

DOUBLE-BALANCED MIXERS

M1-0620

Features

- LO/RF 6.0 to 20.0 GHz
- IF DC to 6.0 GHz
- 5.5 dB Typical Conversion Loss
- 40 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 (GHz)	RF (GHz)	IF (GHz)	Min	Typ	Max	Diode Option LO drive level (dBm)
Conversion Loss (dB)	6.0-20.0 6.0-20.0	6.0-20.0 6.0-20.0	DC-3.0 3.0-6.0		5.5 6.5	7.5 8.5	
Isolation (dB)				30			
LO-RF	6.0-20.0	6.0-20.0			40		
LO-IF	6.0-20.0	6.0-20.0			20		
RF-IF	6.0-20.0	6.0-20.0			25		
Input 1 dB Compression (dBm)*	6.0-20.0	6.0-20.0			+2 +5 +8 +11 +14		L (+7 to +10) M (+10 to +13) N (+13 to +16) H (+16 to +19) S (+19 to +22)
Input Two-Tone Third Order Intercept Point (dBm)*	6.0-20.0	6.0-20.0			+12 +15 +18 +21 +24		L (+7 to +10) M (+10 to +13) N (+13 to +16) H (+16 to +19) S (+19 to +22)

* 1-dB Compression and Third Order Intercept are degraded for LO frequencies below 13 GHz

Part Number Options

Please specify diode level and package style by adding to model number.							
Package Options				Examples			
Connectorized	<u>P</u>			M1-0620LP			
Package Options Not Recommended for New Designs				Examples			
Microstrip ^{1,2}	<u>E</u>			<u>M1-0620</u> (Model)	<u>L</u> (Diode Option)	<u>E</u> (Package)	<u>-2</u> (I-Port Configuration)

¹Connectorized test fixtures available for most microstrip packages. Consult factory.

²For non-connectorized packages, specify I-port configuration by adding -1 or -2 suffix to model number. Default is -2 configuration when not specified.

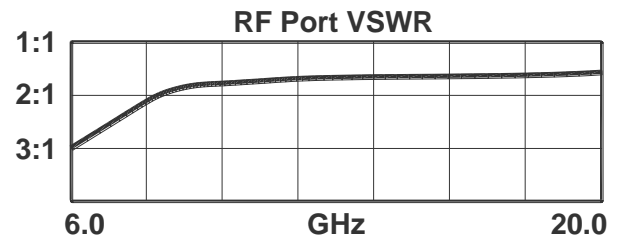
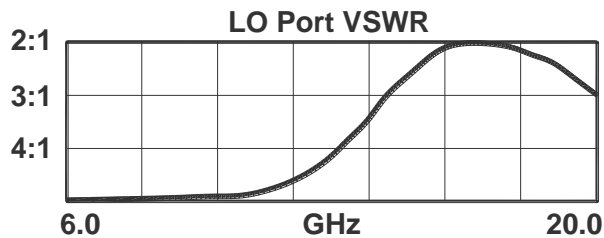
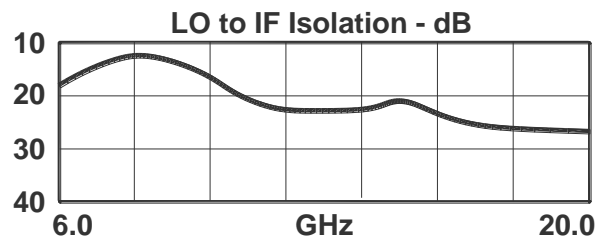
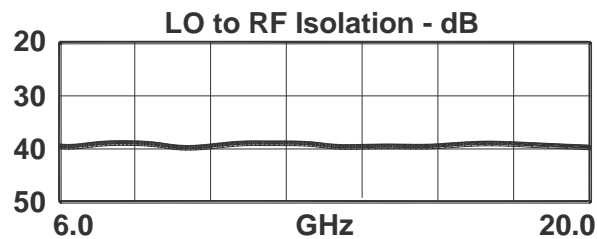
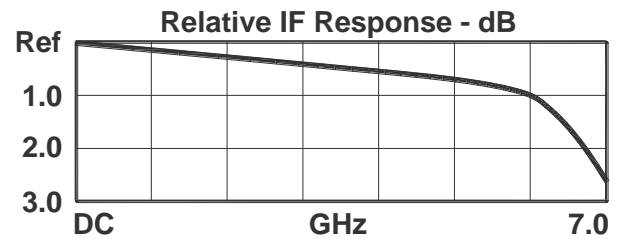
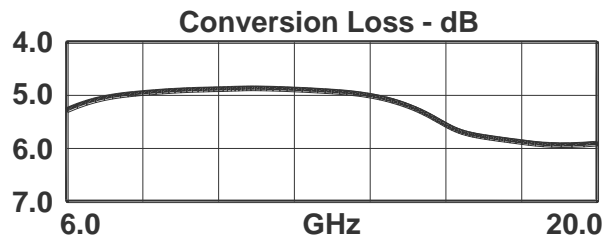
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LO/RF 6.0 to 20.0 GHz
IF DC to 6.0 GHz

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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