

Ceramic

Frequency Mixer WIDE BAND

MCA1-24MH+

Level 13 (LO Power+13 dBm) 300 to 2400 MHz



CASE STYLE: DZ885
PRICE: \$6.95 ea. QTY (10-49)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	200 mW
IF Current	40 mA

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

- wide bandwidth, 300 to 2400 MHz
- low conversion loss, 6.1 dB typ.
- excellent L-R isolation, 40 dB typ.
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.08"
- protected by US Patent 7,027,795

Applications

- cellular
- PCN
- defense & weather radar
- UHF TV
- WCDMA
- defense communications

Electrical Specifications (T_{AMB}=-55°C to 100°C)

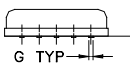
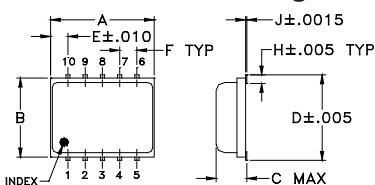
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
		Typ.	Min.	Typ.	Min.	
300-2400	6.1	40	20	25	14	13

1 dB COMPR. +9 dBm typ.

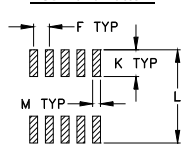
Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
300.00	5.82	49.37	21.78	1.81	8.01
400.00	5.10	42.20	23.99	1.56	2.46
500.00	6.84	40.15	27.27	3.96	1.34
700.00	6.58	46.19	27.35	3.69	2.12
1000.00	7.41	43.92	24.46	4.01	2.74
1200.00	7.45	39.35	31.83	4.28	3.82
1500.00	5.74	39.15	28.78	1.91	2.66
1700.00	5.13	36.63	25.65	1.04	1.79
2000.00	6.17	32.38	21.69	2.26	2.44
2200.00	7.25	33.19	20.62	3.48	3.62
2400.00	7.16	30.70	25.44	3.42	7.44

Outline Drawing



PCB Land Pattern

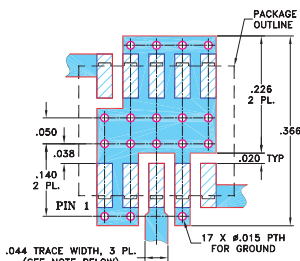


Suggested Layout, Tolerance to be within ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.30	.250	.085	.266	.050	.050	.012
7.62	6.35	2.16	6.76	1.27	1.27	0.30
H	J	K	L	M	wt	
.029	.004	.085	.296	.030	grams	
0.74	0.10	2.16	7.52	0.76	0.25	

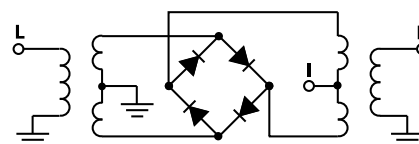
Demo Board MCL P/N: TB-144 Suggested PCB Layout (PL-045)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .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



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

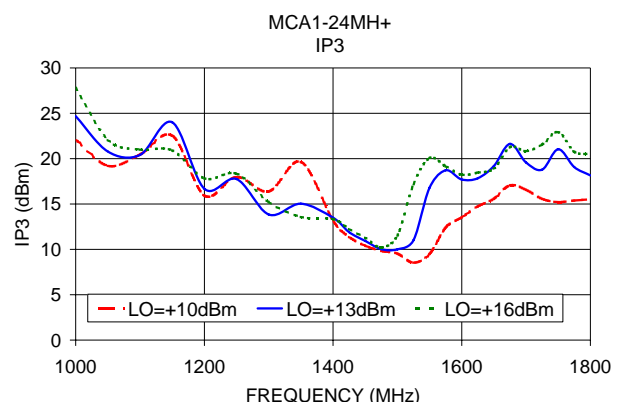
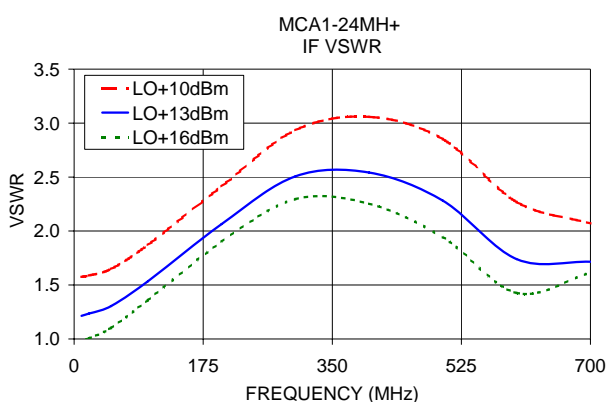
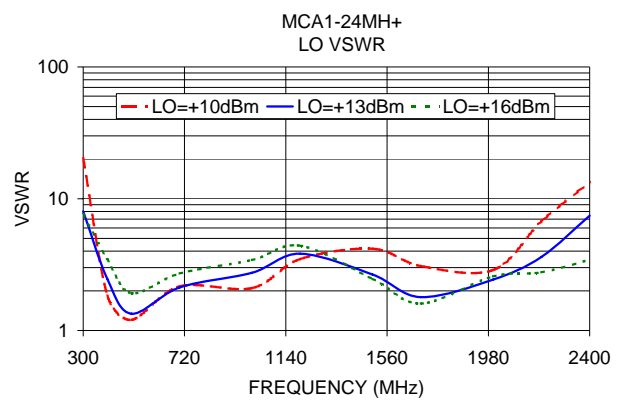
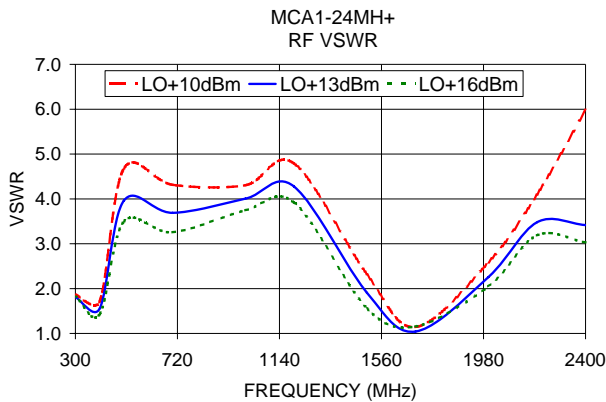
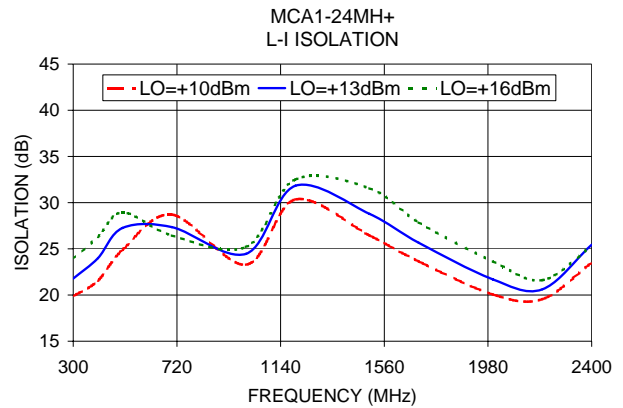
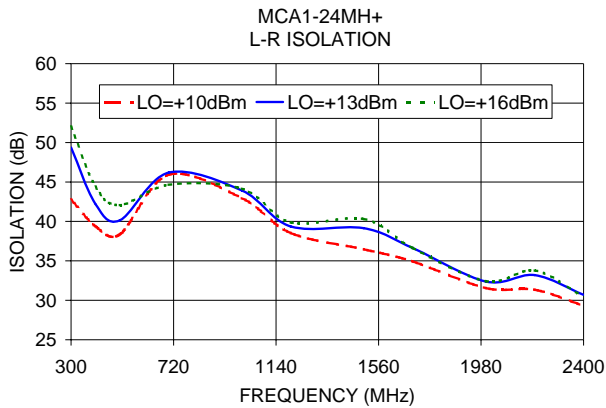
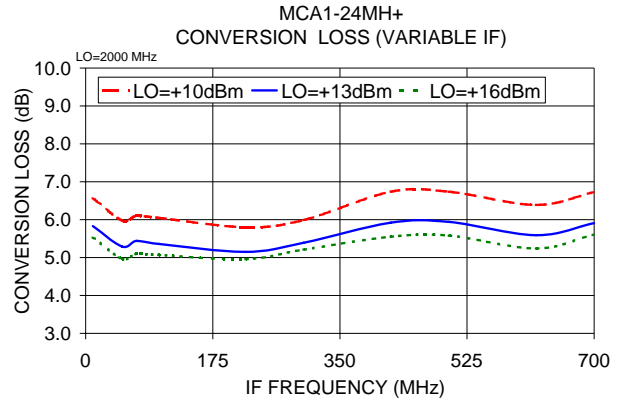
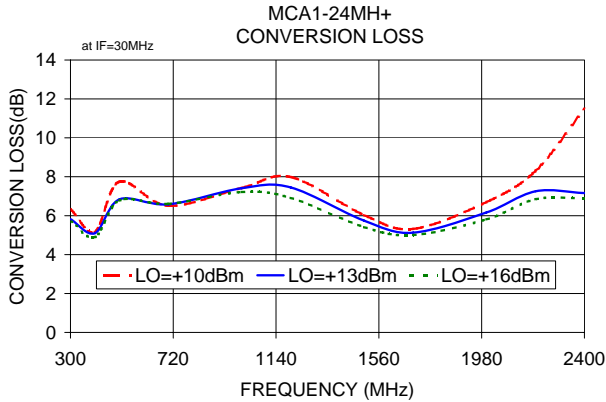
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Performance Charts

MCA1-24MH+



For detailed performance specs & shopping online see web site

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