

Frequency Mixer

Level 13 (LO Power +13 dBm) 5 to 3500 MHz

ADE-35MH



CASE STYLE: CD542

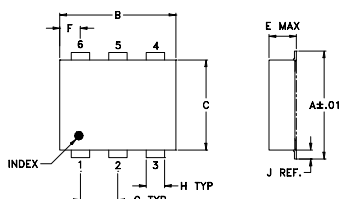
Maximum Ratings

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.	

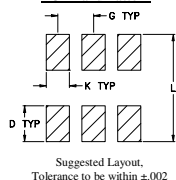
Pin Connections

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

Outline Drawing



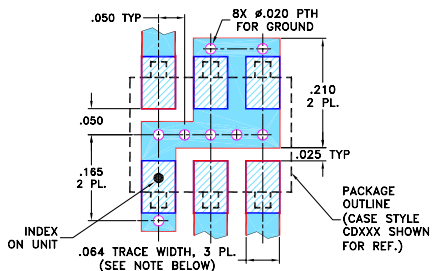
PCB Land Pattern



Outline Dimensions (inch)

A	B	C	D	E	F	G
.272	.310	.220	.100	.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" ± .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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Features

- low conversion loss, 6.9 dB typ.
- good L-R isolation, 33 dB typ.; L-I isolation, 28 dB typ.
- low profile package
- aqueous washable
- protected by U.S. Patent 6,133,525

Applications

- PCS
- MMDS
- ISM
- instrumentation

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							
		$\bar{X}$	σ															
f_L - f_U						Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.		Typ.			
5-3500	5-2500	6.9	0.10	9.3	10.5	47	28	33	23	38	18	34	23	28	18	23	17	18

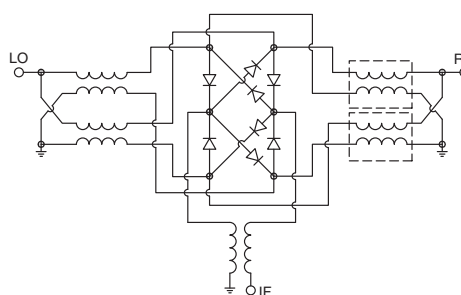
1 dB COMP.: +9 dBm typ.

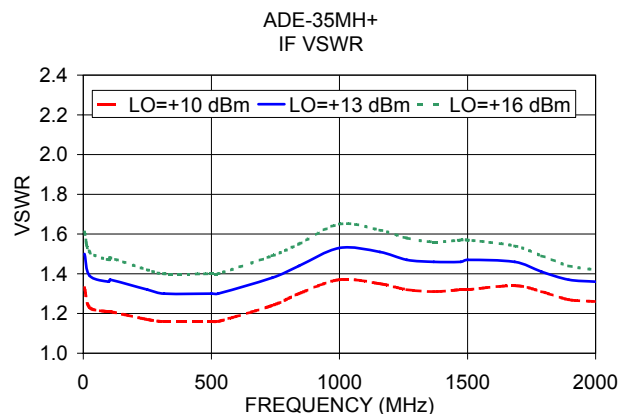
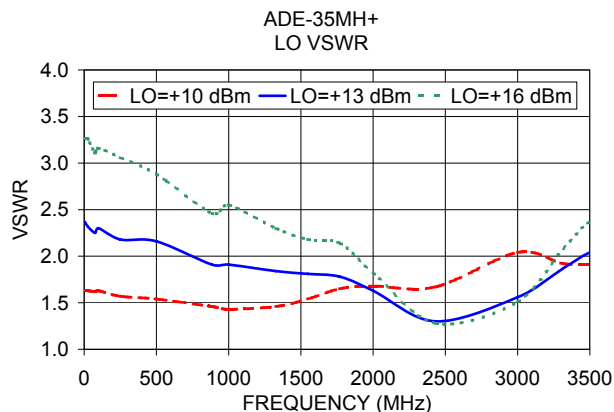
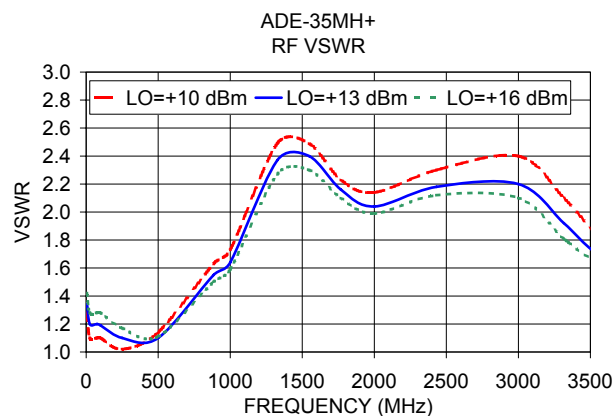
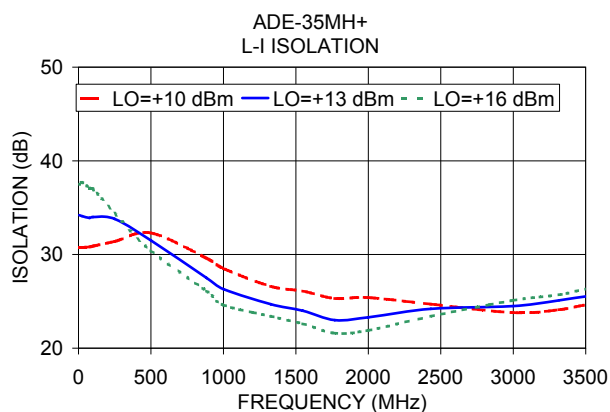
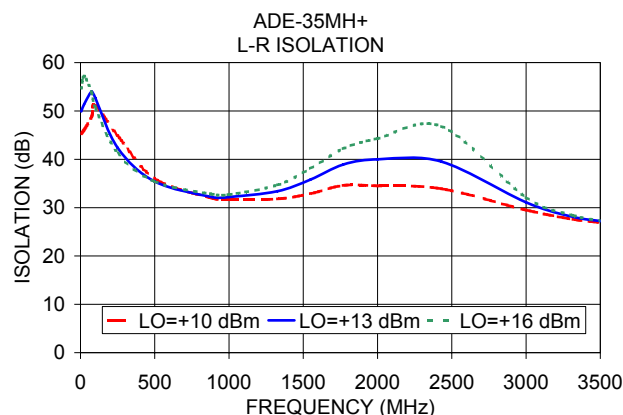
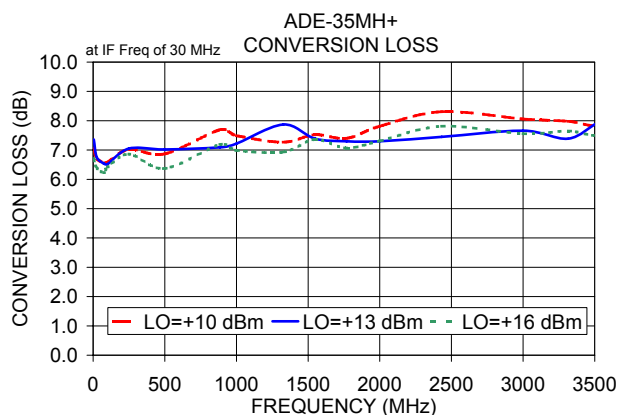
L = low range [f_L to $10 f_L$]M = mid range [$10 f_L$ to $f_U/2$]U = upper range [$f_U/2$ to f_U]

Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
5.00	35.00	7.36	49.90	34.20	1.35	2.37
25.00	55.00	6.76	51.40	34.10	1.20	2.32
75.00	105.00	6.54	54.00	33.90	1.20	2.25
100.00	130.00	6.52	52.70	34.00	1.19	2.30
250.00	280.00	7.05	42.40	33.80	1.10	2.18
500.00	530.00	7.02	35.40	31.50	1.10	2.16
884.28	914.28	7.09	32.20	27.50	1.55	1.91
1000.00	1030.00	7.22	32.20	26.30	1.64	1.91
1326.38	1356.38	7.87	33.40	24.70	2.37	1.84
1547.43	1577.43	7.39	35.80	24.00	2.40	1.81
1768.47	1798.47	7.30	38.90	23.00	2.16	1.78
2000.00	2030.00	7.30	40.00	23.30	2.04	1.63
2431.62	2461.62	7.45	39.50	24.20	2.18	1.30
3000.00	2970.00	7.66	31.10	24.50	2.20	1.56
3315.81	3285.81	7.39	28.10	25.10	1.92	1.87
3536.85	3506.85	7.97	27.10	25.60	1.71	2.06

Electrical Schematic





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