

# 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

### 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

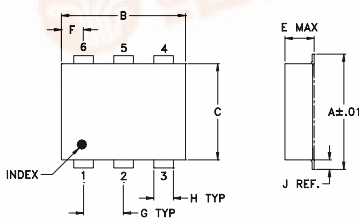
1 dB COMP.: +9 dBm typ.

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  $f_U/2$ ]

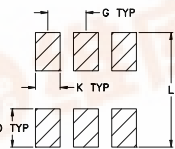
### Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
10.10	40.10	6.13	68.33	53.93	1.48
70.10	100.10	6.91	62.43	47.49	1.35
130.10	160.10	6.98	59.21	44.13	1.42
190.10	220.10	6.76	56.97	42.43	1.39
250.10	280.10	6.89	56.40	41.73	1.41
350.10	380.10	6.93	55.00	40.87	1.45
450.10	480.10	6.9	51.95	40.80	1.47
550.10	580.10	6.96	51.85	40.17	1.46
650.10	680.10	6.88	68.22	37.88	1.45
710.10	740.10	7.13	59.49	41.47	1.50
750.10	780.10	7.27	54.31	42.70	1.47
810.10	840.10	7.46	49.02	41.53	1.49
850.10	880.10	7.23	47.42	40.65	1.43
910.10	940.10	6.93	47.58	37.13	1.37
950.10	980.10	6.82	46.68	35.55	1.28
1010.10	1040.10	6.71	44.86	33.89	1.21
1050.10	1080.10	6.71	43.57	33.85	1.11
1110.10	1140.10	6.88	42.66	34.63	1.02
1150.10	1180.10	6.93	41.51	35.99	1.10
1210.10	1240.10	7.24	40.45	38.19	1.22

### Outline Drawing



### PCB Land Pattern

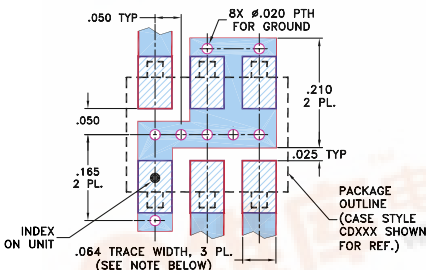


Suggested Layout, Tolerance to be within ±.002

### 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

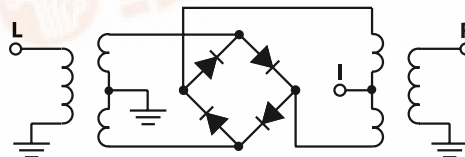
Demo Board MCL P/N: TB-03  
Suggested PCB Layout (PL-052)



- 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 Schematic



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