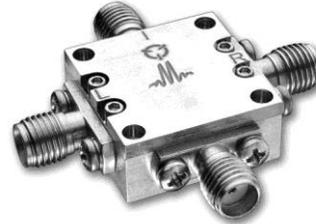


QUADRATURE-IF DOUBLE-BALANCED MIXERS

IQ-0307



Features

- LO/RF 3.0 to 7.0 GHz
- IF DC to 500 MHz
- 5.5 dB Typical Conversion Loss
- 30 dB Typical LO to RF Isolation
- 3 degree Typ Quadrature Phase Deviation
- .3 dB Typical Amplitude Deviation

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) | 4.0-7.0 3.0-7.0 | 4.0-7.0 3.0-7.0 | DC-500 DC-500 | | 5.5 5.8 | 7.0 8.0 | |
| Image Rejection (dB) | 3.0-7.0 | 3.0-7.0 | DC-500 | 18 | 23 | | |
| I/Q Amplitude Deviation (dB) | 3.0-7.0 | 3.0-7.0 | DC-500 | | 0.3 | | |
| I/Q Quadrature Phase Deviation (degrees) | 3.0-7.0 | 3.0-7.0 | DC-500 | | 3 | | |
| Isolation (dB) | | | | | | | |
| LO-RF | 3.0-7.0 | 3.0-7.0 | | 22 | 30 | | |
| LO-IF | 3.0-7.0 | 3.0-7.0 | | | 20 | | |
| RF-IF | 3.0-7.0 | 3.0-7.0 | | | 20 | | |
| Input 1 dB Compression (dBm) | 3.0-7.0 | 3.0-7.0 | | | +4 +6 | | L (+10 to +13) M (+13 to +16) |
| Input Two-Tone Third Order Intercept Point (dBm) | 3.0-7.0 | 3.0-7.0 | | | +14 +16 | | L (+10 to +13) M (+13 to +16) |

Part Number Options

| <i>Please specify diode level and package style by adding to model number.</i> | |
|--|----------------------------|
| Package Style(s) ¹ | Example |
| XP | IQ-0307 <u>L</u> <u>XP</u> |

¹Application of DC current has been known to damage mixer diodes. IF DC current should be limited to less than 50 mA to prevent damage. Any application of DC current could cause field damage and void the warranty.

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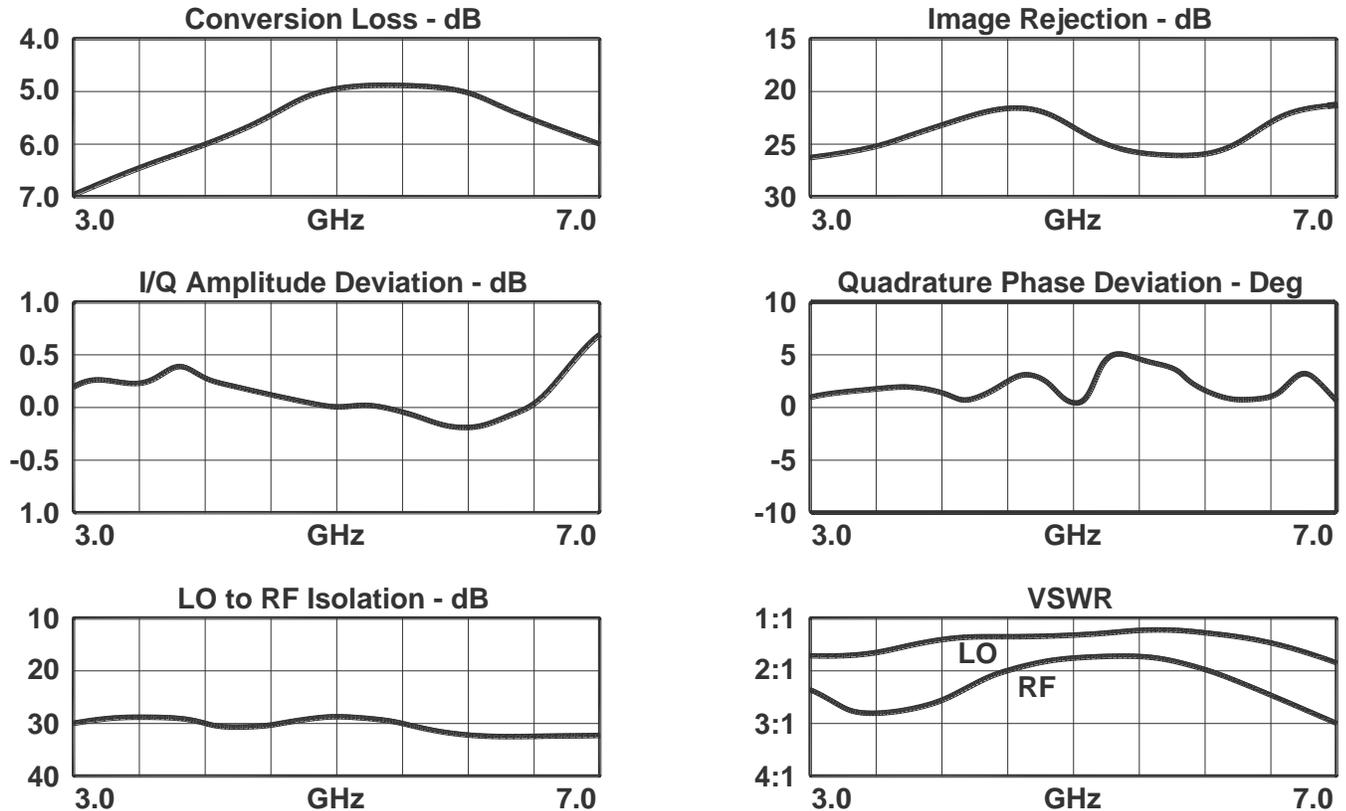
**QUADRATURE-IF
DOUBLE-BALANCED MIXERS**

IQ-0307

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LO/RF 3.0 to 7.0 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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