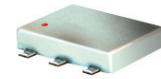


# Surface Mount Frequency Mixer

## ADE-20+ ADE-20

Level 7 (LO Power +7 dBm) 1500 to 2000 MHz



### Maximum Ratings

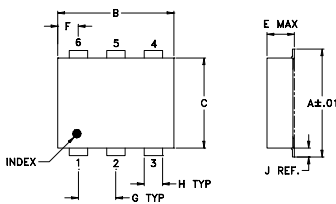
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

Permanent damage may occur if any of these limits are exceeded.

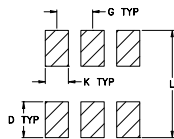
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern



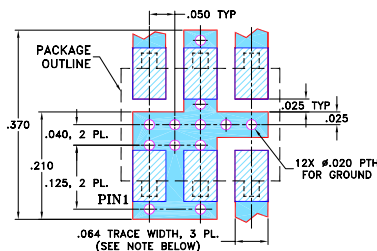
### Outline Dimensions (inch/mm)

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-02 Suggested PCB Layout (PL-051)



- 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

- low conversion loss, 5.4 dB typ.
- excellent isolation, 31 dB typ.
- low profile package
- aqueous washable
- protected by U.S. Patent 6,133,525

### Applications

- digital cellular
- digital cordless phone
- PCN

### Electrical Specifications

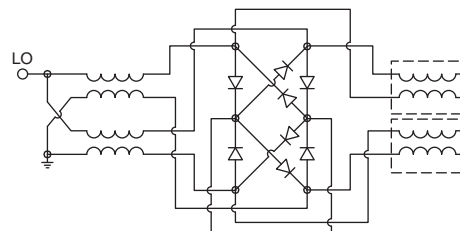
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
		Typ.	Min.	Typ.	Min.	
1500-2000	5.4	31	22	28	20	14

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)
1500.00	5.80	37.30	31.70	1.59	1.21
1535.71	5.77	36.90	32.60	1.49	1.31
1571.43	5.78	36.50	32.90	1.46	1.41
1600.00	5.87	36.30	32.90	1.45	1.49
1607.14	5.76	36.20	32.90	1.43	1.52
1642.86	5.78	36.00	33.00	1.40	1.57
1650.00	5.91	36.00	33.00	1.41	1.60
1678.57	5.87	35.70	32.90	1.41	1.66
1700.00	5.94	35.40	33.10	1.40	1.68
1714.29	5.96	35.30	33.00	1.40	1.69
1750.00	5.97	35.10	33.00	1.44	1.71
1785.71	5.96	35.20	33.00	1.48	1.70
1800.00	6.04	35.20	33.20	1.48	1.69
1821.43	5.97	35.40	33.20	1.52	1.68
1857.14	5.96	35.70	33.20	1.59	1.67
1892.86	6.00	36.10	33.20	1.61	1.61
1900.00	5.98	36.20	33.20	1.62	1.60
1928.57	5.99	36.30	33.20	1.70	1.57
1964.29	5.94	36.60	33.10	1.78	1.50
2000.00	5.93	36.60	33.10	1.84	1.46

### Electrical Schematic



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# Performance Charts

# ADE-20+ ADE-20

