

Surface Mount Frequency Mixer

Level 13 (LO Power +13 dBm) 1400 to 2400 MHz

MBA-15MH+
MBA-15MH



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"
- 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

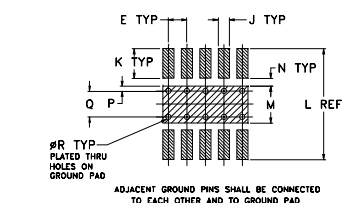
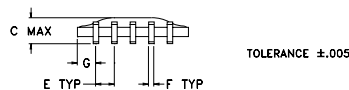
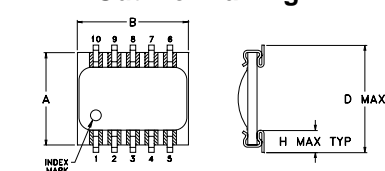
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF	\bar{X}	σ	Max.	Typ.	Min.	Typ.	Min.	
1400-2400	DC-600	5.5	0.1	8.5	28	16	16	8	18

1 dB COMP.: +8 dBm typ.

Typical Performance Data

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

Outline Drawing



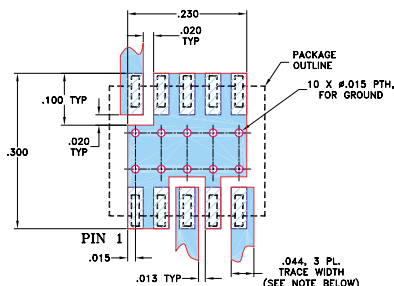
ADJACENT GROUND PINS SHALL BE CONNECTED
TO EACH OTHER AND TO GROUND PAD

SUGGESTED LAYOUT FOR PCB PATTERN

Outline Dimensions (inch)

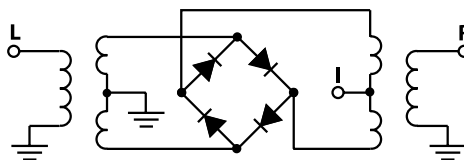
A	B	C	D	E	F	G	H	
.250	.300	.070	.290	.050	.015	.050	.060	
6.35	7.62	1.78	7.37	1.27	0.38	1.27	1.52	
J	K	L	M	N	P	Q	R	wt
.030	.080	.300	.100	.020	.015	.070	.014	grams
0.76	2.03	7.62	2.54	0.51	0.38	1.78	0.36	0.3

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 Schematic



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Performance Charts

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