

# Surface Mount High Reliability Mixer

## ADE-R20+

Level 7 (LO Power +7 dBm) 1500 to 2800 MHz



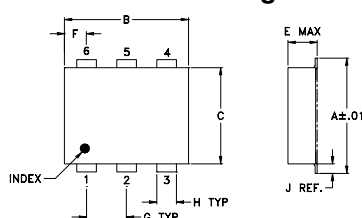
### Maximum Ratings

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

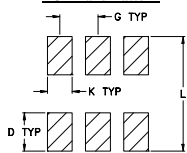
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern

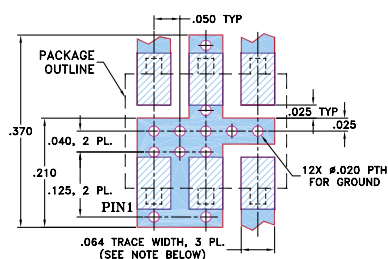


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch)

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-02 Suggested PCB Layout (PL-051)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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, 5.8 dB typ.
- excellent L-R isolation, 30 dB typ.
- low profile package
- aqueous washable
- protected by US Patent 6,133,525

### Applications

- digital cellular
- digital cordless phone
- PCN

CASE STYLE: CD542  
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

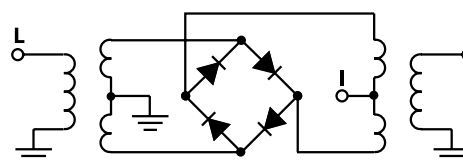
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
		Typ.	Min.	Typ.	Min.	
1500-2800	5.8	30	22	28	15	12

1 dB COMP.: +1 dBm typ.

### Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
1460.00	6.21	37.65	20.28	1.34	1.81
1560.00	5.95	37.70	22.72	1.28	1.80
1660.00	5.94	36.06	25.56	1.50	1.79
1740.00	5.91	35.29	27.83	1.66	1.79
1840.00	5.80	33.78	30.47	1.75	1.83
1920.00	5.79	32.65	32.64	1.83	1.86
2020.00	5.79	31.63	35.32	1.90	1.92
2100.00	5.81	30.85	37.17	1.92	1.95
2200.00	5.78	30.15	39.95	1.90	2.00
2280.00	5.80	29.99	41.69	1.84	2.08
2380.00	5.74	30.06	43.43	1.74	2.17
2460.00	5.72	30.05	44.18	1.70	2.16
2560.00	5.75	29.85	45.60	1.70	2.28
2640.00	5.90	30.06	45.88	1.73	2.36
2740.00	6.08	30.64	44.97	1.77	2.41
2820.00	6.35	31.39	43.67	1.91	2.42

### Electrical Schematic



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