

## DOUBLE-BALANCED MIXERS BI-PHASE MODULATORS

### M1B-0618

#### Features

- LO/RF 6.0 to 18.0 GHz
- IF DC to 4.0 GHz
- 5.5 dB Typical Conversion Loss
- 33 dB Typical LO to RF Isolation
- Recommended for Bi-Phase Applications
- Broadband RF and LO
- For a list of recommended LO driver amps for all mixers and IQ mixers, see [here](#).



**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)	6.0-14.0	6.0-14.0	DC-2.0		5.5	7.0	
	14-18	14-18	DC-2.0		6.5	9	
	6.0-14.0	6.0-14.0	2.0-4.0		6.5	8.0	
	14-18	14-18	2.0-4.0		7.5	10	
Isolation (dB)				25			
	LO-RF	6.0-18.0	6.0-18.0		33		
	LO-IF	6.0-18.0	6.0-18.0		30		
RF-IF	6.0-18.0	6.0-18.0		25			
Input 1 dB Compression (dBm)	6.0-18.0	6.0-18.0			+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)	6.0-18.0	6.0-18.0			+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			
Microstrip <sup>1,2</sup>	<u>E</u>	<u>M1B-0618</u> (Model)	<u>L</u> (Diode Option)	<u>E</u> (Package)	<u>-2</u> (I-Port Configuration)
Connectorized	<u>P</u>				

<sup>1</sup>Connectorized test fixtures available for most microstrip packages. Consult factory.

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

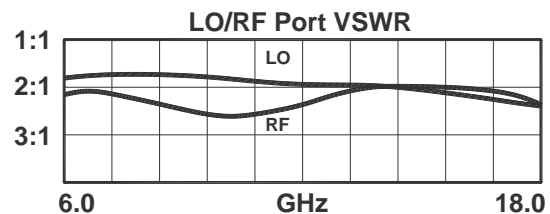
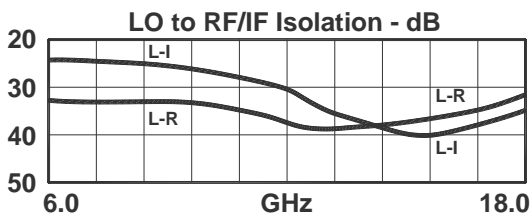
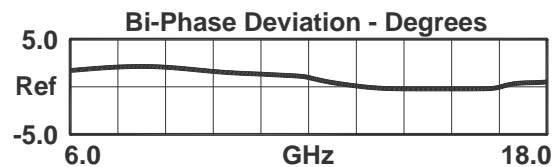
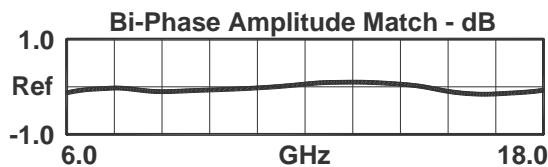
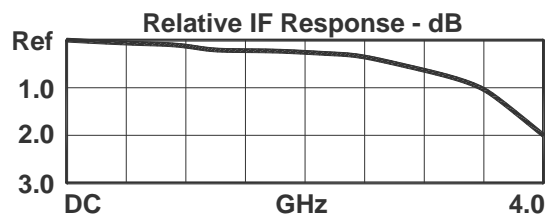
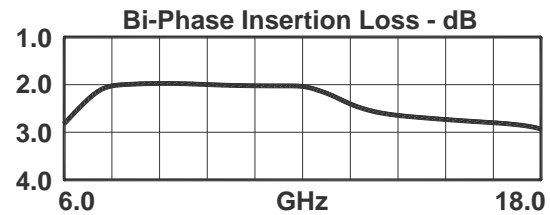
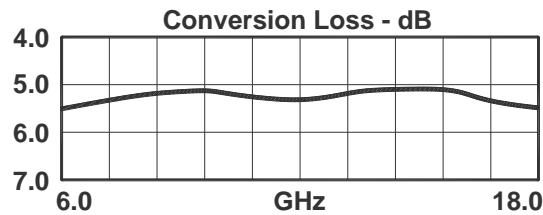
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Typical Performance



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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