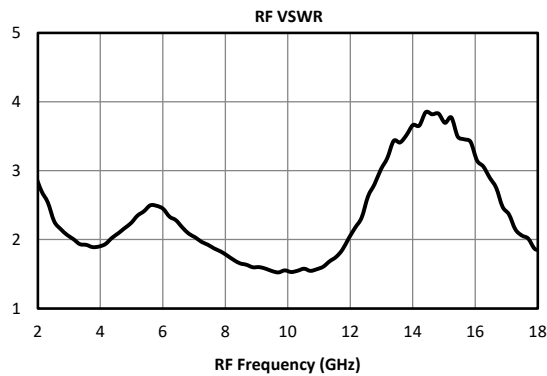
## TRIPLE-BALANCED MIXERS

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M2-0218

LO/RF 2.0 to 18.0 GHz  
IF .001 to 6.0 GHz

Typical Performance (cont.)



### 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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