

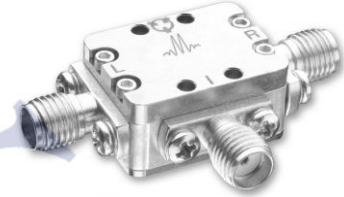


DOUBLE-BALANCED MIXERS

M1-1020

Features

- LO/RF 10.0 to 20.0 GHz
- IF DC to 4.0 GHz
- 6.0 dB Typical Conversion Loss
- 35 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)	10.0-20.0	10.0-20.0	DC-2.0		6.0	8.0	
	10.0-20.0	10.0-20.0	2.0-4.0		7.5	9.0	
Isolation (dB)							
LO-RF	10.0-20.0	10.0-20.0		20	35		
LO-IF	10.0-20.0	10.0-20.0			30		
RF-IF	10.0-20.0	10.0-20.0			25		
Input 1 dB Compression (dBm)	10.0-20.0	10.0-20.0			+2		L (+7 to +10)
					+5		M (+10 to +13)
					+8		N (+13 to +16)
					+11		H (+16 to +19)
					+14		S (+19 to +22)
Input Two-Tone Third Order Intercept Point (dBm)	10.0-20.0	10.0-20.0			+12		L (+7 to +10)
					+15		M (+10 to +13)
					+18		N (+13 to +16)
					+21		H (+16 to +19)
					+24		S (+19 to +22)

Part Number Options

Please specify diode level and package style by adding to model number.						
Package Options			Examples			
Connectorized	P		M1-1020LP			
Package Options Not Recommended for New Designs			Examples			
Microstrip ^{1,2}	E		<u>M1-1020</u>	<u>L</u>	<u>E</u>	<u>-2</u>
			(Model)	(Diode Option)	(Package)	(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.



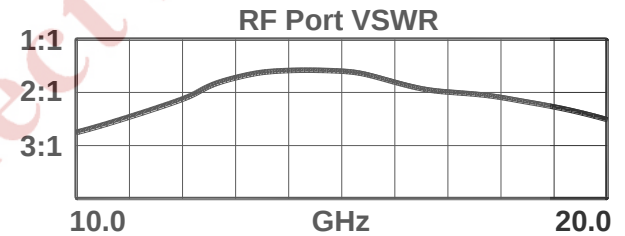
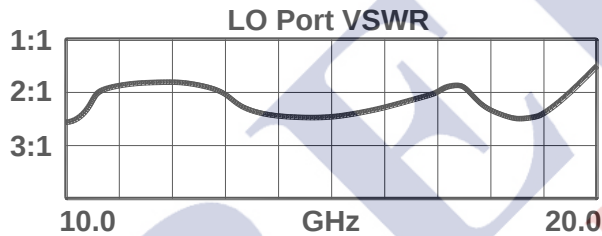
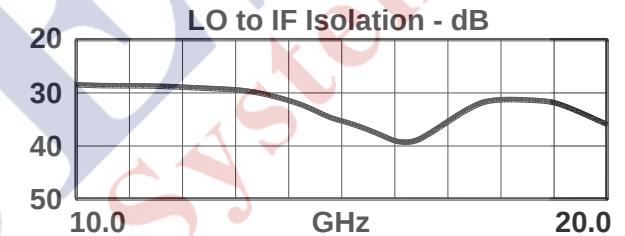
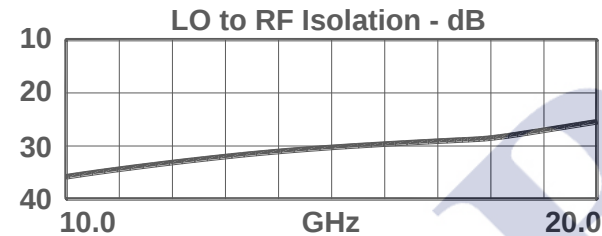
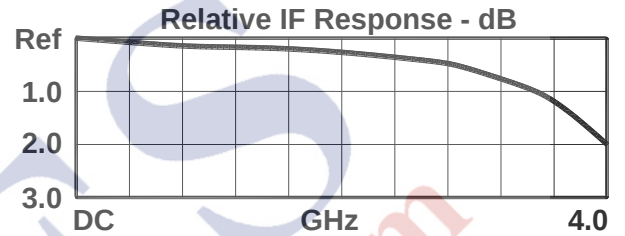
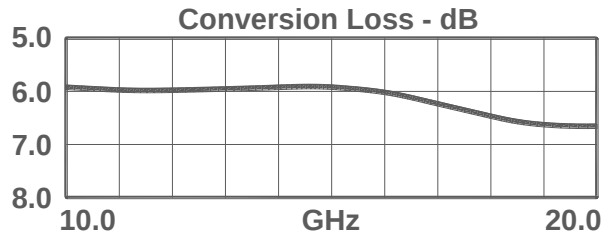
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M1-1020

LO/RF 10.0 to 20.0 GHz
IF DC to 4.0 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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