

# Surface Mount High Reliability Mixer

## ADE-R12MH+

Level 13 (LO Power +13 dBm) 10 to 1200 MHz



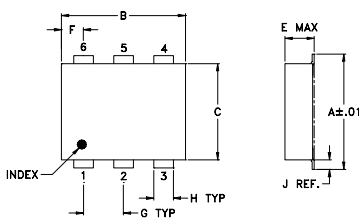
### Maximum Ratings

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

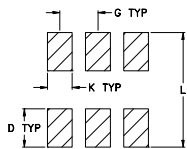
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern

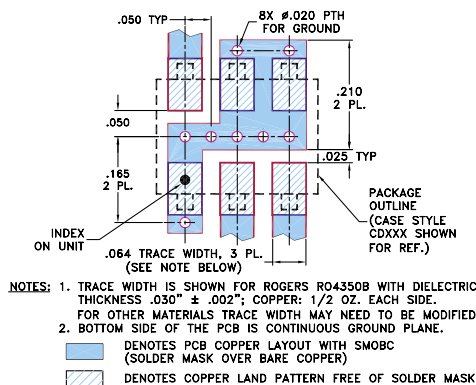


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

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

- hermetically sealed ceramic quad
- low conversion loss, 6.8 dB typ.
- good L-R isolation, 50 dB typ. and L-I isolation, 42 dB typ.
- low profile package
- aqueous washable
- protected by US Patent 6,133,525

### Applications

- cellular
- VHF/UHF receivers

CASE STYLE: CD542  
PRICE: \$6.85 ea. QTY. (10-49)

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

The +Suffix has been added in order to identify 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)										
		L	M	U	L	M	U											
10-1200	DC-1200	6.8	0.10	8.2	9.5	62	48	50	38	40	28	68	40	42	30	30	21	22

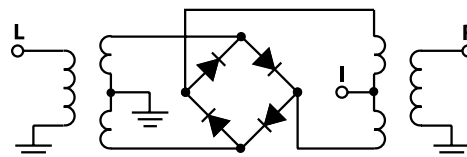
1 dB COMP.: +9 dBm typ.

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  $f_U$ ]  
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 +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
10.10	40.10	6.13	68.33	53.93	1.48	1.61				
70.10	100.10	6.91	62.43	47.49	1.35	1.57				
130.10	160.10	6.98	59.21	44.13	1.42	1.62				
190.10	220.10	6.76	56.97	42.43	1.39	1.63				
250.10	280.10	6.89	56.40	41.73	1.41	1.64				
350.10	380.10	6.93	55.00	40.87	1.45	1.70				
450.10	480.10	6.9	51.95	40.80	1.47	1.78				
550.10	580.10	6.96	51.85	40.17	1.46	1.88				
650.10	680.10	6.88	68.22	37.88	1.45	1.95				
710.10	740.10	7.13	59.49	41.47	1.50	2.03				
750.10	780.10	7.27	54.31	42.70	1.47	2.07				
810.10	840.10	7.46	49.02	41.53	1.49	2.13				
850.10	880.10	7.23	47.42	40.65	1.43	2.14				
910.10	940.10	6.93	47.58	37.13	1.37	2.18				
950.10	980.10	6.82	46.68	35.55	1.28	2.22				
1010.10	1040.10	6.71	44.86	33.89	1.21	2.34				
1050.10	1080.10	6.71	43.57	33.85	1.11	2.39				
1110.10	1140.10	6.88	42.66	34.63	1.02	2.51				
1150.10	1180.10	6.93	41.51	35.99	1.10	2.53				
1210.10	1240.10	7.24	40.45	38.19	1.22	2.65				

### Electrical Schematic



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RF/IF MICROWAVE COMPONENTS

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