

Surface Mount Frequency Mixer

Level 17 (LO Power +17 dBm) 0.5 to 500 MHz

ADE-1H+ ADE-1H



CASE STYLE: CD636

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
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

- low conversion loss, 5.3 dB typ.
- excellent L-R isolation, 52 dB typ.
- excellent IP3, 23 dBm typ.
- aqueous washable
- protected by U.S. Patent 6,133,525

Applications

- VHF/UHF receivers

+RoHS Compliant

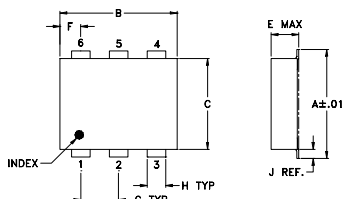
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



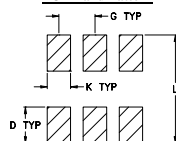
Available Tape and Reel
at no extra cost

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

Outline Drawing



PCB Land Pattern

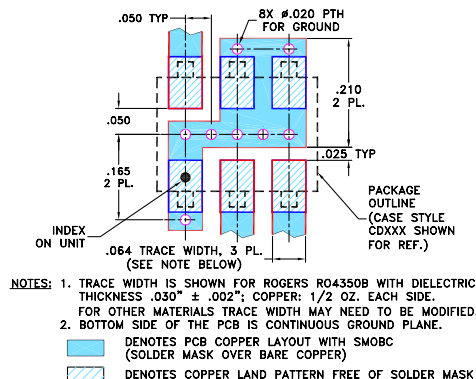


Suggested Layout,
Tolerance to be within ±.002

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

- 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.
- 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)
LO/RF	IF	Mid-Band		Total Range Max.	L	M	U	L	M	U	L	M	U	L	M	U		
		$\overline{X}$	σ														Max.	
		f_L - f_U																
0.5-500	DC-500	5.3	0.20	6.8	8.0	65	50	52	35	40	26	53	40	42	25	32	20	23

1 dB COMP.: +14 dBm typ.

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

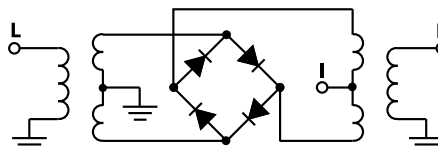
M = mid range [$10 f_L$ to $f_U/2$]

U = upper range [$f_U/2$ to f_U]

Typical Performance Data

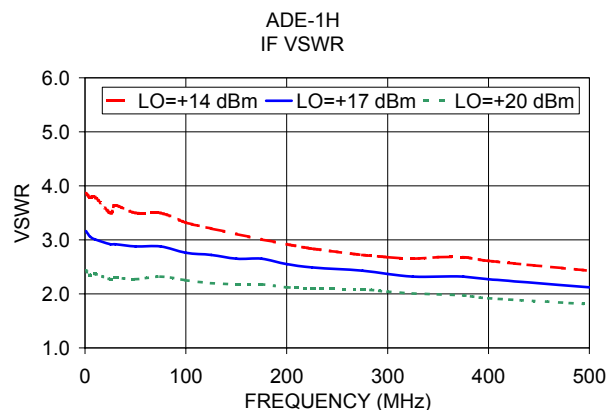
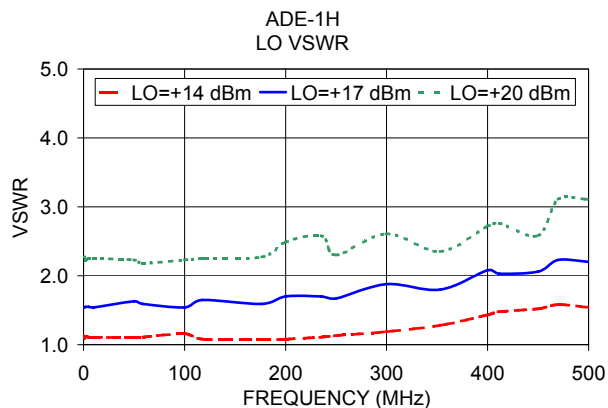
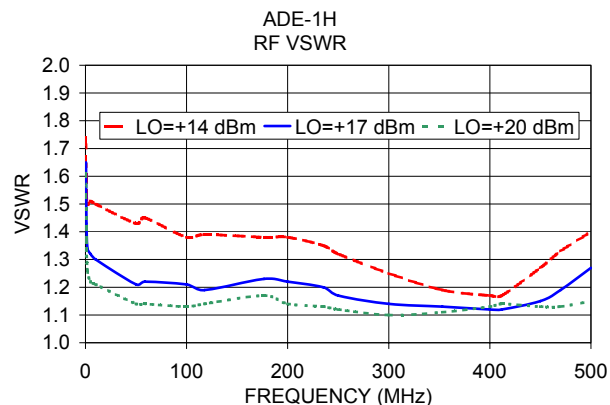
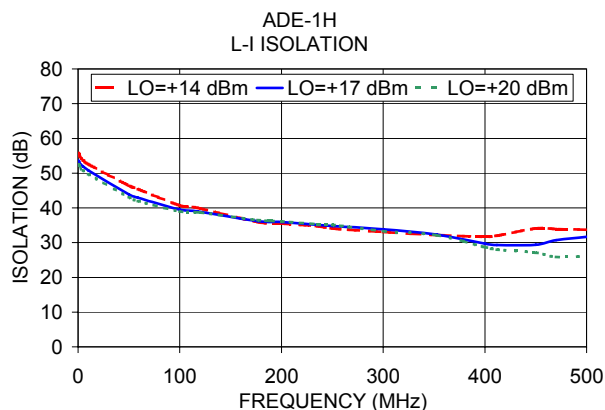
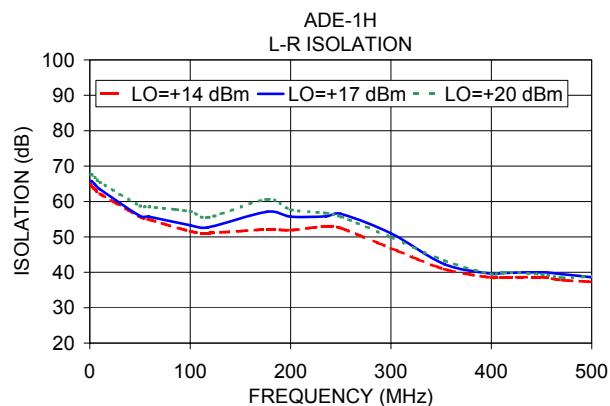
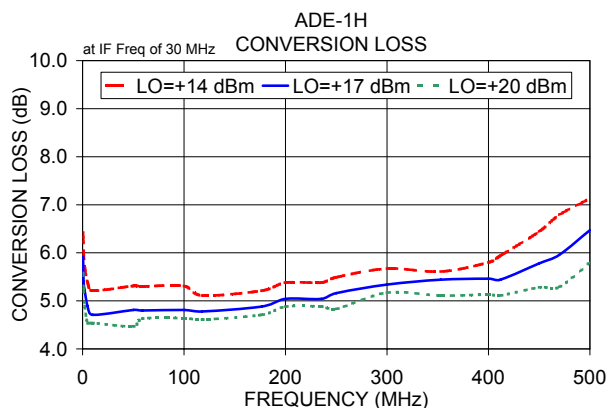
Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO					
		LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
0.50	30.50	5.92	65.80	53.70	1.65	1.54
1.00	31.00	5.41	65.80	53.40	1.43	1.54
2.00	32.00	5.22	65.70	52.70	1.34	1.55
5.00	35.00	4.88	64.90	51.90	1.32	1.55
10.00	40.00	4.71	63.50	50.80	1.30	1.54
50.00	80.00	4.81	55.90	43.90	1.21	1.63
58.92	88.92	4.80	55.70	42.90	1.22	1.59
100.00	130.00	4.81	53.30	39.50	1.21	1.54
117.74	147.74	4.78	52.70	39.00	1.19	1.65
176.55	206.55	4.88	57.10	36.20	1.23	1.59
200.00	230.00	5.04	55.70	35.90	1.22	1.70
235.37	265.37	5.04	55.80	35.10	1.20	1.70
250.00	280.00	5.16	56.50	34.80	1.17	1.67
300.00	330.00	5.34	51.00	33.80	1.14	1.88
353.01	383.01	5.44	42.30	32.30	1.13	1.80
400.00	430.00	5.46	39.60	29.70	1.12	2.08
411.82	441.82	5.44	39.80	29.30	1.12	2.03
450.00	480.00	5.78	40.00	29.40	1.15	2.06
470.00	500.00	5.96	39.50	30.70	1.19	2.23
500.00	530.00	6.47	38.60	31.70	1.27	2.20

Electrical Schematic



Performance Charts

ADE-1H+ ADE-1H



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