

# Surface Mount Frequency Mixer

## MBA-25LH+ MBA-25LH

Level 10 (LO Power +10 dBm) 2200 to 3600 MHz



### Maximum Ratings

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

### Pin Connections

LO	10
RF	5
IF	3
GROUND	1,2,4,6,7,8,9

### Features

- excellent temperature stability
- excellent performance repeatability
- leads with strain relief
- very low cost
- ultra low height, 0.07"
- aqueous washable
- protected by US Patent 5,534,830

### Applications

- PCN/PCS/wideband CDMA
- satellite communication
- wireless local loop
- WLAN
- GPS
- PCMCIA

CASE STYLE: SM2  
PRICE: \$6.95 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

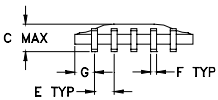
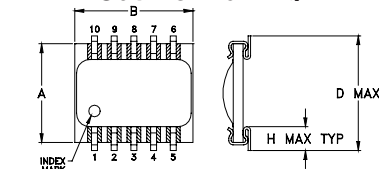
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF	$\bar{X}$	$\sigma$	Max.	Typ.	Min.	Typ.	Min.	Typ.
2200-3600	DC-500	7.0	0.1	9.2	32	21	20	10	12

1 dB COMP.: +4 dBm typ.

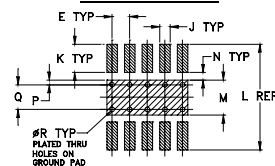
### Typical Performance Data

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
2200.00	2230.00	7.89	27.70	12.40	2.92	2.30
2300.00	2330.00	7.72	28.80	13.80	2.65	2.25
2400.00	2430.00	7.51	31.00	15.70	2.37	2.20
2427.50	2457.50	7.44	32.00	16.40	2.35	2.01
2500.00	2530.00	7.20	34.60	18.20	2.20	2.10
2560.00	2590.00	6.95	36.70	19.50	2.14	2.27
2600.00	2630.00	6.88	37.10	20.80	2.08	2.01
2692.50	2722.50	6.83	32.20	23.10	1.85	1.97
2700.00	2730.00	6.87	32.10	23.00	1.82	1.99
2800.00	2830.00	6.88	30.50	25.40	1.59	1.94
2825.00	2855.00	7.05	30.10	26.50	1.52	1.92
2900.00	2930.00	7.16	30.80	29.90	1.34	1.87
2957.00	2987.00	7.23	32.10	32.50	1.20	1.89
3000.00	3030.00	7.24	32.60	33.00	1.13	1.89
3090.00	3120.00	7.21	34.10	28.80	1.03	1.91
3200.00	3230.00	7.02	36.60	23.90	1.13	2.20
3222.50	3252.50	6.98	37.00	22.90	1.15	2.18
3355.00	3385.00	7.08	37.00	20.20	1.33	1.96
3400.00	3430.00	6.97	35.80	18.90	1.40	2.08
3600.00	3630.00	7.07	33.00	16.00	1.59	1.75

### Outline Drawing



### PCB Land Pattern

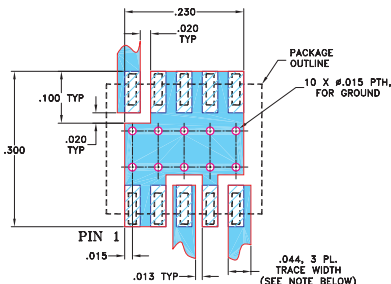


Suggested Layout,  
Tolerance to be within ±.002  
ADJACENT GROUND PINS SHALL BE CONNECTED TO EACH OTHER AND TO GROUND PAD

### Outline Dimensions (inch/mm)

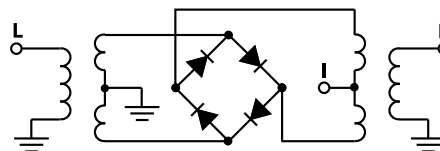
A	B	C	D	E	F	G	H	wt
.250	.300	.095	.290	.050	.015	.050	.060	
6.35	7.62	2.41	7.37	1.27	0.38	1.27	1.52	
J	K	L	M	N	P	Q	R	grams
.030	.080	.300	.100	.020	.015	.070	.014	0.3
0.76	2.03	7.62	2.54	0.51	0.38	1.78	0.36	

Demo Board MCL P/N: TB-99  
Suggested PCB Layout (PL-066)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015". 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

### Electrical Schematic



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IF/RF MICROWAVE COMPONENTS

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M115169  
MBA-25LH  
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## Performance Charts

