

Surface Mount Frequency Mixer

ADE-11X+ ADE-11X

Level 7 (LO Power +7 dBm) 10 to 2000 MHz



Maximum Ratings

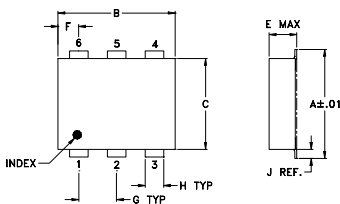
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

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

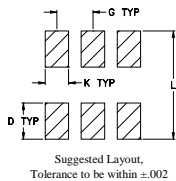
Pin Connections

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

Outline Drawing



PCB Land Pattern

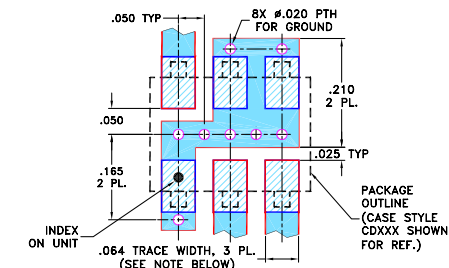


Outline Dimensions (inch/mm)

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

- low conversion loss, 7.1 dB typ.
- excellent L-R isolation, 36 dB typ. & L-I isolation, 37 dB typ.
- low profile package
- aqueous washable
- protected by U.S. Patent 6,133,525

Applications

- cellular
- PCN
- VHF & UHF
- communication receivers & transmitters

CASE STYLE: CD542
PRICE: \$1.99 ea. QTY (100)

+ 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.

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											
10-2000	5-1000	7.1	0.10	8.2	9.8	62	45	36	20	27	18	60	45	37	20	38	20	9

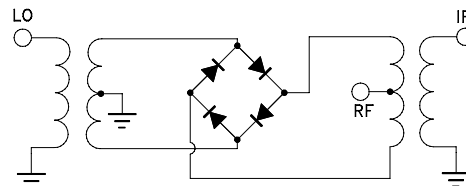
1 dB COMP: +1 dBm typ.

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

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
10.00	40.00	6.87	73.62	1.02	2.77
50.00	80.00	6.90	69.93	1.02	2.76
140.00	170.00	6.93	63.73	1.04	2.73
230.00	260.00	7.04	58.31	1.11	2.73
320.00	350.00	7.24	54.21	1.23	2.72
410.00	440.00	7.09	50.96	1.36	2.69
500.00	530.00	7.24	48.72	1.49	2.69
680.00	710.00	7.24	44.82	1.69	2.77
770.00	800.00	7.53	42.44	1.81	2.96
860.00	890.00	7.40	41.32	1.94	3.16
950.00	980.00	7.22	40.30	1.92	3.32
1000.00	1030.00	7.15	38.88	1.92	3.26
1100.00	1130.00	7.14	36.34	1.80	3.41
1200.00	1230.00	7.10	36.27	1.88	3.58
1400.00	1430.00	7.25	36.93	1.83	3.57
1500.00	1530.00	7.34	37.21	1.74	3.66
1600.00	1630.00	7.62	38.29	1.66	3.74
1800.00	1830.00	7.38	31.09	1.58	3.40
1900.00	1930.00	7.38	30.89	1.54	3.49
2000.00	2030.00	7.51	31.33	1.51	3.69

Electrical Schematic



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED
The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com
IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp.

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