

# Surface Mount High Reliability Mixer

## ADE-R1L+

Level 3 (LO Power +3 dBm) 2 to 500 MHz



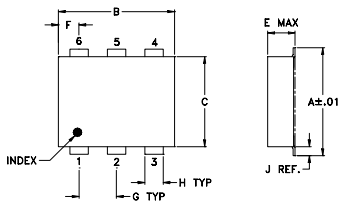
### Maximum Ratings

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

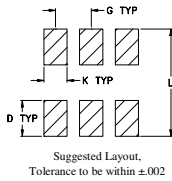
### Pin Connections

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

### Outline Drawing



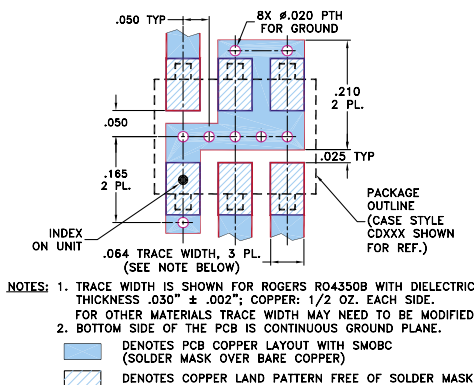
### PCB Land Pattern



### 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)



### Features

- hermetically sealed ceramic quad
- low conversion loss, 5.6 dB typ.
- excellent L-R isolation, 55 dB typ.
- low profile package
- aqueous washable
- protected by US patent 6,133,525

### Applications

- cellular
- instrumentation

### 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											
LO/RF $f_L - f_U$	Mid-Band $m$ Total Range Max.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ.										
2-500	DC-500	5.6	0.10	7.2	8.8	68	55	55	42	44	35	60	45	45	32	35	25	14

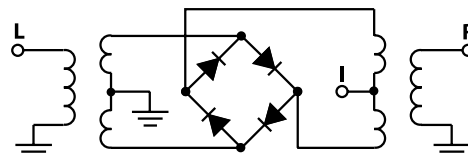
1 dB COMP.: 0 dBm typ.

L = low range [ $f_L$  to  $10 f_L$ ]  
 M = mid band [ $2f_L$  to  $f_U/2$ ]  
 U = upper range [ $f_U/2$  to  $f_U$ ]

### Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +3dBm	LO +3dBm	LO +3dBm	LO +3dBm	LO +3dBm
2.00	32.00	6.61	65.26	57.10	1.65	1.65
6.00	36.00	5.88	65.10	56.12	1.28	1.64
8.00	38.00	5.76	65.14	55.62	1.23	1.65
10.00	40.00	5.69	65.06	55.20	1.21	1.65
59.00	89.00	5.63	62.33	47.86	1.11	1.65
108.00	138.00	5.66	57.94	44.52	1.10	1.66
157.00	187.00	5.66	54.76	42.14	1.08	1.64
206.00	236.00	5.69	51.63	41.58	1.07	1.70
230.50	260.50	5.75	50.62	40.71	1.07	1.71
255.00	285.00	5.74	49.85	39.80	1.06	1.67
279.50	309.50	5.76	48.93	39.70	1.05	1.74
304.00	334.00	5.79	47.42	39.78	1.05	1.83
328.50	358.50	5.86	46.02	39.31	1.05	1.78
353.00	383.00	5.87	44.99	38.34	1.05	1.73
377.50	407.50	5.90	44.68	37.39	1.06	1.85
402.00	432.00	6.00	44.64	36.12	1.08	1.94
426.50	456.50	6.05	44.52	34.99	1.09	1.84
451.00	481.00	6.09	43.69	33.80	1.10	1.83
475.50	505.50	6.09	43.36	33.28	1.11	2.02
500.00	530.00	6.17	43.65	33.31	1.12	2.03

### Electrical Schematic



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RF/IF MICROWAVE COMPONENTS

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