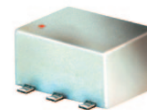


Surface Mount Frequency Mixer

ADE-1+ ADE-1

Level 7 (LO Power +7 dBm) 0.5 to 500 MHz



CASE STYLE: CD636
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.

Maximum Ratings

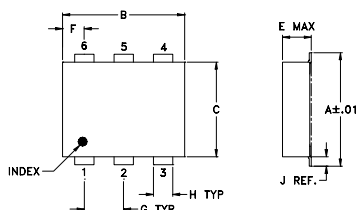
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

Permanent damage may occur if any of these limits are exceeded. These electrical ratings are not intended for continuous normal operation.

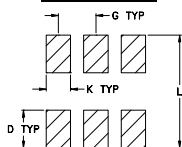
Pin Connections

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

Outline Drawing



PCB Land Pattern

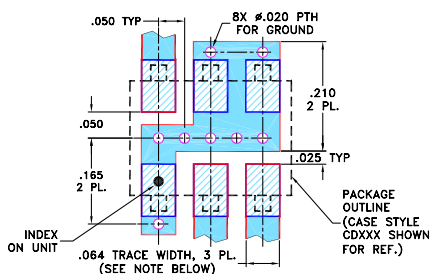


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch mm)

A	B	C	D	E	F	G
.272	.310	.220	.100	.162	.055	.100
6.91	7.87	5.59	2.54	4.11	1.40	2.54
H	J	K	L			wt
.030	.026	.065	.300			grams
0.76	0.66	1.65	7.62			0.25

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, 5.0 dB typ.
- excellent L-R isolation, 55 dB typ.
- excellent IP3, 15 dBm typ.
- low profile package
- aqueous washable
- protected by US patent 6,133,525

Applications

- VHF/UHF

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.							
0.5-500	DC-500	5.0	0.10	6.5	7.8	70	50	55	35	45	30	65	45	40	25	30	20	15

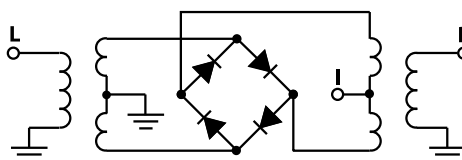
1 dB COMP.: +1 dBm typ.

L = low range [f_L to 10 f_L]
m = mid band [2 f_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
0.50	30.50	5.68	67.49	56.67	1.46	2.51
0.80	30.80	5.55	67.50	56.83	1.32	2.56
1.00	31.00	5.35	67.51	56.67	1.29	2.56
5.00	35.00	5.06	66.17	55.50	1.19	2.51
10.00	40.00	4.95	65.17	54.17	1.18	2.51
20.00	50.00	5.02	63.50	52.17	1.17	2.56
40.00	70.00	4.89	61.00	48.83	1.14	2.51
63.25	93.25	4.93	58.84	46.33	1.11	2.51
94.82	124.82	4.99	58.00	44.34	1.08	2.56
100.00	130.00	5.08	58.00	43.84	1.08	2.56
126.39	156.39	4.96	56.67	42.17	1.08	2.56
157.97	187.97	5.11	54.16	41.16	1.10	2.51
221.12	251.12	5.15	51.84	40.00	1.05	2.67
250.00	280.00	5.10	53.00	38.67	1.03	2.61
284.26	314.26	5.20	48.33	36.50	1.04	2.67
347.41	377.41	5.43	47.66	33.34	1.10	2.56
378.98	408.98	5.33	47.00	30.67	1.15	2.80
410.56	440.56	5.54	45.50	29.17	1.17	2.80
470.00	500.00	5.81	44.67	28.16	1.14	3.01
500.00	530.00	5.91	43.82	28.50	1.23	3.09

Electrical Schematic



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

IF/RF MICROWAVE COMPONENTS

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.

REV. E
M102713
ADE-1
ED-7605/1
DJ/TD/CP/AM
061227
Page 1 of 2

