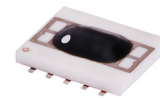


Ceramic

Frequency Mixer WIDE BAND

Level 7 (LO Power+7 dBm) 300 to 2400 MHz
MCA1-24+


Generic photo used for illustration purposes only

CASE STYLE: DZ885

Maximum Ratings

Operating Temperature -55°C to 100°C

Storage Temperature -55°C to 100°C

RF Power 50 mW

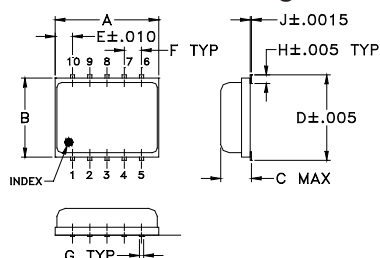
IF Current 40 mA

Permanent damage may occur if any of these limits are exceeded.

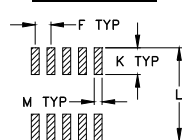
Pin Connections

LO	10
RF	5
IF	3
GROUND	1,2,4,6,7,8,9

Outline Drawing



PCB Land Pattern

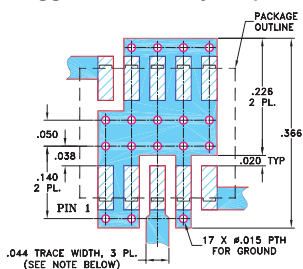
Suggested Layout,
Tolerance to be within ±.002

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

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

Recommended Replacement:

MAC-24+

- Footprint Compatible
- MIL Level Reliability

[Click here for data sheet](#)

Applications

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

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

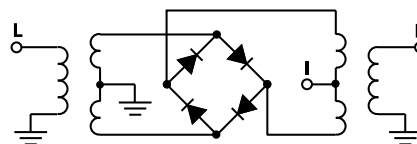
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)	LO-IF ISOLATION (dB)	IP3 at center band (dBm)
LO/RF f _L -f _U	$\bar{X}$ σ Max.	Typ. Min.	Typ. Min.	Typ.
300-2400 DC-700	6.1 0.1 8.9	40 25	25 15	10

1 dB COMP. +1 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 +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
301.00	331.00	5.65	49.09	22.79	1.98	6.94
401.00	431.00	4.79	42.44	24.50	1.37	2.42
501.00	531.00	6.25	44.11	26.82	3.58	1.36
701.00	731.00	6.44	43.51	26.63	3.58	2.12
901.00	931.00	6.94	42.58	28.29	4.77	3.78
1151.00	1181.00	7.00	43.47	29.90	4.79	4.32
1301.00	1331.00	7.04	41.88	30.02	3.94	4.91
1501.00	1531.00	5.51	39.43	27.85	1.91	3.22
1701.00	1731.00	4.99	36.78	25.41	1.29	1.64
2001.00	2031.00	5.90	33.55	23.65	2.15	2.56
2401.00	2431.00	7.09	36.83	29.81	3.39	4.83

Electrical Schematic

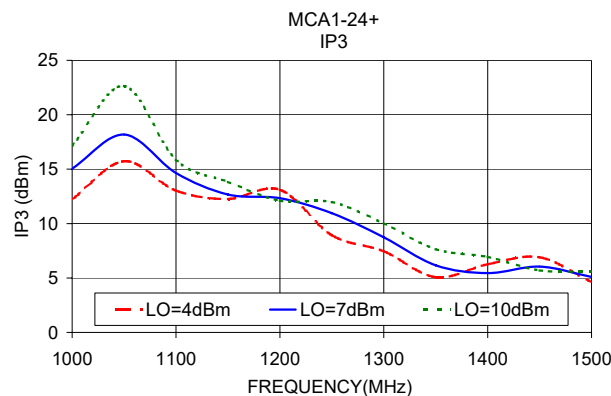
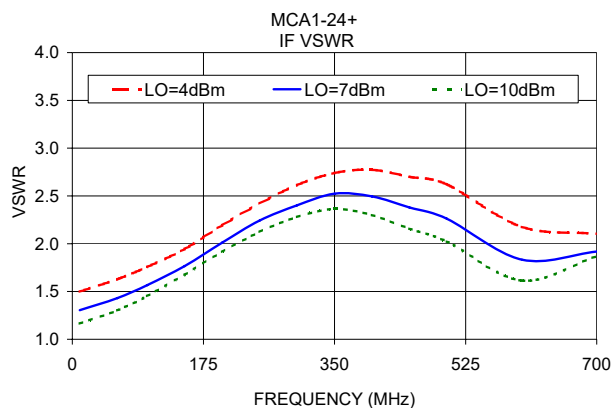
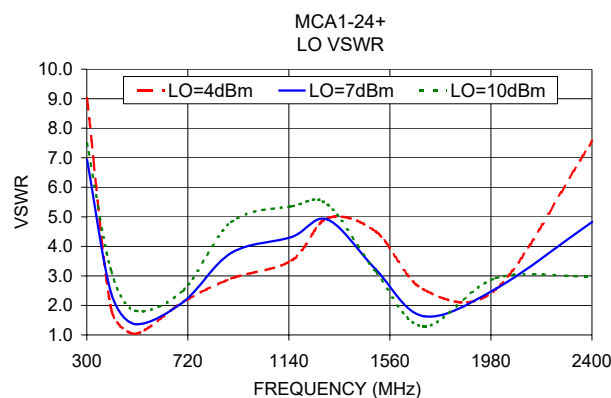
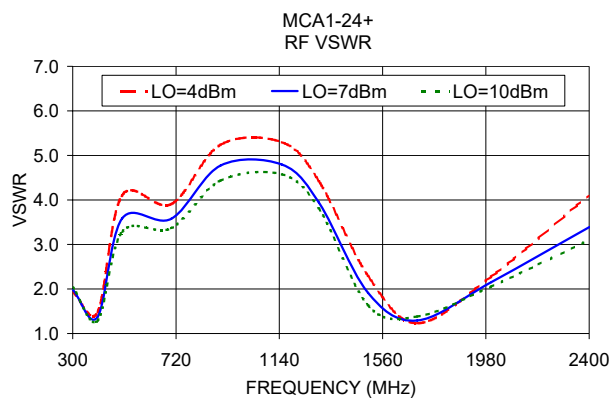
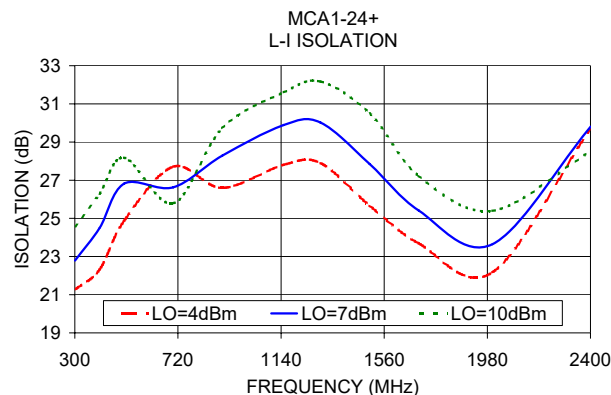
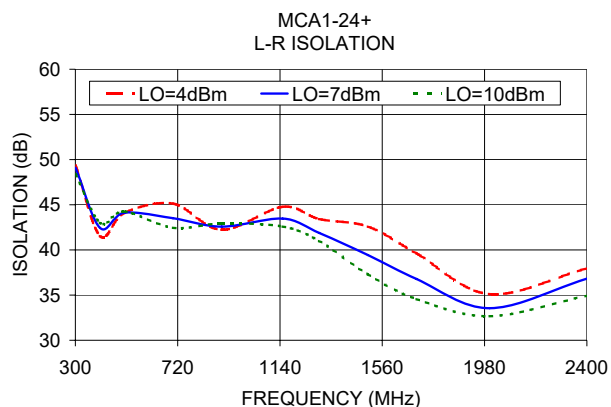
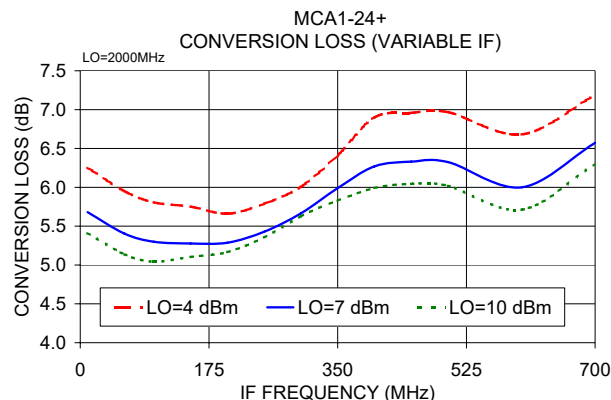
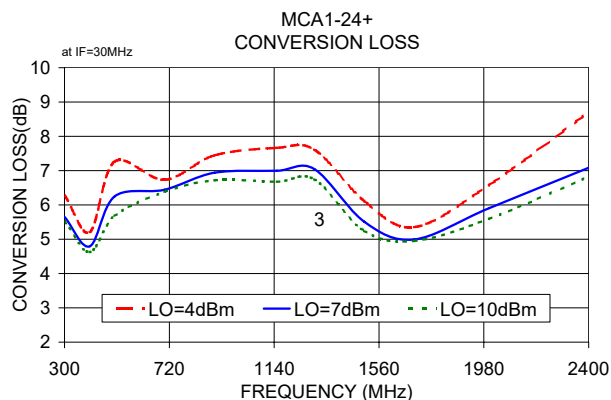


Notes

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