

# Surface Mount High Reliability Mixer

## ADE-R20LH+

Level 10 (LO Power +10 dBm) 1500 to 2800 MHz



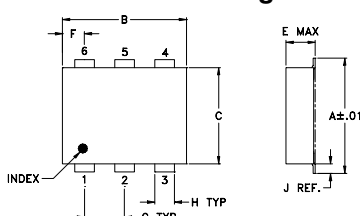
### Maximum Ratings

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

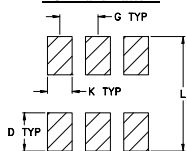
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern

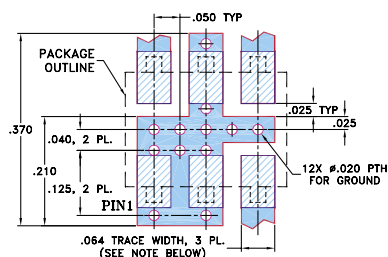


Suggested Layout,  
Tolerance to be within ±.002

### 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 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, 6.0 dB typ.
- excellent isolation, 32 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

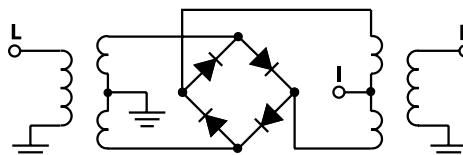
FREQUENCY (MHz)	CONVERSION LOSS (dB)		LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)	IP3 at center band (dBm)		
	LO/RF	IF	$\bar{X}$	$\sigma$ Max.	Typ. Min.	Typ.		
1500-2800	DC-500		6.0	0.10	8.2	32 23	26 15	14

1 dB COMP.: +5 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)
	LO	+10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
1500.00	1530.00	6.61	41.83	20.90	1.53	2.03
1600.00	1630.00	6.19	39.95	23.30	1.41	1.98
1640.00	1670.00	6.15	38.57	24.41	1.46	1.96
1700.00	1730.00	6.08	37.75	26.10	1.59	1.95
1740.00	1770.00	6.15	37.07	27.16	1.68	1.94
1800.00	1830.00	6.04	35.24	28.93	1.84	1.91
1840.00	1870.00	6.09	34.13	30.08	1.88	1.92
1900.00	1930.00	5.93	33.20	31.70	1.94	1.92
1940.00	1970.00	5.99	32.91	32.55	1.94	1.94
2000.00	2030.00	5.82	32.49	33.88	1.96	1.95
2100.00	2130.00	5.73	31.75	36.38	1.93	2.00
2140.00	2170.00	5.80	31.51	37.37	1.90	2.02
2200.00	2230.00	5.69	31.12	38.41	1.84	2.03
2300.00	2330.00	5.62	30.71	40.16	1.67	2.04
2340.00	2370.00	5.56	30.69	40.86	1.59	2.07
2400.00	2430.00	5.53	30.75	41.13	1.46	2.10
2500.00	2530.00	5.48	30.46	41.96	1.31	2.15
2540.00	2570.00	5.43	30.67	42.21	1.28	2.18
2600.00	2630.00	5.52	30.87	42.39	1.24	2.19
2800.00	2830.00	5.83	31.30	42.39	1.36	2.08

### Electrical Schematic



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