

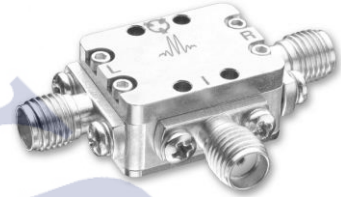


## DOUBLE-BALANCED MIXERS

**M1-0818**

### Features

- LO/RF 8.0 to 18.0 GHz
- IF DC to 4.0 GHz
- 6.0 dB Typical Conversion Loss
- 35 dB Typical LO to RF Isolation
- Broadband RF and LO



**Electrical Specifications** - Specifications guaranteed from -55 to +100°C, measured in a 50-Ohm system.

| Parameter                                        | LO<br>(GHz)          | RF<br>(GHz)          | IF<br>(GHz)       | Min | Typ                             | Max        | Diode Option<br>LO drive level (dBm)                                                  |
|--------------------------------------------------|----------------------|----------------------|-------------------|-----|---------------------------------|------------|---------------------------------------------------------------------------------------|
| Conversion Loss (dB)                             | 8.0-18.0<br>8.0-18.0 | 8.0-18.0<br>8.0-18.0 | DC-2.0<br>2.0-4.0 |     | 6.0<br>7.0                      | 7.5<br>8.5 |                                                                                       |
| Isolation (dB)                                   |                      |                      |                   | 25  | 35                              |            |                                                                                       |
| LO-RF                                            | 8.0-18.0             | 8.0-18.0             |                   |     | 30                              |            |                                                                                       |
| LO-IF                                            | 8.0-18.0             | 8.0-18.0             |                   |     | 25                              |            |                                                                                       |
| RF-IF                                            | 8.0-18.0             | 8.0-18.0             |                   |     |                                 |            |                                                                                       |
| Input 1 dB Compression (dBm)                     | 8.0-18.0             | 8.0-18.0             |                   |     | +2<br>+5<br>+8<br>+11<br>+14    |            | L (+7 to +10)<br>M (+10 to +13)<br>N (+13 to +16)<br>H (+16 to +19)<br>S (+19 to +22) |
| Input Two-Tone Third Order Intercept Point (dBm) | 8.0-18.0             | 8.0-18.0             |                   |     | +12<br>+15<br>+18<br>+21<br>+24 |            | L (+7 to +10)<br>M (+10 to +13)<br>N (+13 to +16)<br>H (+16 to +19)<br>S (+19 to +22) |

### Part Number Options

|                                                                         |                   |  |                           |                            |                       |                                     |
|-------------------------------------------------------------------------|-------------------|--|---------------------------|----------------------------|-----------------------|-------------------------------------|
| Please specify diode level and package style by adding to model number. |                   |  |                           |                            |                       |                                     |
| <b>Package Options</b>                                                  |                   |  | <b>Examples</b>           |                            |                       |                                     |
| Connectorized                                                           | <a href="#">P</a> |  | M1-0818LP                 |                            |                       |                                     |
| <b>Package Options Not Recommended for New Designs</b>                  |                   |  | <b>Examples</b>           |                            |                       |                                     |
| Microstrip <sup>1,2</sup>                                               | <a href="#">E</a> |  | <u>M1-0818</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.

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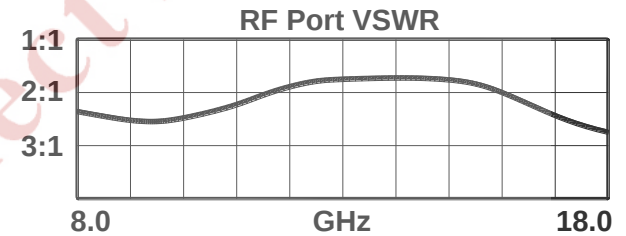
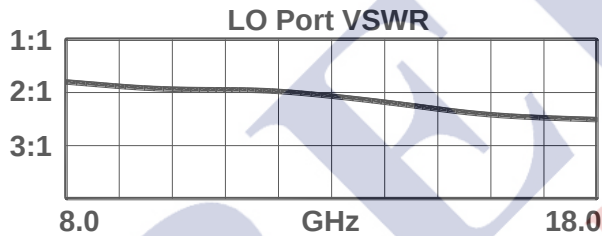
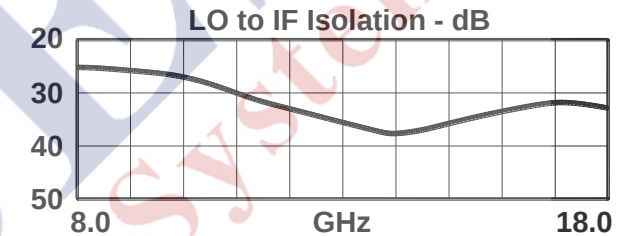
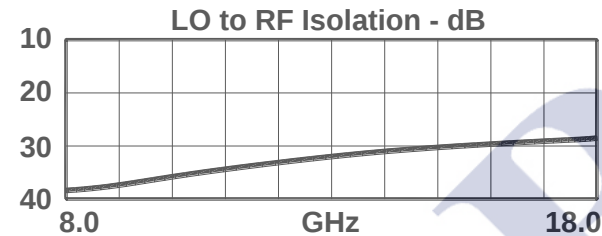
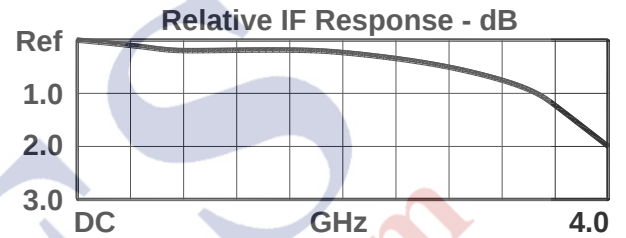
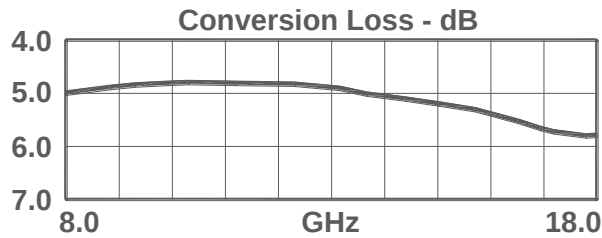
## DOUBLE-BALANCED MIXERS

Page 2

**M1-0818**

LO/RF 8.0 to 18.0 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.

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