

ULTRA-BROADBAND DOUBLE-BALANCED MIXER

M4-10M10

The M4-10M10 features 10 MHz to 10 GHz ultra-broadband LO/RF performance, making it unique in the M4 mixer family. While other M4 mixers are limited to about 500 MHz at the low end, the M4-10M10, with its ferrite-assisted broadband balun construction, performs down to 10 MHz. The multi-decade performance of the LO/RF makes this mixer ideal for measurements requiring broad bandwidth and low IF frequencies such as Phase Detection, Phase Noise, Amplitude Noise, Noise Figure, etc.



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)	.010-10.0 .010-10.0	.010-10.0 .010-10.0	DC-100 100-250		8 dB		
Isolation (dB)							
LO-RF	.010-10.0	.010-10.0			32 dB		
LO-IF	.010-10.0	.010-10.0			25 dB		
RF-IF	.010-10.0	.010-10.0					
Input 1 dB Compression (dBm)	.010-10.0	.010-10.0			+3 +6		L (+10 to +13) M (+13 to +16)
Input Two-Tone Third Order Intercept Point (dBm)	.010-10.0	.010-10.0			+13 +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)	Example
J	M4-10M10 <u>L</u> <u>J</u>

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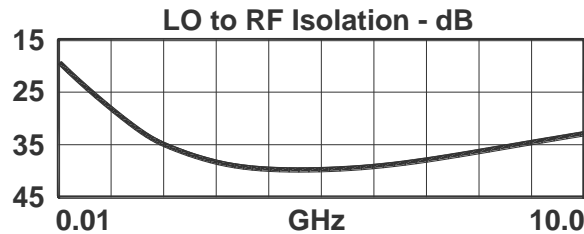
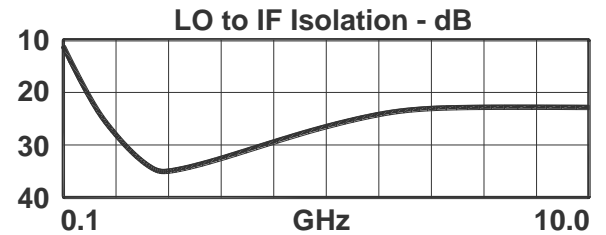
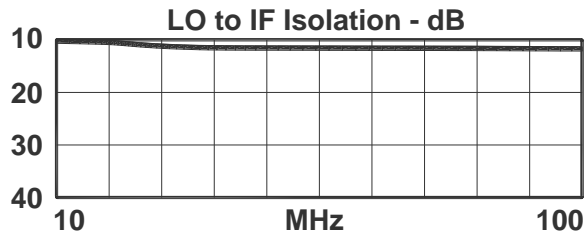
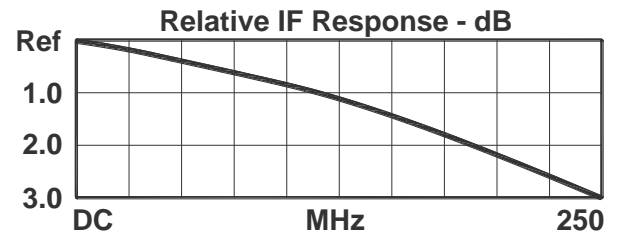
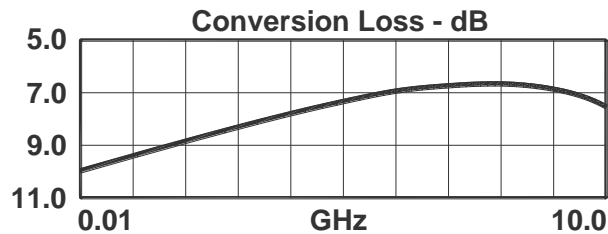
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LO/RF .010 to 10.0 GHz
IF DC to 250 MHz

Typical Performance



DATA SHEET NOTES:

1. Mixer Conversion Loss Plot is done with an IF frequency of 15 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. Catalog mixer circuits are continually improved. Configuration control requires custom mixer model numbers and specifications.

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