

# Surface Mount Frequency Mixer

Level 7 (LO Power +7 dBm) 200 to 1000 MHz

## ADE-4+ ADE-4



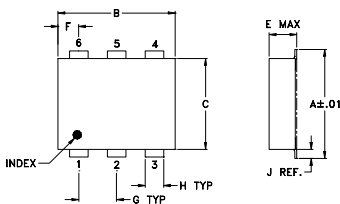
### Maximum Ratings

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.	

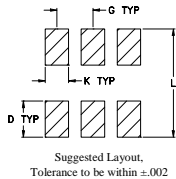
### Pin Connections

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

### Outline Drawing



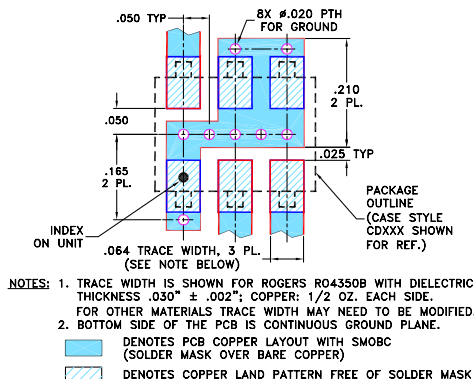
### PCB Land Pattern



### 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-03 Suggested PCB Layout (PL-052)



### Features

- low conversion loss, 6.8 dB typ.
- good L-R isolation, 53 dB typ.
- low profile package
- aqueous washable
- low cost
- protected by U.S. Patent 6,133,525

### Applications

- cellular
- VHF/UHF receivers

CASE STYLE: CD542

PRICE: \$4.25 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.

### Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)			IP3 at center band (dBm)
LO/RF	IF	M	Total Range Max.	L	M	U	L	M	U		
$f_c - f_u$		$\bar{X}$	$\sigma$	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ.	
200-1000	DC-800	6.8	0.10	8.5	60 45	53 40	45 30	45 30	40 22	35 20	15

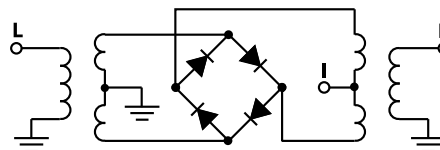
1 dB COMP.: +1 dBm typ.

L = 200-400 MHz M = 400-500 MHz U = 500-1000 MHz

### 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
200.00	230.00	7.14	60.34	44.99	1.41	2.56
250.00	280.00	6.82	59.00	43.67	1.38	2.28
300.00	330.00	6.87	57.00	43.34	1.39	2.20
350.00	380.00	7.02	59.50	42.50	1.40	2.10
375.00	405.00	6.89	59.01	42.17	1.40	2.10
400.00	430.00	6.97	59.17	41.33	1.39	2.17
450.00	480.00	6.72	56.50	40.17	1.37	2.04
475.00	505.00	6.82	56.67	39.67	1.36	2.10
500.00	530.00	6.85	57.32	39.17	1.37	2.10
550.00	580.00	6.93	56.67	38.50	1.39	2.10
600.00	630.00	7.03	55.83	37.84	1.39	2.10
650.00	680.00	6.90	54.33	37.00	1.34	2.10
675.00	705.00	6.94	53.34	36.67	1.34	2.13
700.00	730.00	6.90	52.84	36.17	1.34	2.07
750.00	780.00	6.96	51.50	35.33	1.32	2.20
800.00	830.00	7.00	49.83	34.50	1.28	2.10
850.00	880.00	6.83	48.00	32.99	1.24	2.28
900.00	930.00	6.70	47.00	31.66	1.22	2.20
950.00	980.00	6.81	45.83	30.83	1.18	2.41
1000.00	1030.00	6.82	44.33	30.33	1.11	2.46

### 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 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

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**Performance Charts**

