

Surface Mount Frequency Mixer

MBA-15MH+ MBA-15MH

Level 13 (LO Power +13 dBm) 1400 to 2400 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	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
- GPS
- PCMCIA

CASE STYLE: SM2
PRICE: \$7.95 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

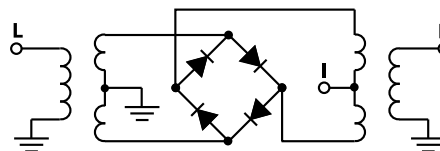
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF	\bar{X}	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.
1400-2400	DC-600	5.5	0.1	8.5	28	16	16	8	18

1 dB COMP.: +8 dBm typ.

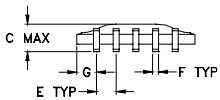
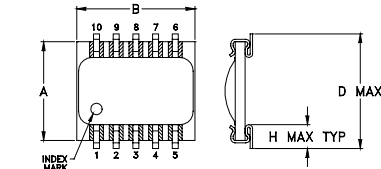
Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
1200.00	1230.00	6.70	34.90	14.30	3.38	3.44
1230.00	1260.00	6.82	35.70	14.20	3.11	3.64
1300.00	1330.00	5.98	35.10	15.10	2.61	3.06
1400.00	1430.00	5.29	34.50	15.80	2.30	2.96
1412.50	1442.50	5.36	35.00	15.40	2.23	2.92
1500.00	1530.00	5.40	34.40	16.20	1.96	2.68
1600.00	1630.00	5.37	34.30	17.60	1.67	2.35
1700.00	1730.00	5.54	32.90	19.30	1.52	1.84
1777.50	1807.50	5.65	32.00	20.10	1.38	1.85
1800.00	1830.00	5.44	31.80	20.50	1.35	1.60
1900.00	1930.00	5.62	30.00	21.20	1.19	1.50
1960.00	1990.00	5.52	29.30	21.30	1.13	1.63
2000.00	2030.00	5.58	28.80	21.10	1.12	1.55
2100.00	2130.00	5.73	26.10	20.10	1.15	1.57
2142.50	2172.50	5.74	25.60	19.80	1.16	1.54
2200.00	2230.00	6.02	25.00	19.10	1.20	1.61
2300.00	2330.00	6.33	25.30	18.00	1.48	1.66
2325.00	2355.00	6.35	25.40	17.50	1.55	1.61
2400.00	2430.00	6.71	25.00	16.70	1.73	1.64
2507.50	2537.50	6.61	24.20	15.20	1.91	1.60

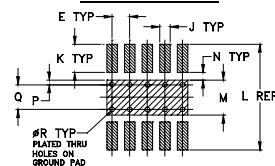
Electrical Schematic



Outline Drawing



PCB Land Pattern

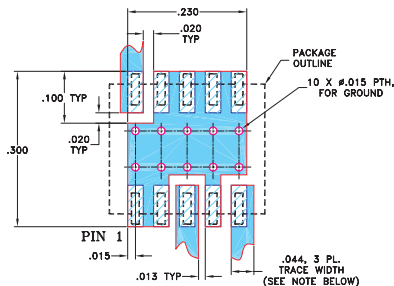


Suggested Layout,
Tolerance to be within ±.002
ADJACENT GROUND PINS SHALL BE CONNECTED TO EACH OTHER AND TO GROUND PAD

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

Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

minicircuits.com

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site

The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

IF/RF MICROWAVE COMPONENTS

REV. E
M115169
MBA-15MH
EE-7756/16
090128
Page 1 of 2

Performance Charts

