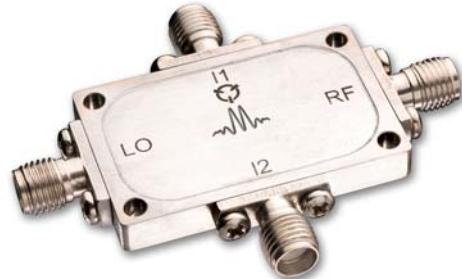


QUADRATURE-IF DOUBLE-BALANCED MIXERS

IQ-0318



Features

- LO/RF 3.0 to 18.0 GHz
- IF DC to 500 MHz
- 7 dB Typical Conversion Loss
- 40 dB Typical LO to RF Isolation
- 10 Degree Typical Quadrature Phase Deviation
- .75 dB Typical Amplitude Deviation
- Ultra-Broadband RF and LO

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

| Parameter | LO (GHz) | RF (GHz) | IF (MHz) | Min | Typ | Max | Diode Option LO drive level (dBm) |
|---|-------------|-------------|-------------|-----|------------|-----|--------------------------------------|
| Conversion Loss (dB) | 3.0-18.0 | 3.0-18.0 | DC-500 | | 7.0 | 9.0 | |
| Image Rejection (w/ Test Hybrid) (dB) | 3.0-18.0 | 3.0-18.0 | DC-500 | 15 | 22 | | |
| I/Q Amplitude Deviation (dB) | 3.0-18.0 | 3.0-18.0 | DC-500 | | 0.75 | | |
| I/Q Quadrature Phase Deviation (degrees) | 3.0-18.0 | 3.0-18.0 | DC-500 | | 10 | | |
| Isolation (dB) | | | | | | | |
| LO-RF | 3.0-18.0 | 3.0-18.0 | | 25 | 40 | | |
| LO-IF | 3.0-18.0 | 3.0-18.0 | | | 20 | | |
| RF-IF | 3.0-18.0 | 3.0-18.0 | | | 20 | | |
| Input 1 dB Compression (dBm) | 3.0-18.0 | 3.0-18.0 | | | +5 +8 | | L (+13 to +16) M (+16 to +19) |
| Input Two-Tone Third Order Intercept Point (dBm) | 3.0-18.0 | 3.0-18.0 | | | +15 +18 | | L (+13 to +16) M (+16 to +19) |

Part Number Options

| | |
|---|-----------|
| Please specify diode level and package style by adding to model number. | |
| Package Style(s) ¹ | Example |
| IR0218 | IQ-0318 L |

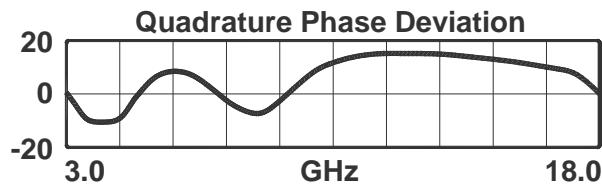
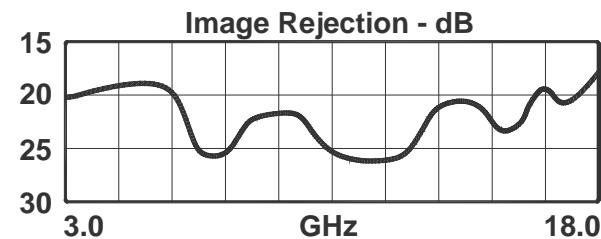
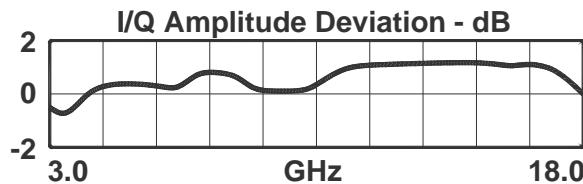
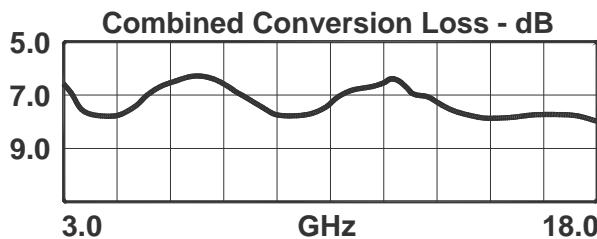
¹Higher LO drive levels are available.

QUADRATURE-IF
DOUBLE-BALANCED MIXERS
Page 2

IQ-0318

**LO/RF 3.0 to 18.0 GHz
IF DC to 500 MHz**

Typical Performance



DATA SHEET NOTES:

1. Mixer Conversion Loss Plot IF frequency is 70 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. Catalog mixer circuits are continually improved. Configuration control requires custom mixer model numbers and specifications.

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