Surface Mount

Frequency Mixer

Level 10 (LO Power +10 dBm) 1600 to 3200 MHz

MBA-18LH+
MBA-18LH

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.

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

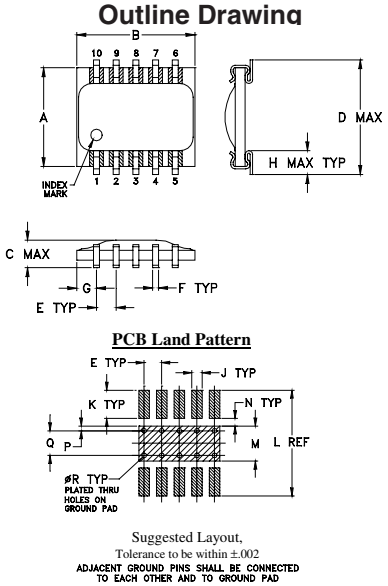
Features

- 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
- WLAN
- GPS
- PCMCIA

Outline Drawing

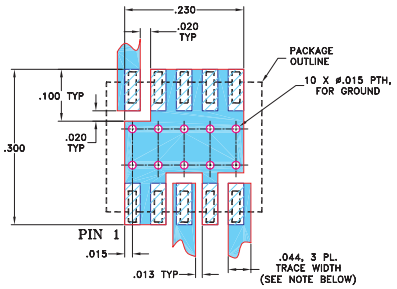


Suggested Layout,
Tolerance to be within ±.002
ADJACENT GROUND PINS SHALL BE CONNECTED TO EACH OTHER AND TO GROUND PAD

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

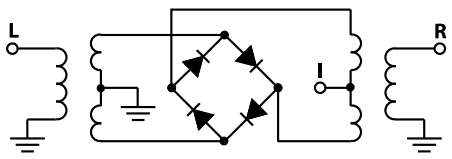
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF								
f_L-f_U		$\overline{X}$	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.
1600-3200	DC-500	5.8	0.1	8.5	30	17	22	10	12

1 dB COMP.: +5 dBm typ.

Typical Performance Data

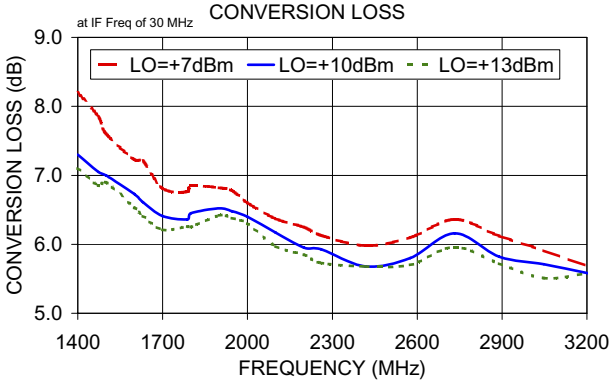
Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
1400.00	1430.00	7.30	38.80	12.30	4.53	3.86
1472.50	1502.50	7.05	38.90	12.80	4.22	3.32
1500.00	1530.00	7.00	40.10	12.30	4.03	3.95
1600.00	1630.00	6.73	41.30	12.90	3.95	3.86
1630.00	1660.00	6.61	38.40	13.90	3.95	2.68
1700.00	1730.00	6.41	38.00	14.20	3.38	2.92
1787.50	1817.50	6.36	35.20	15.20	2.84	2.55
1800.00	1830.00	6.45	34.40	15.60	2.80	2.25
1900.00	1930.00	6.52	33.50	16.80	2.40	1.96
1945.00	1975.00	6.48	34.50	16.80	2.23	2.35
2000.00	2030.00	6.40	32.80	18.00	2.06	1.94
2100.00	2130.00	6.17	32.70	20.00	1.77	1.99
2200.00	2230.00	5.95	31.00	21.90	1.60	1.89
2260.00	2290.00	5.93	30.20	22.70	1.56	1.74
2417.50	2447.50	5.68	27.10	22.20	1.46	1.67
2575.00	2605.00	5.80	25.80	20.00	1.34	1.66
2732.50	2762.50	6.16	25.30	17.90	1.30	1.66
2890.00	2920.00	5.82	25.30	16.00	1.14	1.70

Electrical Schematic

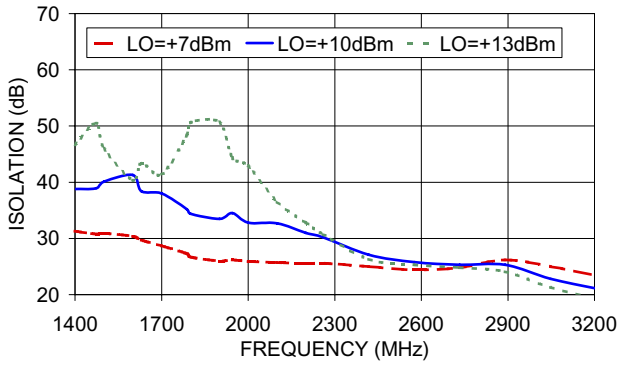


Performance Charts

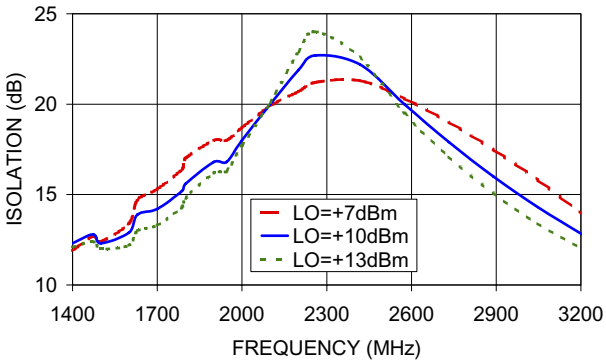
MBA-18LH
CONVERSION LOSS
at IF Freq of 30 MHz



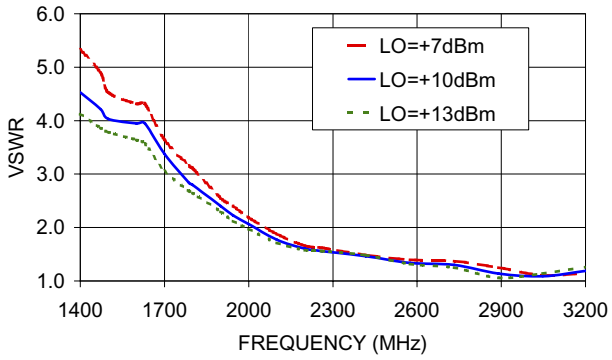
MBA-18LH
L-R ISOLATION



MBA-18LH
L-I ISOLATION



MBA-18LH
RF VSWR



MBA-18LH
LO VSWR