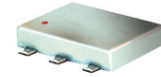


Surface Mount High Reliability Mixer

ADE-R5LH+

Level 10 (LO Power +10 dBm) 10 to 1500 MHz



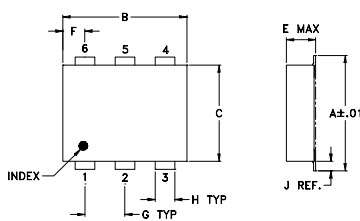
Maximum Ratings

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.	

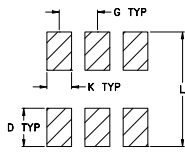
Pin Connections

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

Outline Drawing



PCB Land Pattern

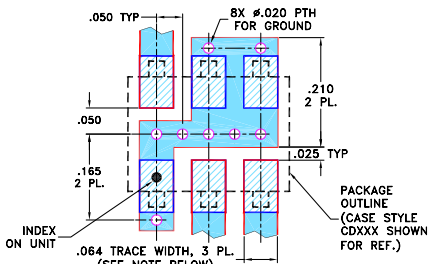


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G		
.272	.310	.220	.100	.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

- hermetically sealed ceramic quad
- low conversion loss, 7.2 dB typ.
- excellent L-R isolation, 55 dB typ.
- excellent IP3, 17 dBm
- low profile package
- aqueous washable
- protected by US Patent 6,133,525

Applications

- cellular
- PCS

CASE STYLE: CD542

PRICE: \$3.85 ea. QTY. (10-49)

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

The +Suffix has been added in order to identify 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)						
LO/RF	IF	Mid-Band		Total Range	L	M	U	L	M	U								
f_L - f_U		\bar{X}	σ	Max.	Max.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ. Min.	Typ.						
10-1500	DC-1000	7.2	0.10	8.2	9.5	65	50	55	40	42	27	50	37	45	28	30	20	15

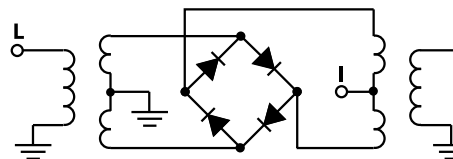
1 dB COMP: +5 dBm typ.
Phase detection, positive polarity

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 [$2 f_L$ 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 +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
10.10	40.10	6.69	68.93	72.82	1.92	1.23
130.10	160.10	6.87	65.42	52.06	1.42	1.49
250.10	280.10	6.77	63.17	50.64	1.44	1.55
350.10	380.10	6.81	60.80	50.63	1.56	1.58
450.10	480.10	6.88	62.07	50.33	1.57	1.62
550.10	580.10	6.98	54.44	49.75	1.65	1.67
610.10	640.10	6.89	53.57	47.38	1.54	1.72
650.10	680.10	6.93	55.53	45.72	1.56	1.72
710.10	740.10	7.11	69.22	44.40	1.61	1.78
750.10	780.10	7.30	74.48	46.39	1.59	1.79
810.10	840.10	7.47	70.35	56.47	1.68	1.87
850.10	880.10	7.41	69.05	58.34	1.57	1.86
950.10	980.10	7.23	55.99	43.36	1.55	1.90
1010.10	1040.10	7.23	50.14	40.00	1.50	2.00
1050.10	1080.10	7.20	47.67	38.54	1.51	1.97
1150.10	1180.10	7.16	44.23	36.10	1.37	2.06
1250.10	1280.10	7.50	42.38	36.34	1.21	2.15
1350.10	1380.10	7.48	40.25	34.12	1.07	2.20
1450.10	1480.10	7.15	36.47	28.53	1.30	2.20
1510.10	1540.10	7.20	34.45	26.65	1.43	2.27

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

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

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-R5LH+
ED-12873/13
WL/TD/QL
090918
Page 1 of 2

