

Surface Mount Frequency Mixer

Level 10 (LO Power +10 dBm) 0.5 to 500 MHz

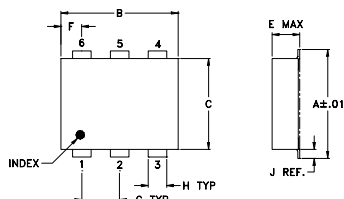
Maximum Ratings

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.	

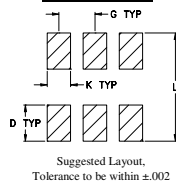
Pin Connections

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

Outline Drawing



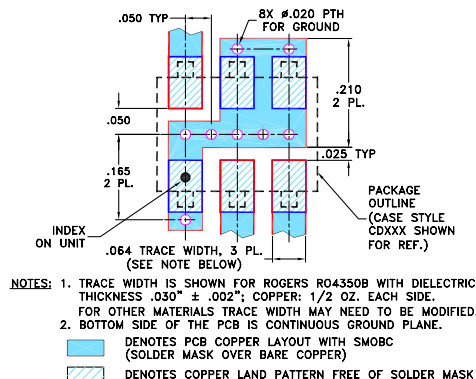
PCB Land Pattern



Outline Dimensions (inch)

A	B	C	D	E	F	G
.272	.310	.220	.100	.162	.055	.100
6.91	7.87	5.59	2.54	4.11	1.40	2.54
H	J	K	L	wt		
.030	.026	.065	.300	grams		
0.76	0.66	1.65	7.62	0.25		

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



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-Circuits' applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"). Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

Features

- low conversion loss, 5.0 dB typ.
- excellent L-R isolation, 55 dB typ. and L-I isolation, 45 dB typ.
- good IP3, 15 dBm typ.
- aqueous washable
- protected by US Patent 6,133,525

Applications

- VHF/UHF receivers



CASE STYLE: CD636

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



Available Tape and Reel
at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500
13"	500, 1000

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 at center band (dBm)
LO/RF f_L - f_U	IF	Mid-Band m		Total Range M		L	M	U				L	M	U				
		$\overline{X}$	σ	Max.	Max.													
0.5-500	DC-500	5.0	0.10	6.5	8.2	65	50	55	35	47	26	52	40	45	22	34	20	15

1 dB COMP.: +5 dBm typ.

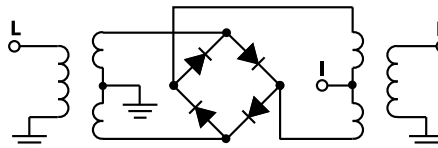
L = low range [f_L to $10 f_L$]
m = mid band [$2 f_L$ to $f_U/2$]

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

Typical Performance Data

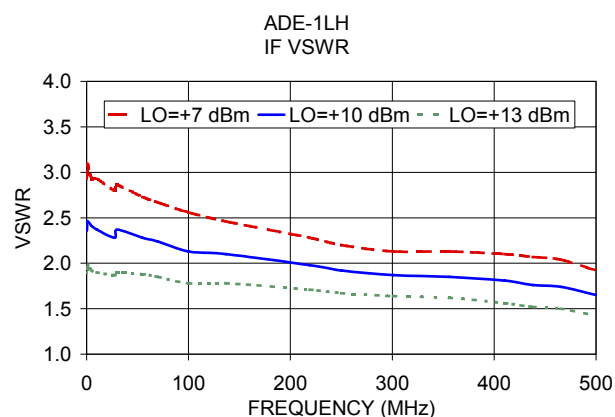
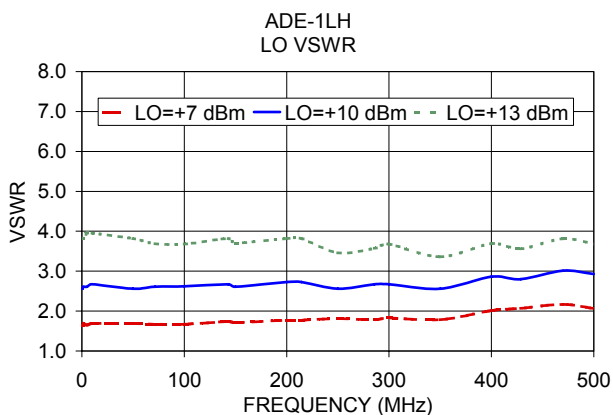
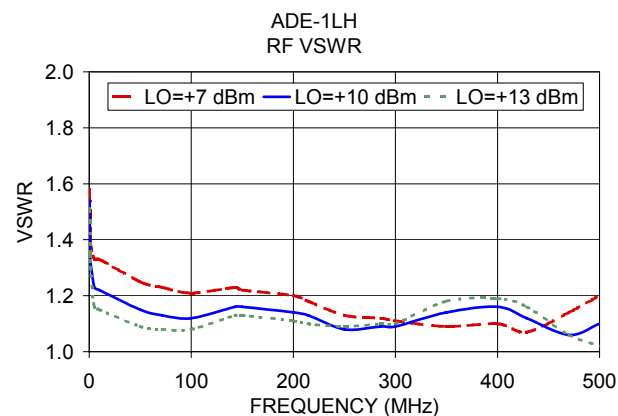
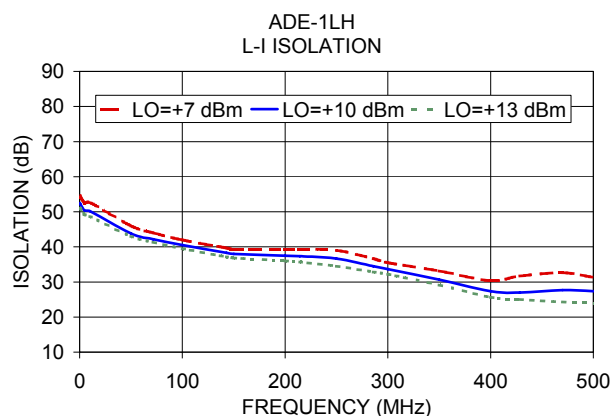
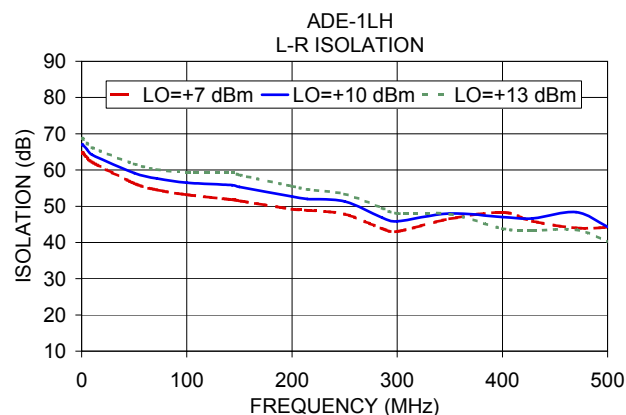
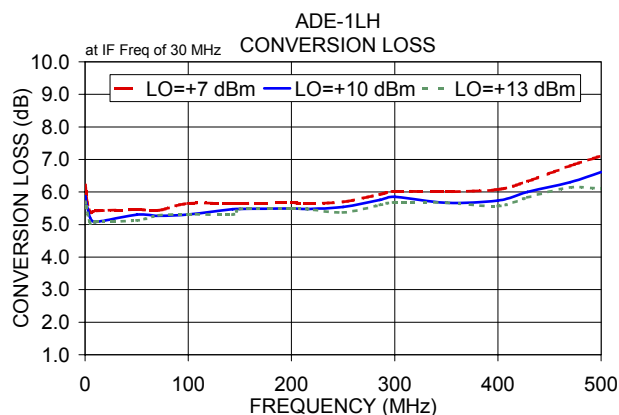
Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
0.50	30.50	5.87	67.00	52.50	1.54	2.56
0.80	30.80	5.68	66.83	52.17	1.37	2.56
1.00	31.00	5.70	67.01	52.00	1.33	2.61
5.00	35.00	5.21	65.67	50.33	1.23	2.61
10.00	40.00	5.08	64.17	50.17	1.22	2.67
50.00	80.00	5.30	59.16	43.84	1.15	2.56
71.52	101.52	5.27	57.66	42.17	1.13	2.61
100.00	130.00	5.31	56.51	40.51	1.12	2.62
142.94	172.94	5.47	55.83	38.33	1.16	2.67
150.00	180.00	5.48	55.34	38.00	1.16	2.61
200.00	230.00	5.49	52.67	37.50	1.14	2.73
214.36	244.36	5.48	52.01	37.34	1.13	2.73
250.00	280.00	5.54	51.34	36.67	1.08	2.56
285.79	315.79	5.76	46.84	34.51	1.09	2.67
300.00	330.00	5.85	45.83	33.67	1.09	2.67
350.00	380.00	5.67	48.00	30.67	1.14	2.56
400.00	430.00	5.74	47.01	27.33	1.16	2.86
428.63	458.63	6.00	46.66	27.00	1.12	2.80
470.00	500.00	6.30	48.34	27.67	1.06	3.01
500.00	530.00	6.61	44.33	27.33	1.10	2.93

Electrical Schematic



Performance Charts

ADE-1LH+ ADE-1LH



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