

Surface Mount Frequency Mixer

Level 4 (LO Power +4 dBm) 10 to 1000 MHz

ADEX-10L+ ADEX-10L



Maximum Ratings

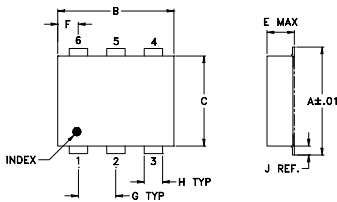
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

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

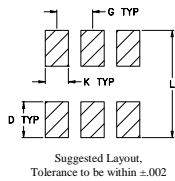
Pin Connections

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

Outline Drawing



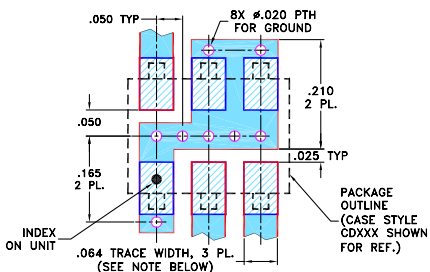
PCB Land Pattern



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)



- 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

- excellent L-R isolation, 60 dB typ.
- low conversion loss, 7.2 dB typ.
- flat conversion loss ±0.2 dB typ. over entire band
- good VSWR, 1.5:1 typ. for LO & RF, 1.8:1 Typ. for IF
- good performance to 1500 MHz
- aqueous washable
- protected by U.S. Patents 6,133,525 & 6,947,717

Applications

- cellular
- PCN

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 \bar{X} σ Max. Total Range Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.						
10-1000	DC-800	75	55	60	40	47	37	40	26	33	20	24	13	16

1 dB COMP: +1 dBm typ.

*Conversion loss increases 0.8 dB when IF is above 150 MHz

L = low range [f_L to 10 f_L]

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

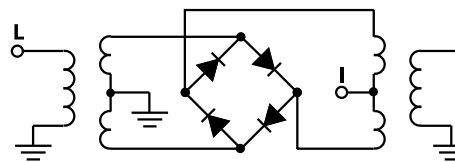
M = mid range [$10 f_L$ to $f_U/2$]

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)	
						LO +4dBm
10.00	40.00	7.30	82.88	58.83	1.54	1.18
25.00	55.00	7.23	82.79	51.06	1.54	1.13
55.00	85.00	7.27	80.30	44.57	1.53	1.12
70.00	100.00	7.31	78.35	42.47	1.53	1.14
100.00	130.00	7.37	75.43	39.36	1.51	1.15
172.00	202.00	7.31	68.52	34.38	1.48	1.21
244.00	274.00	7.21	64.68	31.33	1.46	1.25
316.00	346.00	7.20	61.44	29.83	1.44	1.29
352.00	382.00	7.13	60.51	29.38	1.43	1.28
424.00	454.00	7.19	61.30	28.92	1.43	1.28
460.00	490.00	7.21	61.56	28.63	1.42	1.27
532.00	562.00	7.21	59.88	28.24	1.39	1.27
604.00	634.00	7.46	57.30	27.79	1.40	1.29
640.00	670.00	7.49	55.44	27.54	1.40	1.30
712.00	742.00	7.58	52.02	26.70	1.40	1.34
748.00	778.00	7.46	51.61	25.74	1.40	1.38
820.00	850.00	7.38	51.53	23.84	1.39	1.38
856.00	886.00	7.34	52.51	22.81	1.39	1.42
928.00	958.00	7.43	51.02	21.76	1.35	1.48
1000.00	1030.00	7.65	47.97	21.23	1.27	1.57

Electrical Schematic



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED
The Design Engineers Search Engine
IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

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Performance Charts

