

# Surface Mount High Reliability Mixer

## ADE-R6+

Level 7 (LO Power +7 dBm) 0.15 to 250 MHz



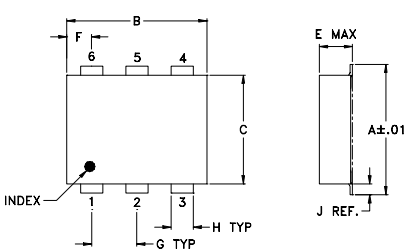
### Maximum Ratings

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

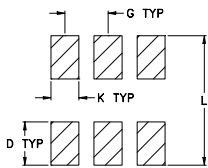
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern

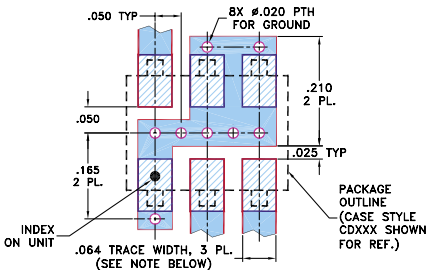


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.206	.055	.100
6.91	7.87	5.59	2.54	5.23	1.40	2.54
H	J	K	L	wt		
.030	.026	.065	.300	grams		
0.76	0.66	1.65	7.62	0.40		

### 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

### Features

- hermetically sealed ceramic quad
- low conversion loss, 4.6 dB typ.
- excellent L-R isolation, 55 dB typ.
- low profile package
- aqueous washable
- protected by US Patent 6,133,525

### Applications

- cellular

CASE STYLE: CD637

PRICE: \$5.35 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											
0.15-250	DC-200	4.6	0.05	7.0	7.5	70	50	55	40	42	28	65	45	45	27	32	18	10

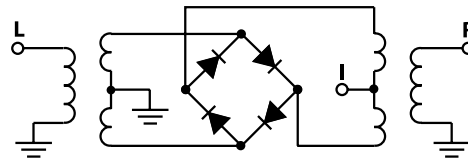
1 dB COMP.: +1 dBm typ.

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 [ $2 f_L$  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)	
	LO	+7dBm	LO	+7dBm	LO	+7dBm	LO	+7dBm	LO	+7dBm
0.15	30.10	4.77	67.20	56.68	1.23	2.57				
0.20	30.20	4.76	67.02	56.62	1.21	2.57				
0.50	30.50	4.74	66.81	56.59	1.21	2.57				
1.00	31.00	4.71	67.12	56.34	1.22	2.56				
5.00	35.00	4.65	65.59	54.88	1.22	2.56				
10.00	40.00	4.64	64.80	53.73	1.22	2.54				
22.00	52.00	4.65	62.28	50.03	1.21	2.56				
42.00	72.00	4.71	59.58	45.36	1.17	2.55				
52.00	82.00	4.75	58.11	43.75	1.17	2.54				
72.00	102.00	4.80	53.23	40.96	1.14	2.52				
92.00	122.00	4.76	60.22	37.63	1.08	2.57				
102.00	132.00	4.86	55.06	37.74	1.10	2.64				
120.00	150.00	5.03	47.68	37.44	1.12	2.70				
140.00	170.00	5.03	42.60	35.88	1.14	2.66				
160.00	190.00	5.13	41.55	32.76	1.16	2.67				
180.00	210.00	5.32	41.37	31.05	1.05	2.88				
200.00	230.00	5.71	40.03	29.83	1.16	3.05				
220.00	250.00	5.76	38.44	28.28	1.30	3.05				
240.00	270.00	5.80	36.97	26.07	1.42	2.87				
250.00	280.00	5.85	35.69	24.46	1.48	2.78				

### Electrical Schematic



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