

# Surface Mount Frequency Mixer

Level 7 (LO Power +7 dBm) 10 to 1000 MHz

**ADEX-10+**  
**ADEX-10**



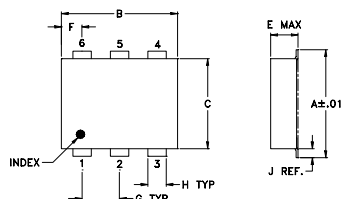
## Maximum Ratings

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

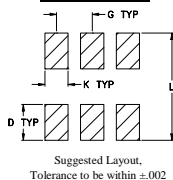
## Pin Connections

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

## Outline Drawing



### PCB Land Pattern



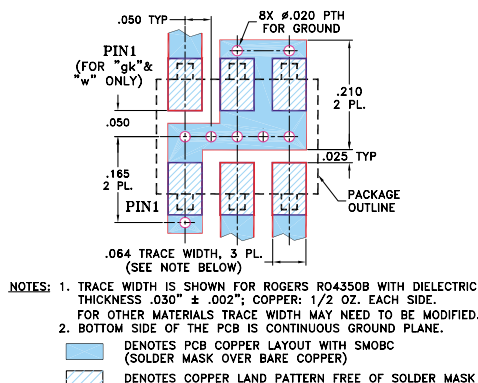
## Outline Dimensions (inch)

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

- excellent L-R isolation, 60 dB typ.
- flat conversion loss, ±0.2dB typ over entire band
- low conversion loss, 6.8 dB typ.
- good VSWR, 2:1 typ. for LO, 1.4:1 typ. for RF, 1.8:1 typ. for IF
- good performance to 1500 MHz
- aqueous washable
- protected by U.S. Patents 6,133,525 and 6,947,717

CASE STYLE: CD542

PRICE: \$2.95 ea. QTY (10-49)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

## Applications

- cellular

## Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 at center band (dBm)
LO/RF  $f_L$ - $f_U$	IF	Mid-Band $m$		Total Range Max.		L		M		U		L		M		U		
		$\overline{X}$	$\sigma$	Max.		Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
10-1000	DC-800	6.8	0.10	7.8†	8.3†	80	55	60	40	47	37	40	26	33	20	24	13	16

1 dB COMP.: +1 dBm typ.

†Conversion loss increases 0.5 dB when IF is above 150 MHz

L = low range [ $f_L$  to 10  $f_L$ ]

m = mid band [ $2f_L$  to  $f_U/2$ ]

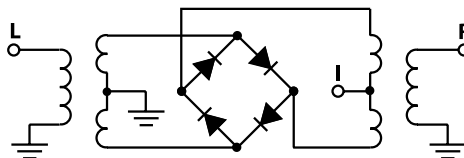
M = mid range [10  $f_L$  to  $f_U/2$ ]

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 +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
10.00	40.00	6.86	80.91	62.86	1.43	1.59
25.00	55.00	6.73	80.18	55.33	1.43	1.62
40.00	70.00	6.78	78.88	51.04	1.41	1.56
55.00	85.00	6.77	77.53	47.55	1.40	1.55
70.00	100.00	6.72	77.00	45.78	1.41	1.61
85.00	115.00	6.74	75.52	44.15	1.40	1.62
100.00	130.00	6.76	75.63	42.50	1.39	1.61
200.00	230.00	6.72	76.11	36.93	1.36	1.61
300.00	330.00	6.69	77.57	34.10	1.35	1.64
400.00	430.00	6.64	62.74	33.06	1.35	1.66
500.00	530.00	6.65	56.43	32.02	1.35	1.72
600.00	630.00	6.71	53.73	30.71	1.34	1.77
700.00	730.00	6.89	50.35	29.89	1.36	1.91
800.00	830.00	6.68	47.01	28.37	1.34	1.83
900.00	930.00	6.59	48.15	26.00	1.23	2.02
1000.00	1030.00	6.66	52.10	23.48	1.11	2.09

## Electrical Schematic



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# Performance Charts

## ADEX-10+ ADEX-10

