

Surface Mount Frequency Mixer

ADE-1+ ADE-1

Level 7 (LO Power +7 dBm) 0.5 to 500 MHz



CASE STYLE: CD636
PRICE: \$2.49 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

Maximum Ratings

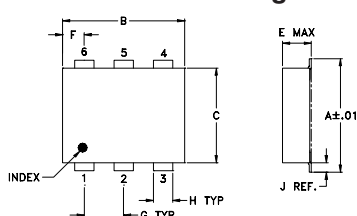
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

Permanent damage may occur if any of these limits are exceeded. These electrical ratings are not intended for continuous normal operation.

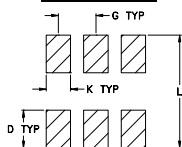
Pin Connections

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

Outline Drawing



PCB Land Pattern

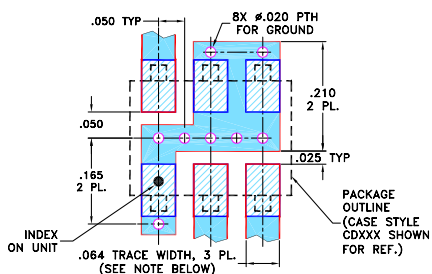


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

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: 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

Features

- low conversion loss, 5.0 dB typ.
- excellent L-R isolation, 55 dB typ.
- excellent IP3, 15 dBm typ.
- low profile package
- aqueous washable
- protected by US patent 6,133,525

Applications

- VHF/UHF

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.										
0.5-500	DC-500	5.0	0.10	6.5	7.8	70	50	55	35	45	30	65	45	40	25	30	20	15

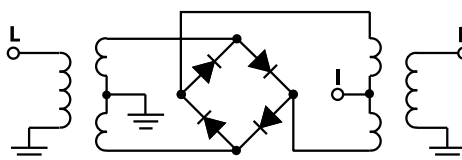
1 dB COMP.: +1 dBm typ.

L = low range [f_L to $10 f_L$]
m = mid band [$2 f_L$ to $f_U/2$]
M = mid range [$10 f_U$ 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 +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
0.50	30.50	5.68	67.49	56.67	1.46	2.51
0.80	30.80	5.55	67.50	56.83	1.32	2.56
1.00	31.00	5.35	67.51	56.67	1.29	2.56
5.00	35.00	5.06	66.17	55.50	1.19	2.51
10.00	40.00	4.95	65.17	54.17	1.18	2.51
20.00	50.00	5.02	63.50	52.17	1.17	2.56
40.00	70.00	4.89	61.00	48.83	1.14	2.51
63.25	93.25	4.93	58.84	46.33	1.11	2.51
94.82	124.82	4.99	58.00	44.34	1.08	2.56
100.00	130.00	5.08	58.00	43.84	1.08	2.56
126.39	156.39	4.96	56.67	42.17	1.08	2.56
157.97	187.97	5.11	54.16	41.16	1.10	2.51
221.12	251.12	5.15	51.84	40.00	1.05	2.67
250.00	280.00	5.10	53.00	38.67	1.03	2.61
284.26	314.26	5.20	48.33	36.50	1.04	2.67
347.41	377.41	5.43	47.66	33.34	1.10	2.56
378.98	408.98	5.33	47.00	30.67	1.15	2.80
410.56	440.56	5.54	45.50	29.17	1.17	2.80
470.00	500.00	5.81	44.67	28.16	1.14	3.01
500.00	530.00	5.91	43.82	28.50	1.23	3.09

Electrical Schematic



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ISO 9001 ISO 14001 AS 9100 CERTIFIED

The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shipping online see web site

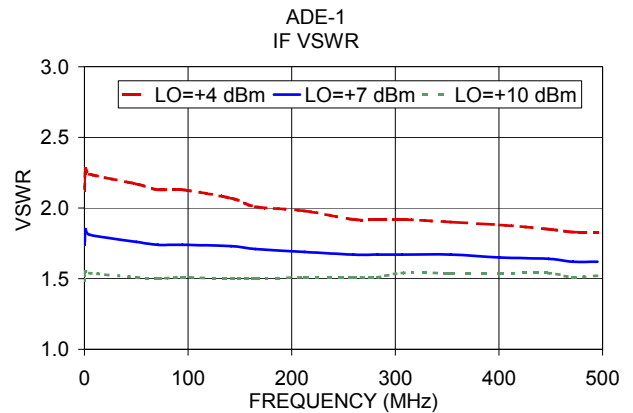
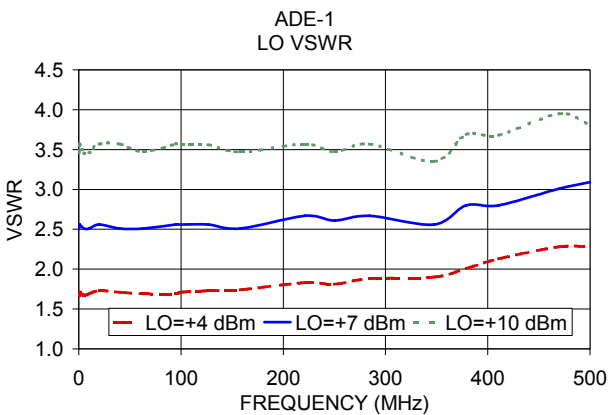
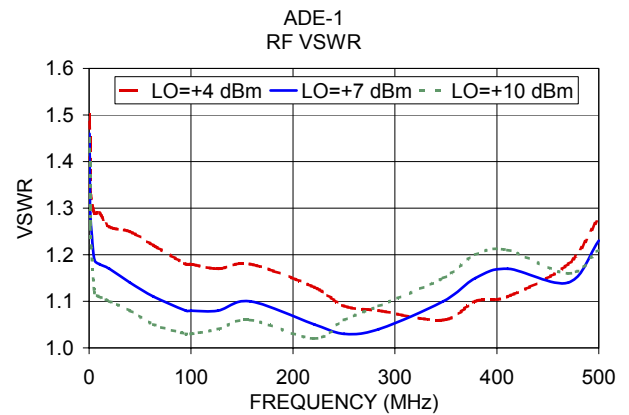
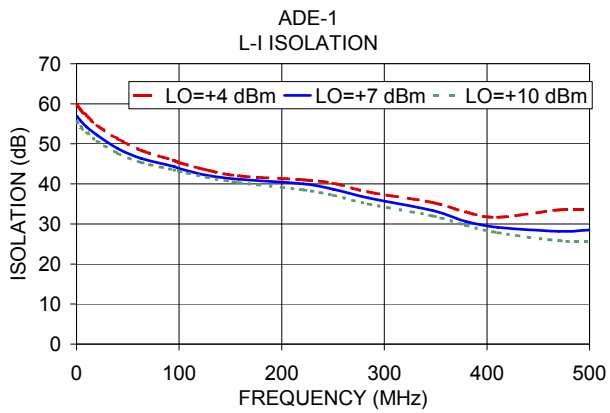
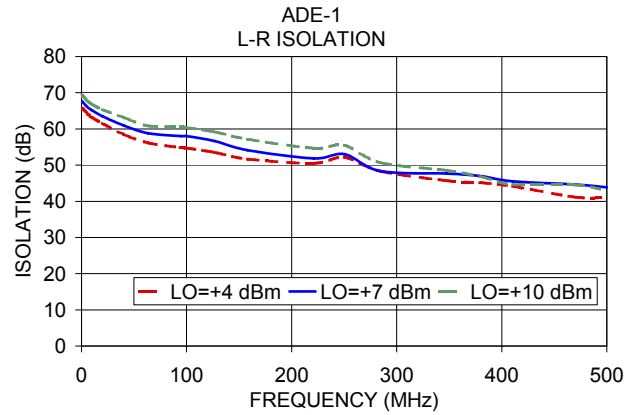
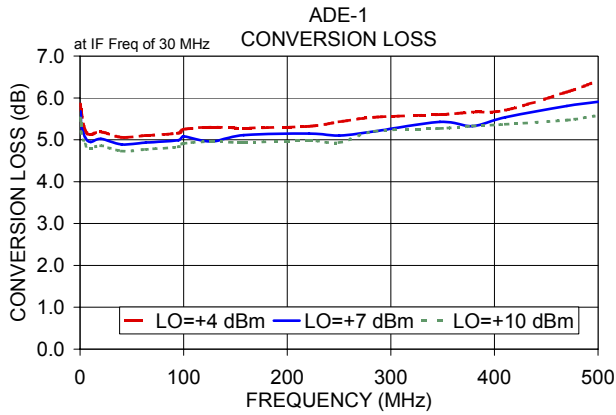
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Performance Charts

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For detailed performance specs
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