

Surface Mount

# Frequency Mixer

## JMS-2LH

Level 10 (LO Power +10 dBm) 20 to 1000 MHz



Generic photo used for illustration purposes only

CASE STYLE: BH292

### Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

LO	6
RF	3
IF	2
GROUND	1,4,5

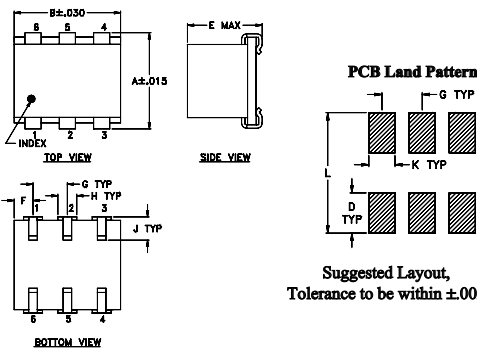
### Features

- excellent L-R isolation, up to 60 dB typ.
- miniature surface mount
- J-leads for strain relief and excellent solderability

### Applications

- up & down converters for receivers & transmitters
- UHF TV
- cellular/ISM/GSM

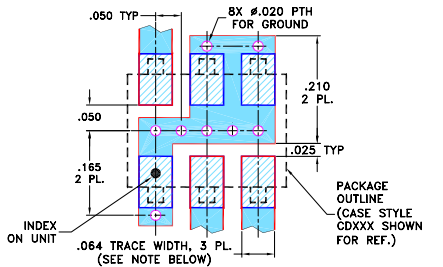
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	wt
.280	.310	--	.100	.225	.055	.100	.047	.065	.065	.300	grams
7.11	7.87	--	2.54	5.72	1.40	2.54	1.19	1.65	1.65	7.62	0.45

### Demo Board MCL P/N: TB-03 Suggested PCB Layout (PL-052)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .050" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.  
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.  
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### Electrical Specifications

FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)						
		L	M	U	L	M	U							
20-1000	DC-1000	60	40	48	25	37	20	45	30	35	20	27	11	20

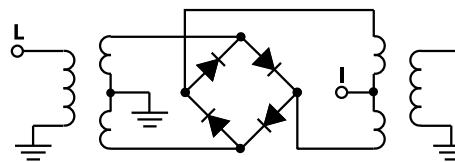
1 dB COMP: +5 dBm typ.  
Phase detection, positive polarity

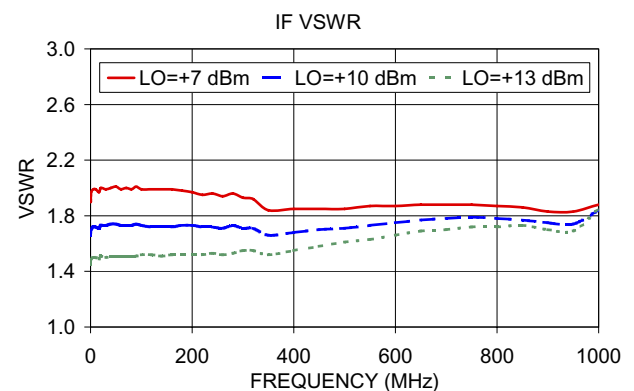
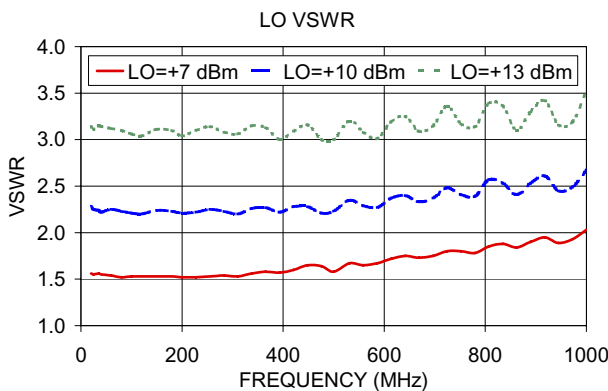
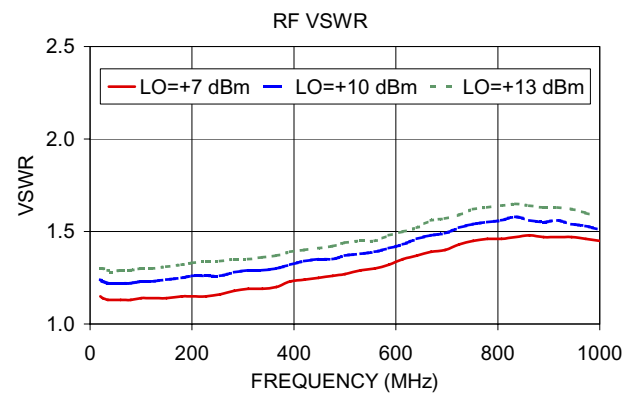
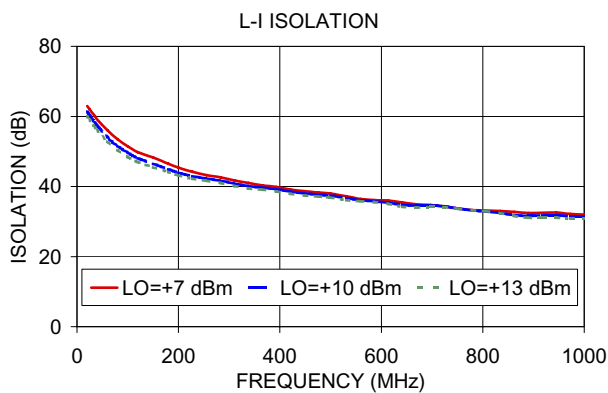
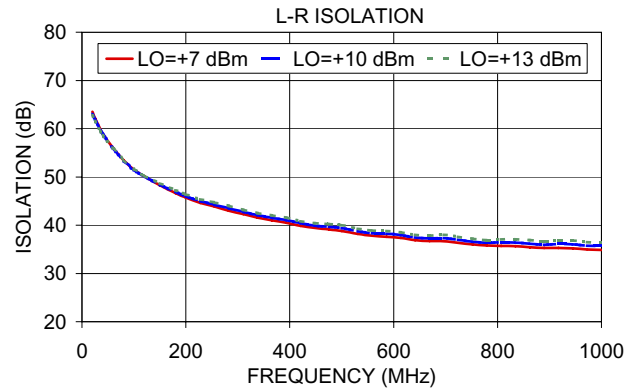
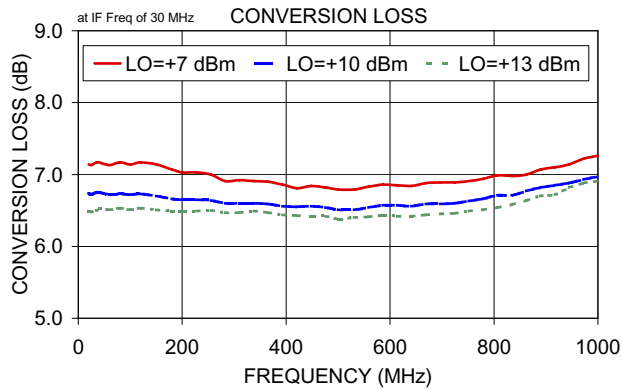
L = low range [ $f_L$  to  $10 f_L$ ]  
M = mid range [ $10 f_L$  to  $f_U/2$ ]  
U = upper range [ $f_U/2$  to  $f_U$ ]

### Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)		Isolation L-R (dB)		Isolation L-I (dB)		VSWR RF Port (:1)		VSWR LO Port (:1)	
	LO	LO +17dBm	LO	LO +17dBm	LO	LO +17dBm	LO	LO +17dBm	LO	LO +17dBm
20.10	50.10	6.74	62.98	61.31	1.24	1.24	2.28	2.28		
40.10	70.10	6.75	58.93	57.30	1.22	1.22	2.22	2.22		
100.10	130.10	6.72	51.46	49.64	1.23	1.23	2.21	2.21		
150.10	180.10	6.70	48.38	46.49	1.24	1.24	2.24	2.24		
200.10	230.10	6.65	46.01	43.92	1.26	1.26	2.21	2.21		
255.27	285.27	6.64	44.26	42.27	1.26	1.26	2.25	2.25		
310.45	340.45	6.60	42.75	40.85	1.29	1.29	2.20	2.20		
365.62	395.62	6.59	41.54	39.67	1.30	1.30	2.27	2.27		
420.79	450.79	6.55	40.42	38.53	1.34	1.34	2.28	2.28		
475.96	505.96	6.54	39.69	37.65	1.35	1.35	2.21	2.21		
500.10	530.10	6.51	39.42	37.42	1.37	1.37	2.23	2.23		
558.72	588.72	6.54	38.36	36.11	1.39	1.39	2.29	2.29		
613.89	643.89	6.57	37.95	35.34	1.43	1.43	2.37	2.37		
669.07	699.07	6.59	37.29	34.51	1.48	1.48	2.33	2.33		
724.24	754.24	6.60	36.99	34.33	1.52	1.52	2.48	2.48		
779.41	809.41	6.66	36.37	33.21	1.55	1.55	2.39	2.39		
834.58	864.58	6.71	36.41	32.42	1.58	1.58	2.53	2.53		
889.76	919.76	6.82	35.95	31.60	1.55	1.55	2.53	2.53		
944.93	974.93	6.88	36.03	31.80	1.54	1.54	2.45	2.45		
1000.10	1030.10	6.97	35.70	31.47	1.51	1.51	2.67	2.67		

### Electrical Schematic





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