

Surface Mount High Reliability Mixer

ADE-R1LH+

Level 10 (LO Power +10 dBm) 1 to 500 MHz



CASE STYLE: CD636

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.	

Pin Connections

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

Features

- hermetically sealed ceramic quad
- low conversion loss, 5.2 dB typ.
- excellent L-R isolation, 60 dB typ. and L-I isolation, 45 dB typ.
- good IP3, 15 dBm typ.
- low profile package
- aqueous washable
- protected by US Patent 6,133,525

Applications

- VHF/UHF receivers

+RoHS Compliant

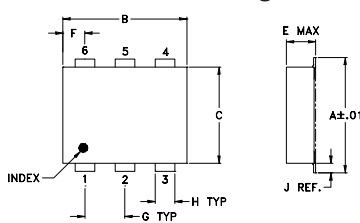
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



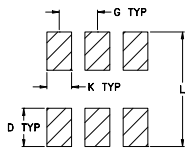
Available Tape and Reel at no extra cost

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

Outline Drawing



PCB Land Pattern

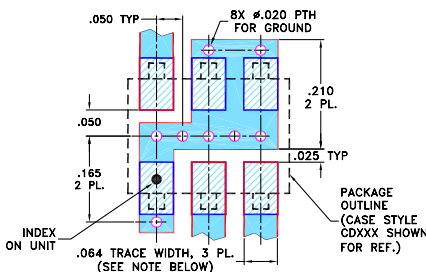


Suggested Layout, Tolerance to be within ±0.02

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

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	L	M	U	L	M	U								
f_L - f_U		\bar{X}	σ	Max.	Max.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ.						
1-500	DC-500	5.2	0.10	6.5	8.2	70	55	60	45	47	32	65	45	45	28	34	20	15

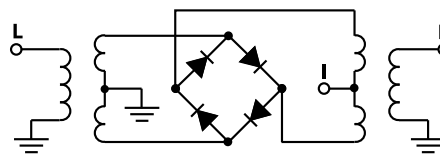
1 dB COMP: +5 dBm typ.

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

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 +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
1.00	31.00	5.74	67.64	54.38	1.43	2.25
2.80	32.80	5.29	67.42	53.90	1.24	2.25
6.40	36.40	5.07	66.61	53.33	1.19	2.25
8.20	38.20	5.01	65.84	52.86	1.18	2.25
10.00	40.00	4.86	65.97	52.56	1.18	2.25
12.00	42.00	4.98	66.11	52.18	1.18	2.24
37.00	67.00	5.01	63.03	47.76	1.15	2.24
62.00	92.00	5.02	61.12	44.77	1.14	2.22
87.00	117.00	5.05	59.81	42.86	1.12	2.21
112.00	142.00	5.07	58.70	41.66	1.11	2.26
120.00	150.00	5.08	58.36	41.21	1.11	2.27
210.00	180.00	5.16	58.09	40.10	1.08	2.26
250.00	220.00	5.20	55.11	38.90	1.06	2.31
300.00	270.00	5.30	54.56	38.23	1.05	2.34
350.00	320.00	5.47	49.49	36.88	1.03	2.47
400.00	370.00	5.58	45.89	35.18	1.05	2.41
425.00	395.00	5.56	44.38	33.02	1.09	2.43
450.00	420.00	5.61	43.62	30.95	1.11	2.56
475.00	445.00	5.63	43.19	29.44	1.09	2.52
500.00	470.00	5.73	42.63	28.27	1.06	2.53

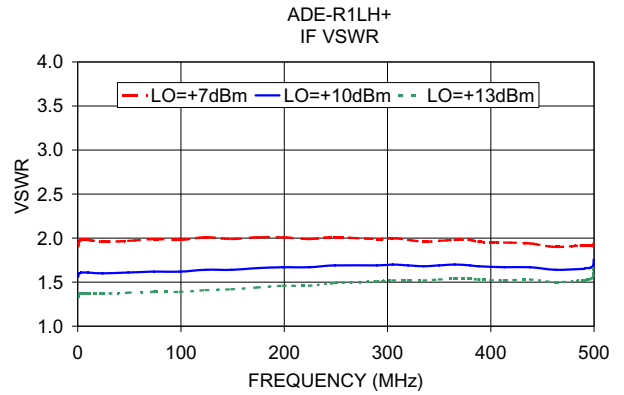
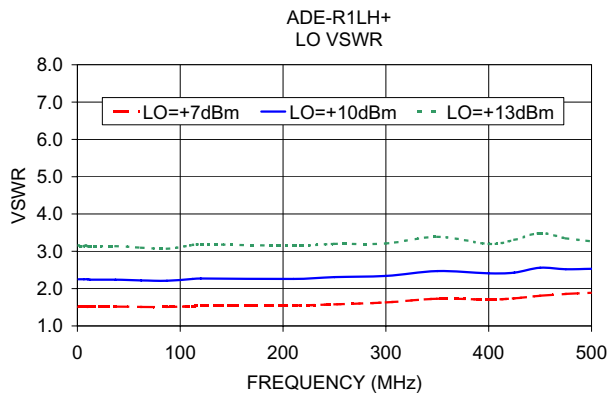
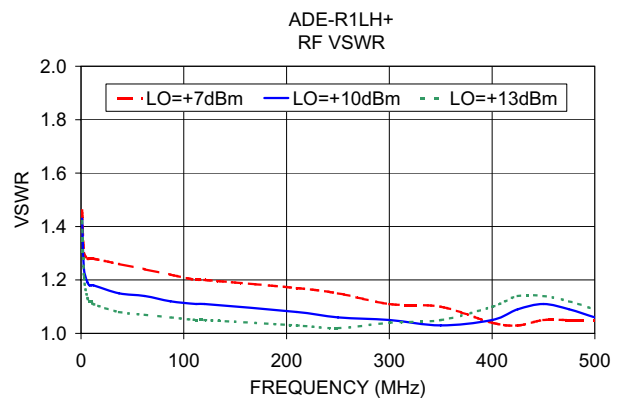
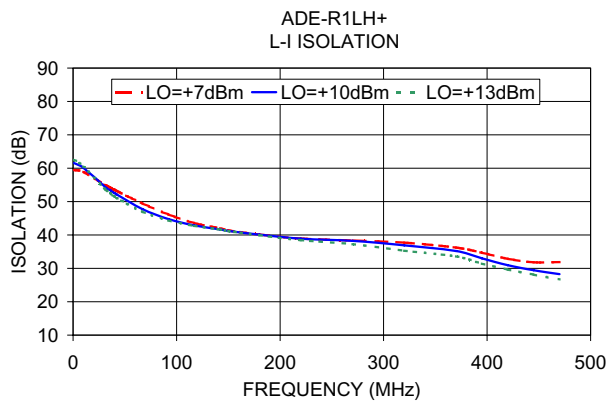
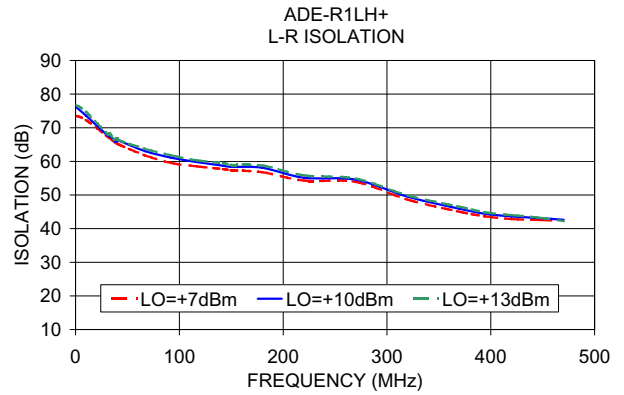
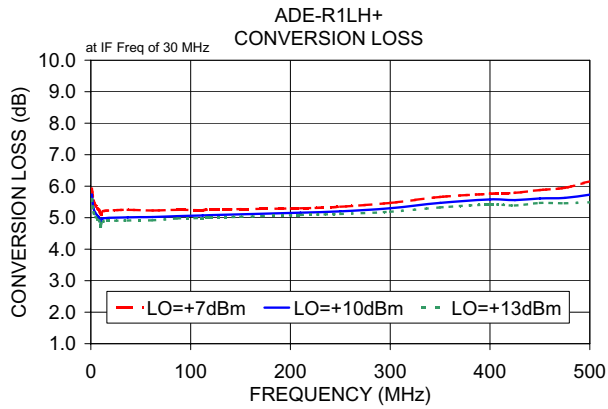
Electrical Schematic



Notes

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