

Surface Mount Frequency Mixer

Level 4 (LO Power +4 dBm) 1200 to 2400 MHz

MBA-15L+
MBA-15L



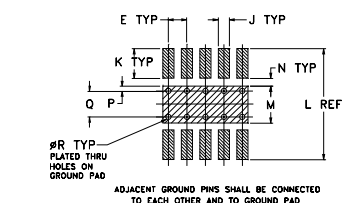
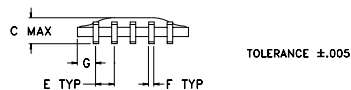
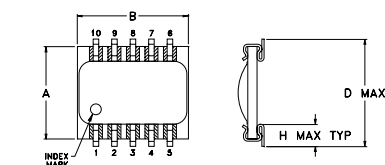
Maximum Ratings

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

Outline Drawing

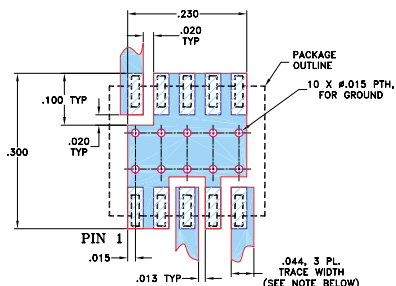


SUGGESTED LAYOUT FOR PCB PATTERN

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

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

- wireless local loop
- PCN/PCS/wideband CDMA
- WLAN
- satellite communication
- ISM band
- PCMCIA

Electrical Specifications

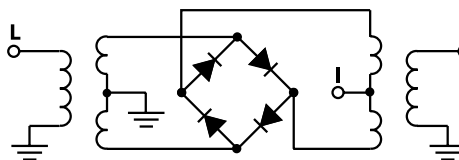
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)	LO-IF ISOLATION (dB)	IP3 at center band (dBm)
LO/RF $f_L - f_U$	\bar{X} σ Max.	Typ. Min.	Typ. Min.	Typ.
1200-2400 DC-600	6.5 0.1 8.5	27 15	20 10	10

1 dB COMP.: 0 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 +4dBm	LO +4dBm	LO +4dBm	LO +4dBm	LO +4dBm
1200.00	1230.00	7.05	30.80	13.30	3.71
1250.00	1280.00	7.08	30.00	14.10	3.57
1300.00	1330.00	6.41	30.10	14.90	3.50
1350.00	1380.00	6.42	29.80	16.10	3.01
1400.00	1430.00	6.02	29.60	16.80	2.76
1450.00	1480.00	6.12	29.00	17.50	2.55
1500.00	1530.00	5.89	27.90	18.70	2.37
1600.00	1630.00	5.74	27.00	20.20	1.99
1700.00	1730.00	5.56	27.50	21.70	1.66
1800.00	1830.00	5.69	27.00	22.00	1.46
1900.00	1930.00	5.64	27.00	21.70	1.25
2000.00	2030.00	5.79	27.10	21.00	1.11
2100.00	2130.00	5.78	26.50	19.90	1.03
2150.00	2180.00	5.82	25.70	19.30	1.02
2200.00	2230.00	6.01	25.60	19.10	1.02
2250.00	2280.00	6.13	25.20	18.40	1.02
2300.00	2330.00	6.43	25.30	17.60	1.02
2350.00	2380.00	6.88	25.00	17.00	1.06
2400.00	2430.00	7.16	24.60	16.30	1.09
2500.00	2530.00	6.70	24.10	14.90	1.21

Electrical Schematic



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Performance Charts

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