

Surface Mount

Frequency Mixer

ADE-12MH+ ADE-12MH

Level 13 (LO Power +13 dBm) 10 to 1200 MHz

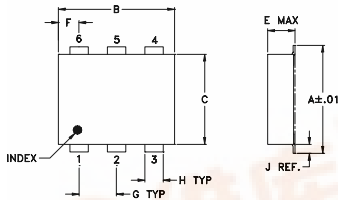
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA

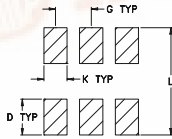
Pin Connections

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

Outline Drawing



PCB Land Pattern

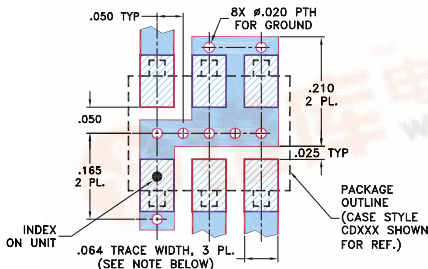


Suggested Layout,
Tolerance to be within ±.002

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.
2. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
3. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
4. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
5. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- low conversion loss, 6.3 dB typ.
- good L-R isolation, 45 dB typ.; L-I isolation, 42 dB typ.
- low profile package
- aqueous washable
- protected by U.S. Patent 6,133,525

Applications

- cellular
- VHF/UHF receivers



CASE STYLE: CD542

PRICE: \$6.45 ea. QTY (10-49)

+ 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)
LO/RF f_L - f_U	IF	Mid-Band m			Total Range Max.	L	M	U	L	M	U	L	M	U				
		$\bar{X}$	σ	Max.											Typ. Min.	Typ. Min.	Typ. Min.	
		10-1200	DC-1200	6.3		0.10	8.0	8.5	62	45	45	32	40	26	68	40	42	

1 dB COMP.: +9 dBm typ.

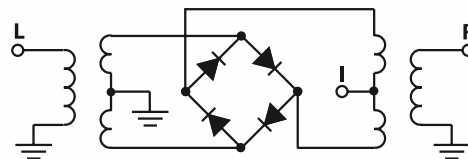
L = low range [f_L to 10 f_L]
m = mid band [$2f_L$ to $f_U/2$]

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)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
10.00	40.00	6.42	66.67	60.68	1.54	1.59
15.00	45.00	6.45	65.33	59.84	1.52	1.59
20.00	50.00	6.41	64.50	59.34	1.54	1.56
40.00	70.00	6.40	62.00	56.67	1.55	1.52
70.00	100.00	6.50	58.50	54.67	1.52	1.46
105.74	135.74	6.48	56.16	53.17	1.54	1.48
150.00	180.00	6.56	53.49	52.50	1.56	1.50
210.97	240.97	6.44	51.17	55.51	1.56	1.50
316.21	346.21	6.49	48.50	49.00	1.61	1.50
421.45	451.45	6.61	47.17	44.16	1.62	1.49
526.68	556.68	6.63	45.33	39.67	1.65	1.51
570.00	600.00	6.78	44.67	38.33	1.74	1.56
600.00	630.00	6.77	44.67	38.01	1.73	1.54
737.16	767.16	7.05	45.33	37.17	1.77	1.49
842.40	872.40	7.74	43.17	35.66	1.95	1.46
947.63	977.63	6.98	40.83	32.34	2.07	1.45
1000.00	1030.00	6.54	40.33	30.99	2.10	1.36
1052.87	1082.87	6.37	39.50	29.83	2.13	1.28
1170.00	1200.00	6.60	37.67	29.34	2.28	1.12
1200.00	1230.00	6.70	37.00	29.34	2.41	1.09

Electrical Schematic



Performance Charts

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