

High Reliability Mixer

Level 13 (LO Power +13 dBm) 5 to 600 MHz

ADE-R1MHW+



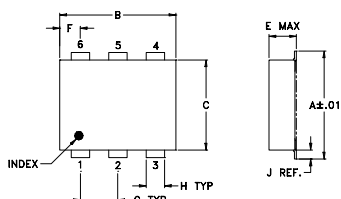
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA
Permanent damage may occur if any of these limits are exceeded.	

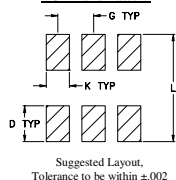
Pin Connections

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

Outline Drawing



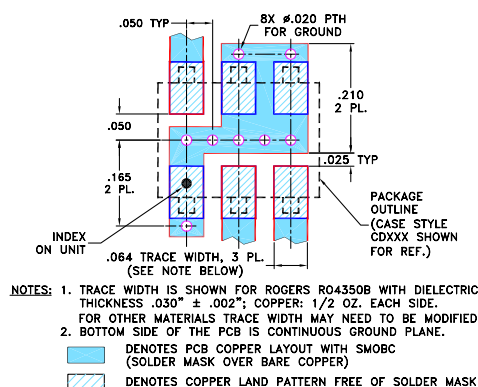
PCB Land Pattern



Outline Dimensions (inch)

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, 5.2 dB typ.
- excellent L-R isolation, 53 dB typ.
- excellent IP3, 18 dBm typ.
- low profile package
- aqueous washable
- protected by US patent 6,133,525

Applications

- HF/VHF/UHF/ receivers

CASE STYLE: CD542
PRICE: \$6.85 ea. QTY. (10)

+RoHS Compliant

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



Available Tape and Reel
at no extra cost

Reel Size	Devices/Reel
7"	10, 20, 50, 100, 200, 500
13"	500, 1000

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)				LO-IF ISOLATION (dB)				IP3 at center band (dBm)				
LO/RF	IF	Mid-Band		Total Range Max.	L	M	U	L	M	U								
		$\bar{X}$	σ															
		Max.	Max.															
f_L - f_U		Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.					
5-600	DC-600	5.2	0.10	6.9	8.0	63	50	53	35	43	27	56	40	44	28	30	20	18

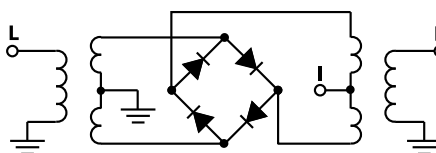
1 dB COMP: +9 dBm typ.

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)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
3.25	33.25	5.66	61.47	53.84	1.36	2.37
5.50	35.50	5.38	60.99	53.36	1.23	2.39
7.75	37.75	5.28	60.52	52.86	1.17	2.39
10.00	40.00	5.22	60.02	52.39	1.14	2.37
12.00	42.00	5.20	59.77	51.99	1.12	2.39
27.00	57.00	5.20	57.23	49.41	1.07	2.40
42.00	72.00	5.19	55.28	47.25	1.05	2.37
57.00	87.00	5.18	53.83	45.41	1.03	2.33
102.00	132.00	5.18	51.52	42.92	1.04	2.37
155.00	185.00	5.20	48.58	40.94	1.04	2.35
205.00	235.00	5.27	47.97	39.72	1.06	2.51
255.00	285.00	5.30	44.90	37.91	1.08	2.43
303.75	333.75	5.35	44.64	36.96	1.11	2.70
351.25	381.25	5.46	42.61	34.91	1.12	2.48
398.75	428.75	5.41	40.40	32.47	1.18	2.84
446.25	476.25	5.55	38.26	30.77	1.21	2.62
480.00	510.00	5.58	37.54	30.22	1.23	3.06
500.00	530.00	5.66	37.42	30.16	1.24	2.97
550.00	580.00	5.66	36.13	28.38	1.28	2.70
600.00	630.00	5.54	35.82	27.39	1.30	2.79

Electrical Schematic



Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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. OR
M109914
ADE-R1MHW+
ED-12874/2
WL/TD/QL
120820

