

High IP3 Frequency Mixer

ADE-10H

Level 17 (LO Power +17 dBm) 400 to 1000 MHz



Generic photo used for illustration purposes only
CASE STYLE: CD542

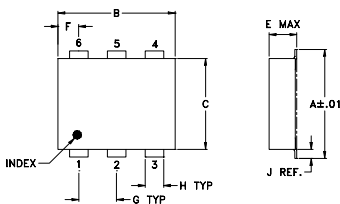
Maximum Ratings

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.	

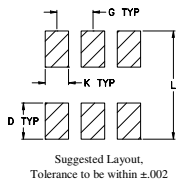
Pin Connections

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

Outline Drawing



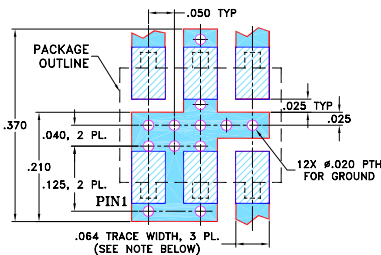
PCB Land Pattern



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-02 Suggested PCB Layout (PL-051)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .030" ± .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.
C. The parts covered by this specification document are subject to Mini-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp

Features

- low conversion loss, 7.0 dB typ.
- good L-R isolation, 39 dB typ.
- high IP3, 30 dBm typ.
- excellent solderability
- aqueous washable
- protected by U.S. Patent 6,133,525

Applications

- cellular
- UHF

Electrical Specifications

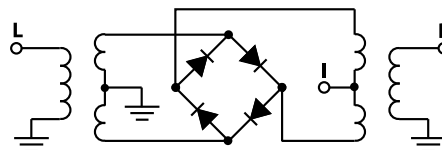
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF	\bar{X}	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.
400-1000	DC-500	7.0	0.10	8.5	39	29	25	17	30

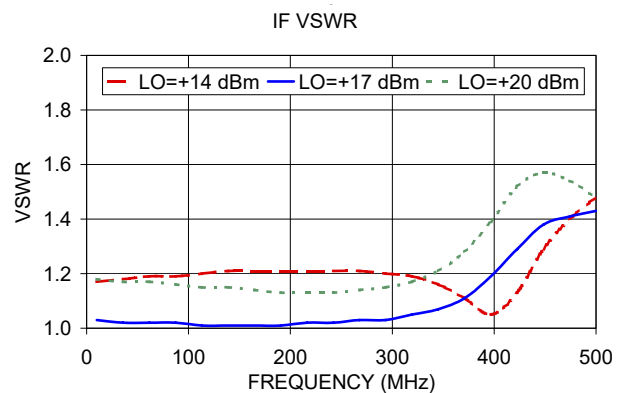
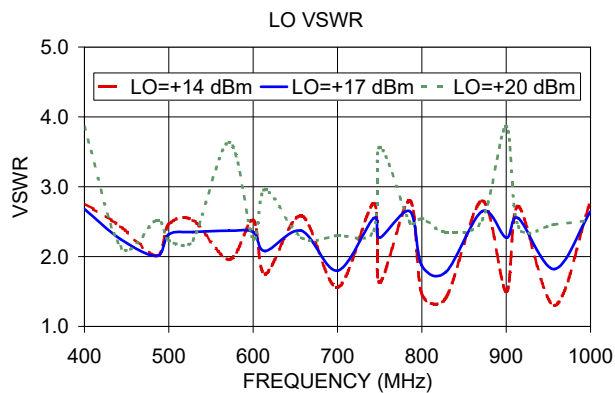
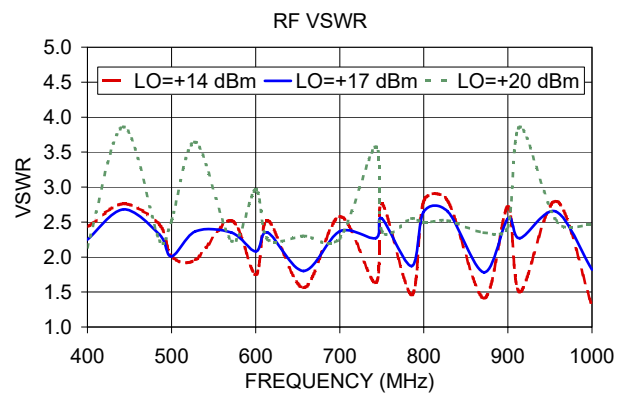
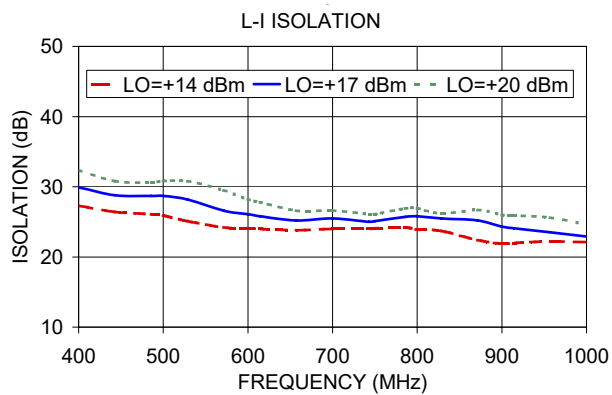
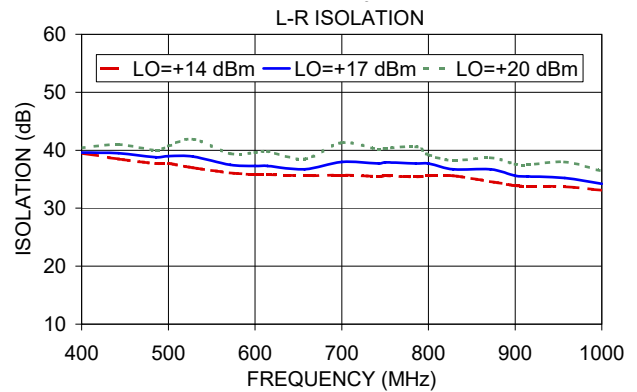
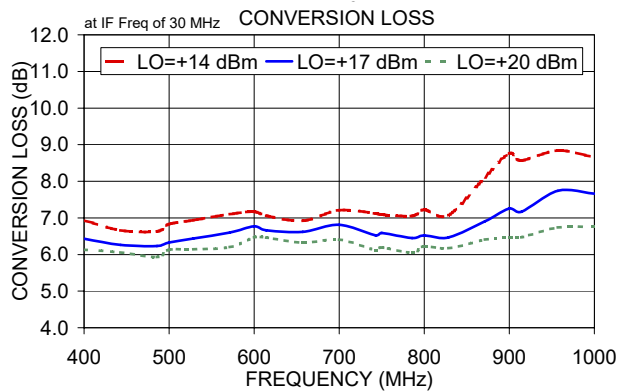
1 dB COMP.: +14 dBm typ.

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
400.00	430.00	6.43	39.60	29.90	2.25	2.68
442.86	472.86	6.26	39.50	28.80	2.68	2.25
485.71	515.71	6.23	38.80	28.70	2.32	2.01
500.00	530.00	6.33	39.00	28.70	2.01	2.32
528.57	558.57	6.44	38.90	28.20	2.37	2.35
571.43	601.43	6.60	37.50	26.60	2.35	2.37
600.00	630.00	6.77	37.30	26.10	2.08	2.35
614.29	644.29	6.66	37.30	25.80	2.35	2.08
657.14	687.14	6.62	36.70	25.20	1.80	2.37
700.00	730.00	6.81	38.00	25.50	2.37	1.80
742.86	772.86	6.52	37.70	25.00	2.27	2.55
750.00	780.00	6.59	37.90	25.10	2.55	2.27
785.71	815.71	6.45	37.70	25.70	1.87	2.65
800.00	830.00	6.52	37.70	25.80	2.65	1.87
828.57	858.57	6.47	36.70	25.50	2.65	1.78
871.43	901.43	6.91	36.70	25.20	1.78	2.65
900.00	930.00	7.26	35.60	24.30	2.55	2.27
914.29	944.29	7.17	35.50	24.10	2.27	2.55
957.14	987.14	7.74	35.20	23.50	2.65	1.82
1000.00	1030.00	7.66	34.20	22.90	1.82	2.65

Electrical Schematic





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