

Surface Mount Frequency Mixer

Level 17 (LO Power +17 dBm) 10 to 1000 MHz

ADEX-10H+ ADEX-10H



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

- excellent L-R isolation, 55 dB typ.
- excellent conversion loss flatness, ± 0.35 dB typ. over entire band
- low conversion loss, 7.0 dB typ.
- good VSWR, 1.4:1 typ. for LO, 1.6:1 typ. for RF, 1.4:1 typ. for IF
- good performance to 1500 MHz
- aqueous washable
- protected by U.S. Patents 6,133,525 and 6,947,717

CASE STYLE: CD542
PRICE: \$3.45 ea. QTY (20)

+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

Applications

- cellular
- PCN

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	
LO/RF $f_L - f_U$	Mid-Band m Total Range Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
10-1000	7.0 0.10 8.5 [†] 9.5 [†]	68	55	55	40	47	31	46 30 32 20 26 13 22

1 dB COMP: +14 dBm typ.

[†]Conversion loss increases 0.5 dB when IF is above 150 MHz

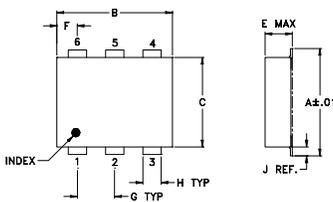
L = low range [f_L to 10 f_L]

m = mid band [$2f_L$ to $f_U/2$]

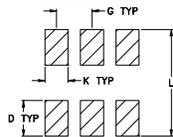
M = mid range [$10f_L$ to $f_U/2$]

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

Outline Drawing



PCB Land Pattern

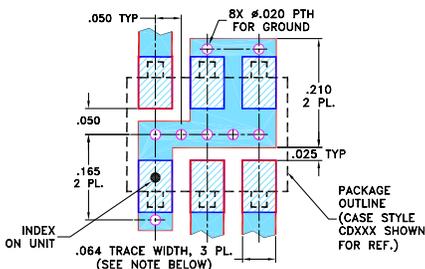


Suggested Layout.
Tolerance to be within ± 0.02

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.112	.055	.100
6.91	7.87	5.59	2.54	2.84	1.40	2.54
H	J	K	L	wt		
.030	.026	.065	.300	grams		
0.76	0.66	1.65	7.62	0.20		

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



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS $.030 \pm .002$; 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

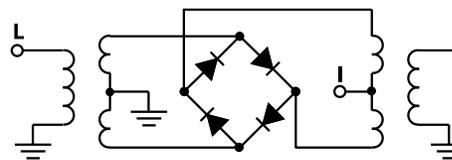
Notes

- 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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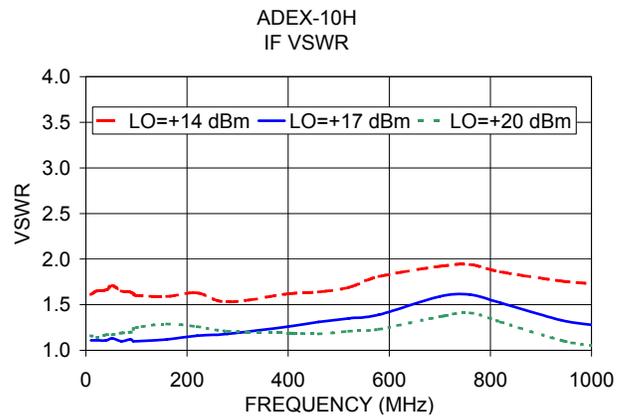
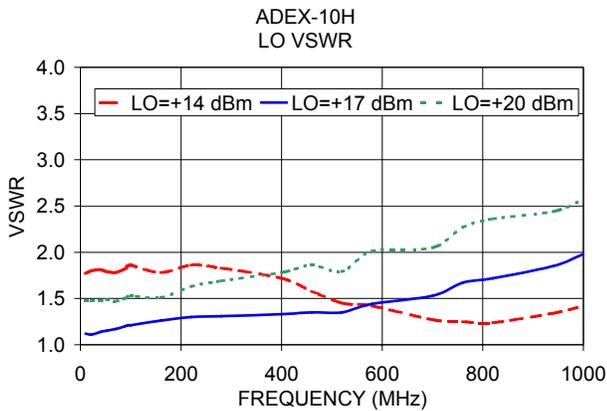
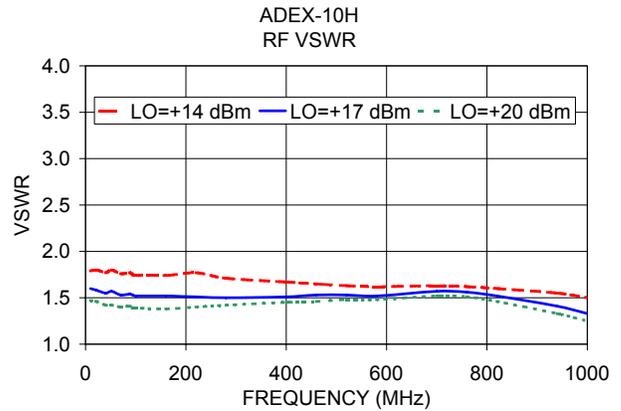
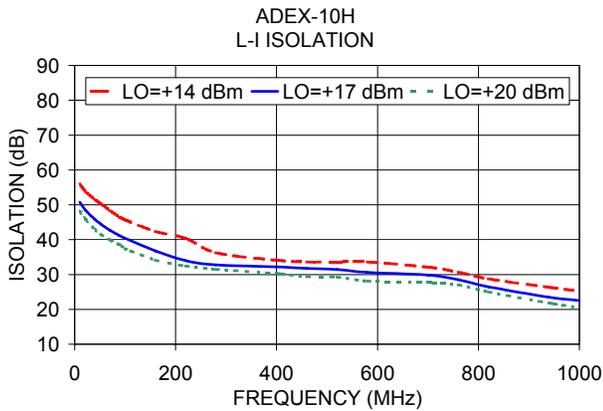
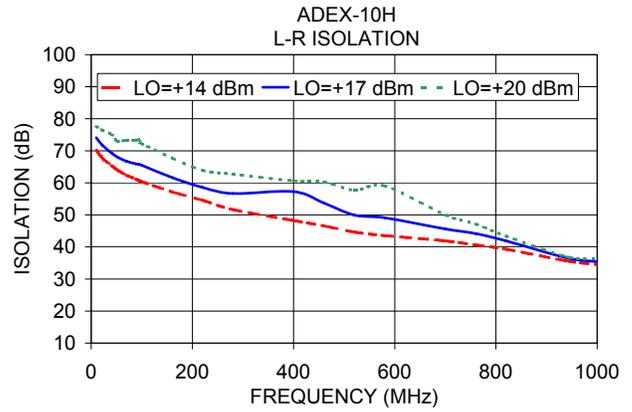
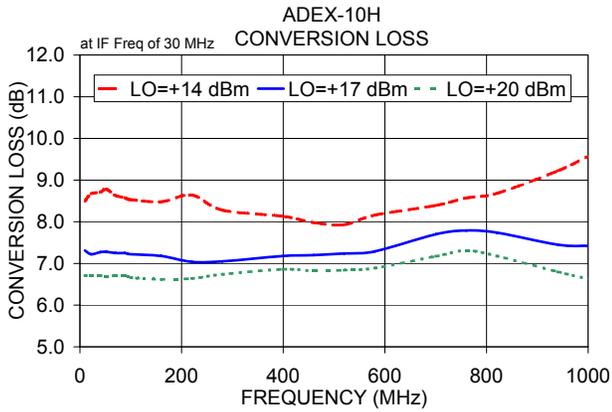
Typical Performance Data

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
10.0	40.0	7.3	74.1	50.8	1.6	1.1
22.0	52.0	7.2	71.8	48.3	1.6	1.1
40.0	70.0	7.3	69.3	45.9	1.6	1.1
52.0	82.0	7.3	68.1	44.5	1.6	1.2
70.0	100.0	7.3	66.7	42.7	1.5	1.2
88.0	118.0	7.3	66.0	41.2	1.5	1.2
94.0	124.0	7.2	65.8	40.8	1.5	1.2
100.0	130.0	7.2	65.5	40.4	1.5	1.2
160.0	190.0	7.2	61.7	36.8	1.5	1.3
220.0	250.0	7.0	58.6	34.0	1.5	1.3
280.0	310.0	7.1	56.7	32.8	1.5	1.3
400.0	430.0	7.2	57.3	32.2	1.5	1.3
460.0	490.0	7.2	53.7	31.8	1.5	1.4
520.0	550.0	7.2	50.0	31.5	1.5	1.4
580.0	610.0	7.3	49.1	30.6	1.5	1.4
700.0	730.0	7.7	45.6	29.9	1.6	1.5
760.0	790.0	7.8	44.2	28.5	1.6	1.7
820.0	850.0	7.7	41.9	26.5	1.5	1.7
940.0	970.0	7.5	36.6	23.5	1.4	1.9
1000.0	1030.0	7.4	35.4	22.5	1.3	2.0

Electrical Schematic



Performance Charts



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