Surface Mount

Frequency Mixer

MBA-10L

Level 3 (LO Power +3 dBm) 800 to 1000 MHz

CASE STYLE: SM2
PRICE: Contact Sales Dept.

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

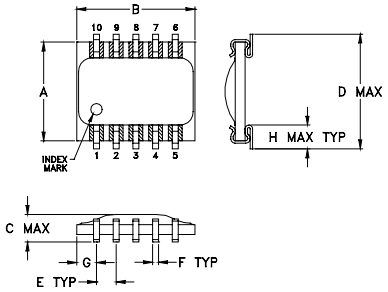
Features

- 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

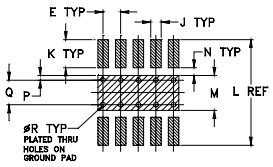
Applications

- cellular
- GSM
- WLAN
- PCMCIA

Outline Drawing



PCB Land Pattern

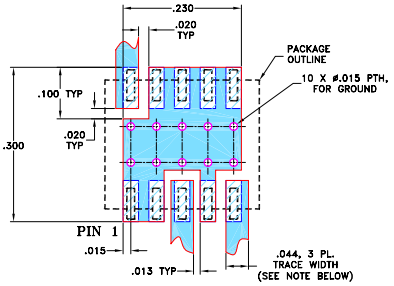


Suggested Layout,
Tolerance to be within ±.002
ADJACENT GROUND PINS SHALL BE CONNECTED TO EACH OTHER AND TO GROUND PAD

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

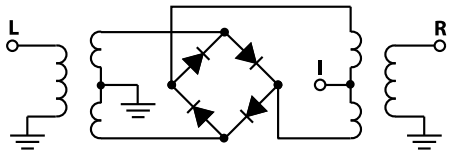
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF								
f_L-f_U		$\overline{X}$	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.
800-1000	DC-200	8.0	0.1	9.5	20	13	15	8	9

1 dB COMP.: 0 dBm typ.

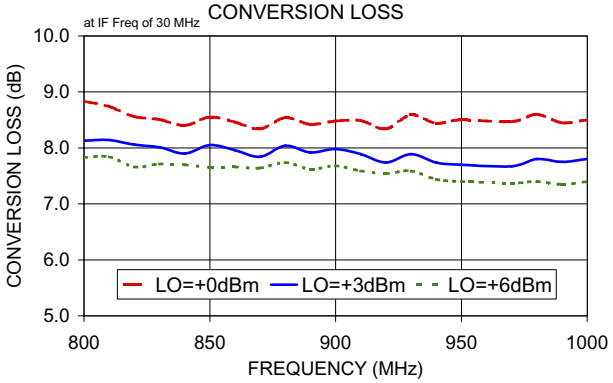
Typical Performance Data

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	7.67	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

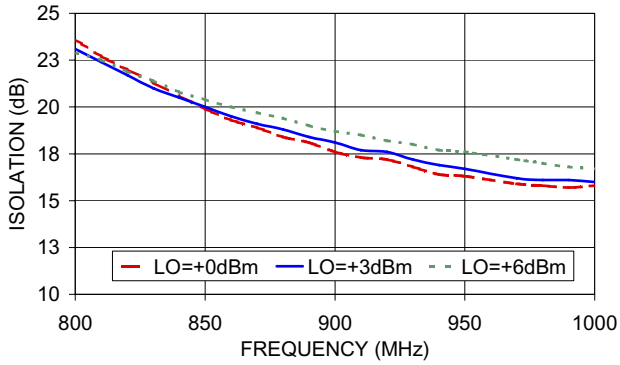
Electrical Schematic



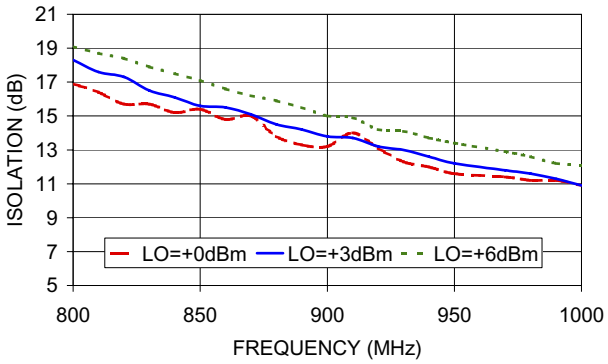
MBA-10L
CONVERSION LOSS
at IF Freq of 30 MHz



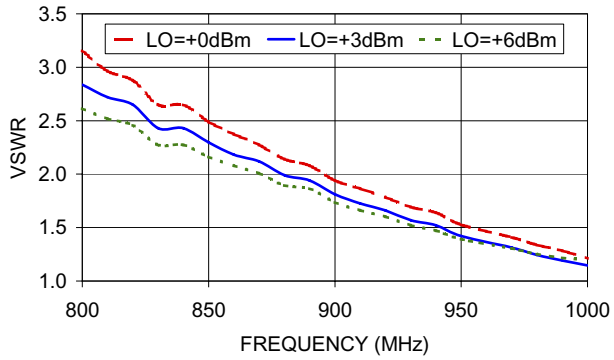
MBA-10L
L-R ISOLATION



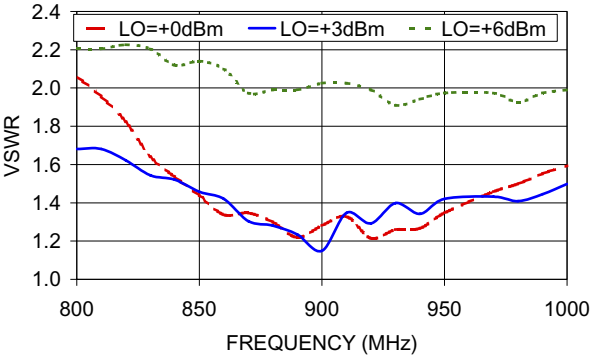
MBA-10L
L-I ISOLATION



MBA-10L
RF VSWR



MBA-10L
LO VSWR



MBA-10L
IF VSWR