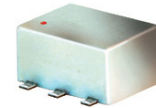


Surface Mount Frequency Mixer

ADE-1H+ ADE-1H

Level 17 (LO Power +17 dBm) 0.5 to 500 MHz



CASE STYLE: CD636
PRICE: \$4.95 ea. QTY (10-49)

+ RoHS compliant in accordance
with EU Directive (2002/95/EC)

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

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

- low conversion loss, 5.3 dB typ.
- excellent L-R isolation, 52 dB typ.
- excellent IP3, 23 dBm typ.
- aqueous washable
- protected by U.S. Patent 6,133,525

Applications

- VHF/UHF receivers

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	L			M			U			L			M			U			Typ.	
f_L - f_U		\bar{X}	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	
0.5-500	DC-500	5.3	0.20	6.8	8.0	65	50	52	35	40	26	53	40	42	25	32	20	23						23

1 dB COMP.: +14 dBm typ.

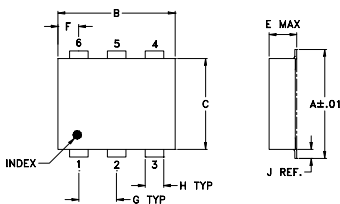
L = low range [f_L to $10 f_L$]

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

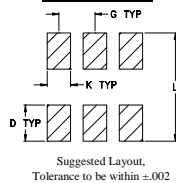
M = mid range [$10 f_L$ to $f_U/2$]

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

Outline Drawing



PCB Land Pattern

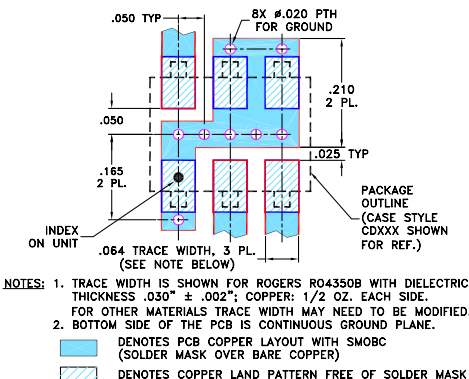


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	wt
.272	.310	.220	.100	.162	.055	.100	.030	.026	.065	.300	grams
6.91	7.87	5.59	2.54	4.11	1.40	2.54	0.76	0.66	1.65	7.62	0.25

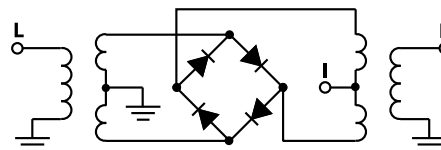
Demo Board MCL P/N: TB-03 Suggested PCB Layout (PL-052)



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
0.50	30.50	5.92	65.80	53.70	1.65	1.54
1.00	31.00	5.41	65.80	53.40	1.43	1.54
2.00	32.00	5.22	65.70	52.70	1.34	1.55
5.00	35.00	4.88	64.90	51.90	1.32	1.55
10.00	40.00	4.71	63.50	50.80	1.30	1.54
50.00	80.00	4.81	55.90	43.90	1.21	1.63
58.92	88.92	4.80	55.70	42.90	1.22	1.59
100.00	130.00	4.81	53.30	39.50	1.21	1.54
117.74	147.74	4.78	52.70	39.00	1.19	1.65
176.55	206.55	4.88	57.10	36.20	1.23	1.59
200.00	230.00	5.04	55.70	35.90	1.22	1.70
235.37	265.37	5.04	55.80	35.10	1.20	1.70
250.00	280.00	5.16	56.50	34.80	1.17	1.67
300.00	330.00	5.34	51.00	33.80	1.14	1.88
353.01	383.01	5.44	42.30	32.30	1.13	1.80
400.00	430.00	5.46	39.60	29.70	1.12	2.08
411.82	441.82	5.44	39.80	29.30	1.12	2.03
450.00	480.00	5.78	40.00	29.40	1.15	2.06
470.00	500.00	5.96	39.50	30.70	1.19	2.23
500.00	530.00	6.47	38.60	31.70	1.27	2.20

Electrical Schematic



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED
The Design Engineers Search Engine
IF/RF MICROWAVE COMPONENTS

For detailed performance specs
& shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 www.minicircuits.com Provides ACTUAL Data Instantly at minicircuits.com

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