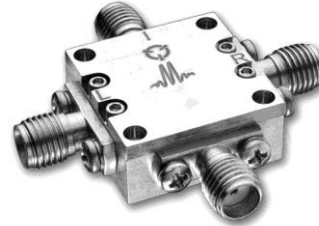


# QUADRATURE-IF DOUBLE-BALANCED MIXERS

**IQ-4509**



### Features

- LO/RF 4.5 to 9.0 GHz
- IF DC to 500 MHz
- 5.5 dB Typical Conversion Loss
- 30 dB Typical LO to RF Isolation
- 4 Degree Typical Quadrature Phase Deviation
- .3 dB Typical Amplitude Deviation
- Open Carrier or Connectorized

**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)	4.5-9.0	4.5-9.0	DC-500		5.5	7.0	
Image Rejection (dB)	4.5-9.0	4.5-9.0	DC-500	18	23		
I/Q Amplitude Deviation (dB)	4.5-9.0	4.5-9.0	DC-500		0.3		
I/Q Quadrature Phase Deviation (degrees)	4.5-9.0	4.5-9.0	DC-500		4		
Isolation (dB)							
LO-RF	4.5-9.0	4.5-9.0		20	30		
LO-IF	4.5-9.0	4.5-9.0			20		
RF-IF	4.5-9.0	4.5-9.0			20		
Input 1 dB Compression (dBm)	4.5-9.0	4.5-9.0			+4 +6		L (+10 to +13) M (+13 to +16)
Input Two-Tone Third Order Intercept Point (dBm)	4.5-9.0	4.5-9.0			+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>	
<b>Package Style(s)</b> <sup>1,2</sup>	<b>Example</b>
<a href="#">XT</a> , <a href="#">XP</a>	IQ-4509 <u>L</u> <u>XT</u>

<sup>1</sup>Connectorized test fixtures available for most carrier and surface mount packages. Consult factory.

<sup>2</sup>Higher LO drive levels are available.

Marki Microwave reserves the right to make changes to the product(s) or information contained herein without notice. Marki Microwave makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Marki Microwave assume any liability whatsoever arising out of the use of or application of any product.

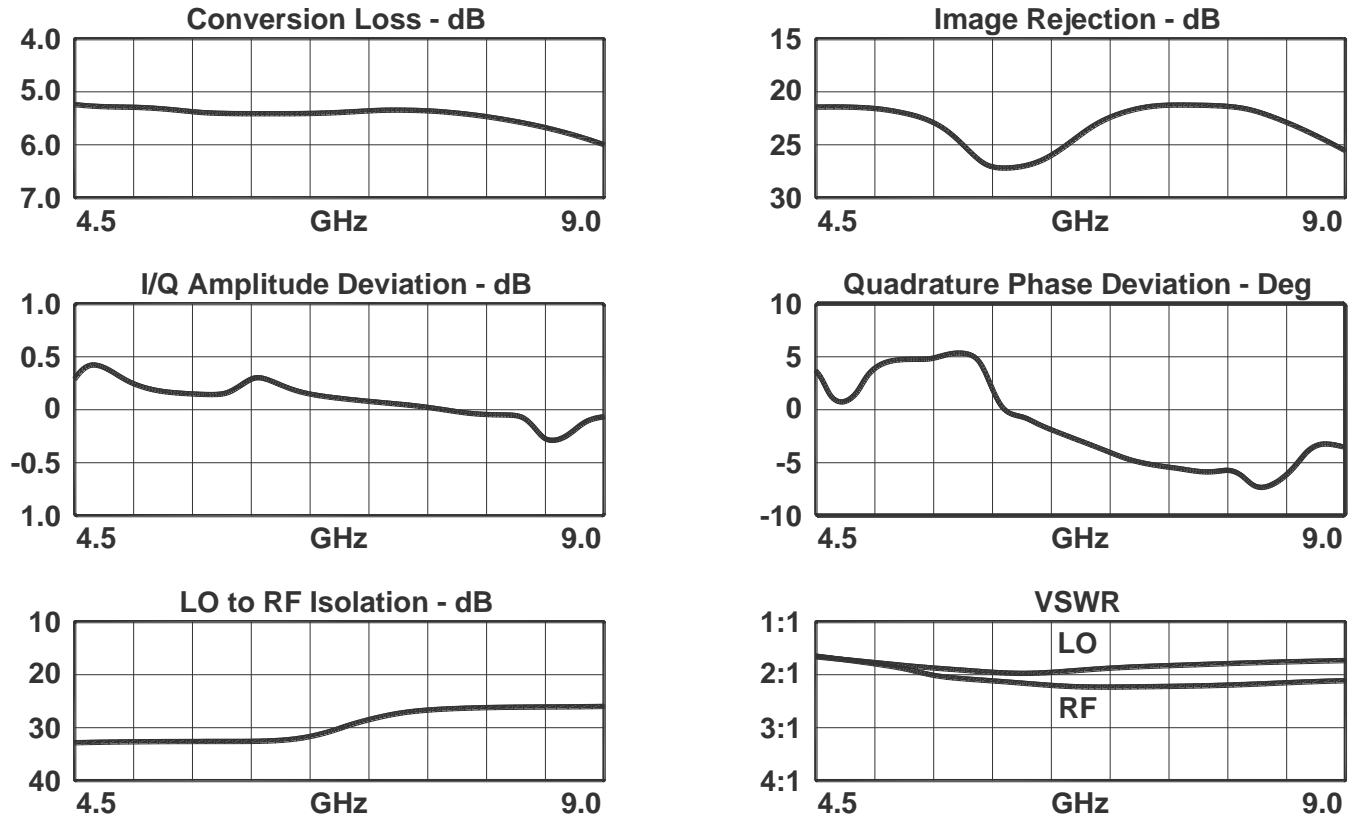
**QUADRATURE-IF  
DOUBLE-BALANCED MIXERS**

**IQ-4509**

Page 2

LO/RF 4.5 to 9.0 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.

Marki Microwave reserves the right to make changes to the product(s) or information contained herein without notice. Marki Microwave makes no warranty, representation, or guarantee regarding the suitability of its products for any particular purpose, nor does Marki Microwave assume any liability whatsoever arising out of the use or application of any product.

© Marki Microwave, Inc.



215 Vineyard Court, Morgan Hill, CA 95037 | Ph: 408.778.4200 | Fax 408.778.4300 | [info@markimicrowave.com](mailto:info@markimicrowave.com)

[www.markimicrowave.com](http://www.markimicrowave.com)