

# Surface Mount Frequency Mixer

## MBA-10L

### Level 3 (LO Power +3 dBm) 800 to 1000 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	10
RF	5
IF	3
GROUND	1,2,4,6,7,8,9

#### Features

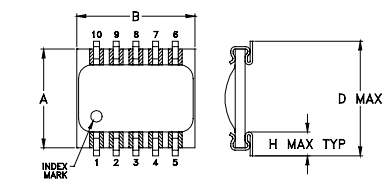
- excellent temperature stability
- excellent performance repeatability
- leads with strain relief
- very low cost
- ultra low height, 0.07"
- aqueous washable
- protected by US Patent 5,534,830

#### Applications

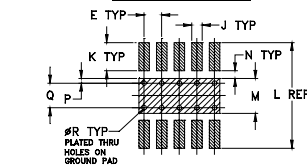
- cellular
- GSM
- WLAN
- PCMCIA

CASE STYLE: SM2  
PRICE: Contact Sales Dept.

#### Outline Drawing



#### PCB Land Pattern

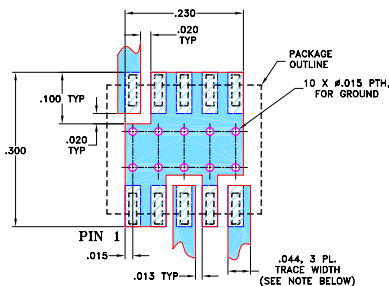


Suggested Layout,  
Tolerance to be within ±.002  
ADJACENT GROUND PINS SHALL BE CONNECTED  
TO EACH OTHER AND TO GROUND PAD

#### Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	
.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	wt
.030	.080	.300	.100	.020	.015	.070	.014	grams
0.76	2.03	7.62	2.54	0.51	0.38	1.78	0.36	0.3

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 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.
800-1000	DC-200	8.0	0.1	9.5	20	13	15	8	9

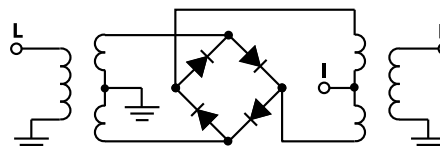
1 dB COMP: 0 dBm typ.

NON-CATALOG

#### 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 +3dBm	LO +3dBm	LO +3dBm	LO +3dBm	LO +3dBm
800.00	830.00	8.13	23.10	18.30	2.84	1.68
810.00	840.00	8.14	22.40	17.60	2.72	1.68
820.00	850.00	8.06	21.70	17.30	2.65	1.62
830.00	860.00	8.01	21.00	16.50	2.43	1.54
840.00	870.00	7.90	20.50	16.10	2.43	1.52
850.00	880.00	8.05	20.00	15.60	2.30	1.46
860.00	890.00	7.96	19.50	15.50	2.18	1.42
870.00	900.00	7.84	19.10	15.10	2.12	1.30
880.00	910.00	8.04	18.80	14.50	1.99	1.28
890.00	920.00	7.92	18.40	14.20	1.94	1.23
900.00	930.00	7.98	18.10	13.80	1.81	1.15
910.00	940.00	7.89	17.70	13.70	1.73	1.35
920.00	950.00	7.74	17.60	13.20	1.66	1.29
930.00	960.00	7.89	17.20	13.00	1.57	1.40
940.00	970.00	7.74	16.90	12.60	1.52	1.34
950.00	980.00	7.70	16.70	12.20	1.42	1.42
970.00	1000.00	6.67	16.20	11.80	1.31	1.43
980.00	1010.00	7.80	16.10	11.60	1.24	1.41
990.00	1020.00	7.75	16.10	11.30	1.19	1.44
1000.00	1030.00	7.80	16.00	10.90	1.15	1.50

#### Electrical Schematic



**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

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