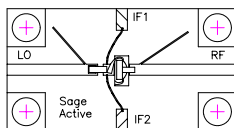




**SPECIFICATION BULLETIN MR147M Low Cost Open Substrate Mixer**  
**RF/LO: 3 to 18 GHz IF: DC to 800 MHz**

**Standard Product Features**

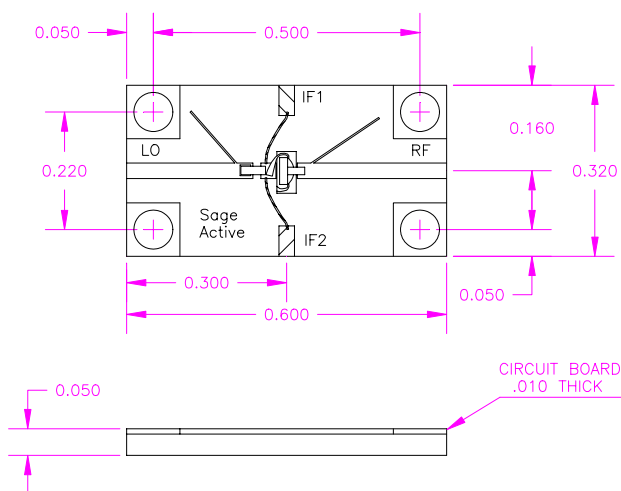
- Surface Mount Configuration
- Covers Telecommunication Bands
- 5.5 dB Typical Mid-Band Conversion Loss
- High Isolation >30 dB LO-RF
- Two IF Outputs (One active at a time)
- Low Cost



SPECIFICATIONS	TYPICAL	Min.	Max.
RF/LO Frequency Range	-----	3 GHz	18 GHz
IF Frequency Range (3 dB Bandwidth)	-----	DC	800 MHz
Conversion Loss (IF = DC to 500 MHz)	5.5 dB	----	8.5 dB
LO Drive Level	13 dBm	11 dBm	15 dBm
Isolation, LO to RF	30 dB	20 dB	---
LO to IF	25 dB	15 dB	---
VSWR, RF	2.2:1	---	---
LO	1.6:1	---	---
Input 1 dB Compression	7 dBm	5 dBm	---
Input Two-Tone Third Order IP (IP3)	18 dBm	14 dBm	---
Operating Temperature Range	---	-54 C	+95 C
Storage Temperature Range	---	-65 C	+125 C

Note: Only one IF Output can be connected. Alternate LO Drive ranges available. Consult Factory.

**OUTLINE DRAWING**



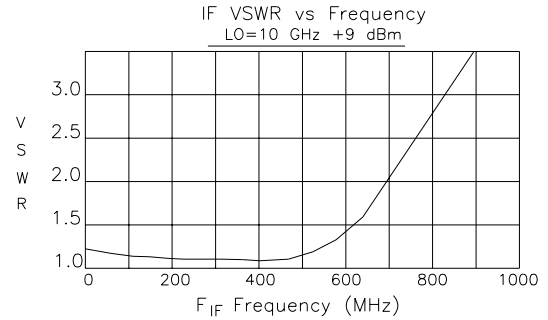
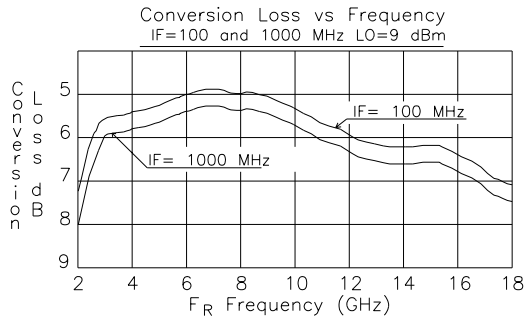
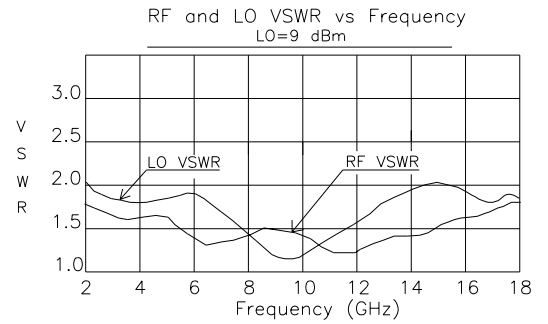
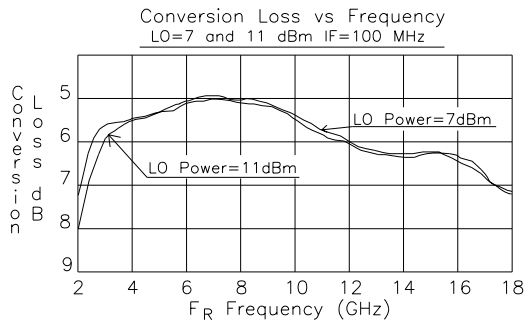


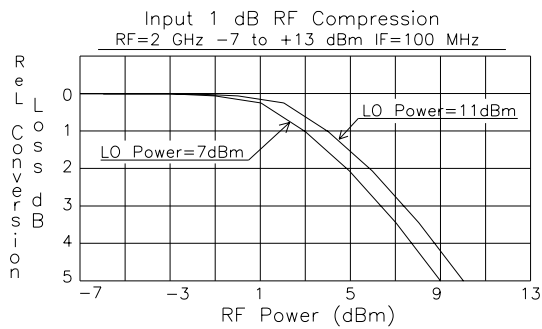
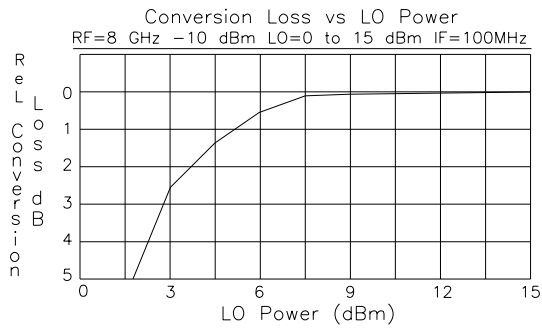
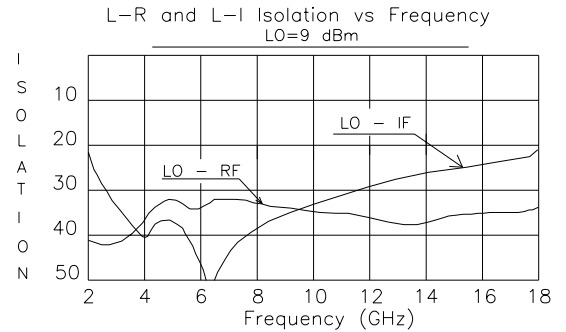
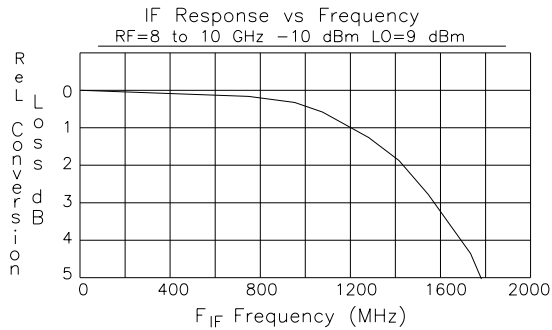
**Sage**  
**Active Microwave**  
 Hollis N.H. 03049-6521

TYPICAL PERFORMANCE @ 25° C

**MR 147 L**  
 (Double Balanced Mixer)

Operating Parameters	
Freq. RF=	2 to 18 GHz
LO=	2 to 18 GHz
IF=	DC to 500 MHz
LO Power=	7 to 11dBm





### Single Tone Intermodulation Products

Test Conditions:  
Frequency RF= 2.0 GHz LO= 2.1 GHz

Single Tone $f_R$ $f_L$	RF = 0dBm		RF = -5dBm		RF = -10dBm	
	LO=7dBm	LO=11dBm	LO=7dBm	LO=11dBm	LO=7dBm	LO=11dBm
2 × 1	43	45	46	49	49	53
2 × 2	50	48	54	58	57	62
3 × 2	49	56	53	61	58	68
3 × 3	29	29	35	39	43	48
4 × 3	68	68	>75	>75	>75	>75
5 × 4	55	61	64	73	>75	>75
6 × 3	>75	>75	>75	>75	>75	>75
6 × 5	73	75	>75	>75	>75	>75