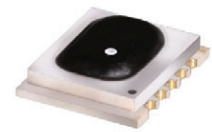


Ceramic

# Frequency Mixer WIDE BAND

## MCA1T-24+

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



CASE STYLE: DZ885-2  
PRICE: \$4.95 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	-40°C to 85°C
Storage Temperature	-40°C to 85°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

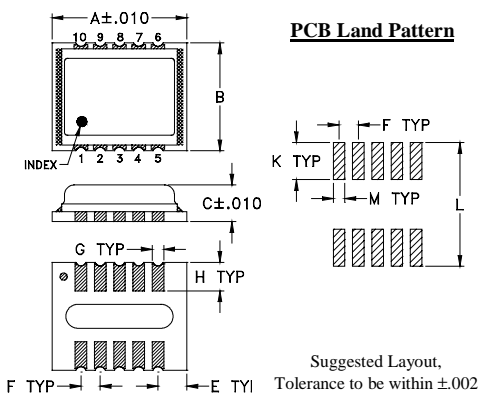
### Features

- 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, 0.095"
- protected by US Patent 7,027,795
- additional patent pending

### Applications

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

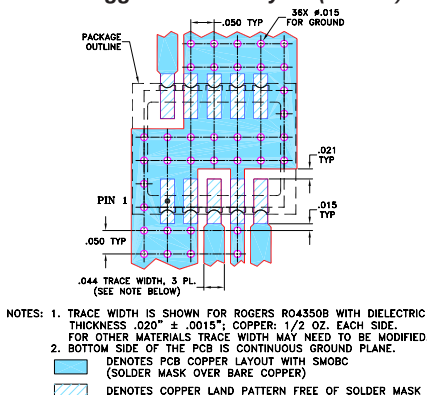
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	E	F	G
.350	.280	.095	.075	.050	.030
8.89	7.11	2.41	1.91	1.27	0.76
H	K	L	M	wt	
.074	.096	.321	.030	grams	
1.88	2.44	8.15	0.76	0.21	

### Demo Board MCL P/N: TB-493+ Suggested PCB Layout (PL-288)



### Electrical Specifications (T<sub>AMB</sub> = -40°C to 85°C)

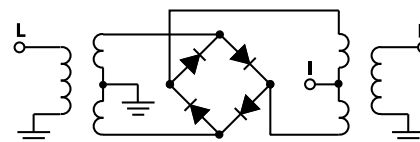
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF	IF	$\bar{X}$	$\sigma$	Max.	Typ.	Min.	Typ.	Min.	Typ.
300-2400	DC-700	6.1	0.1	8.9	40	25	25	15	10

1 dB COMPR. +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



**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

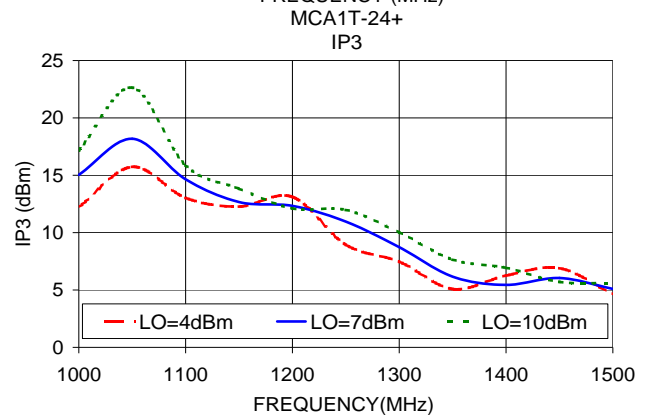
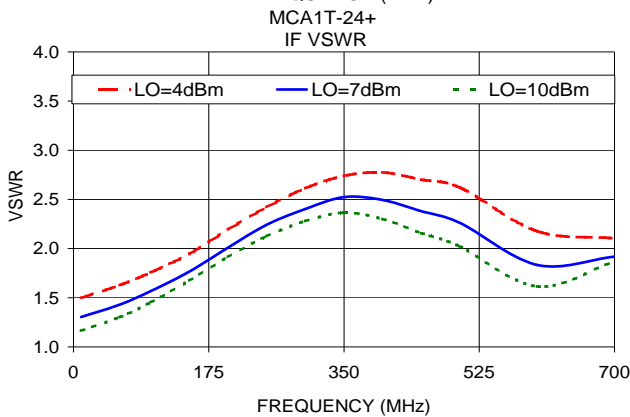
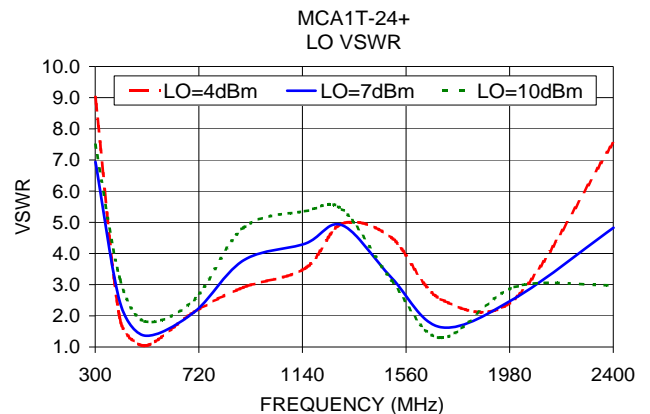
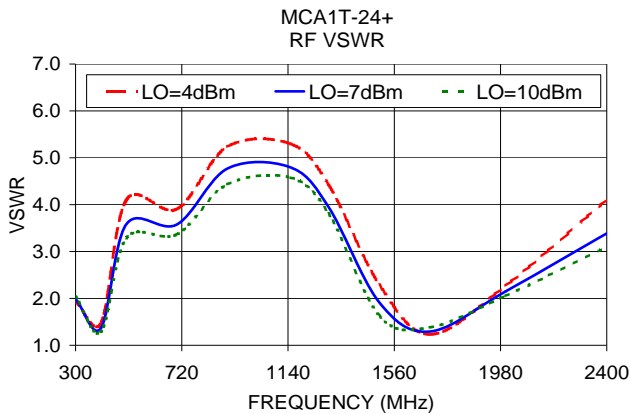
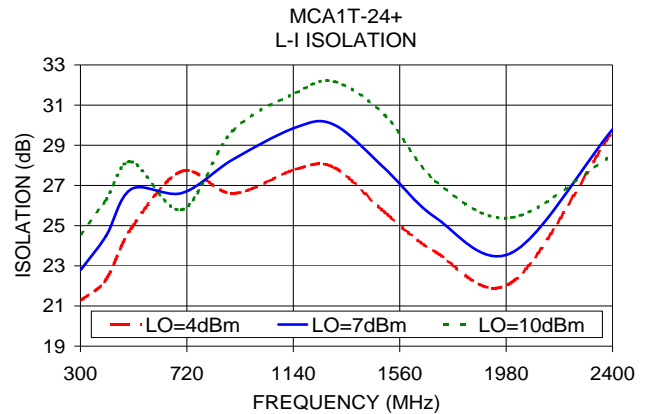
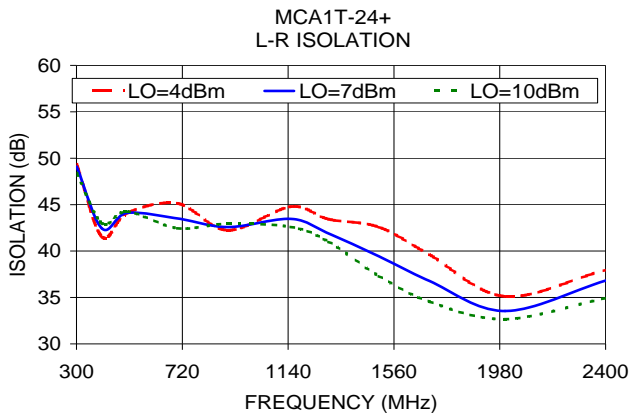
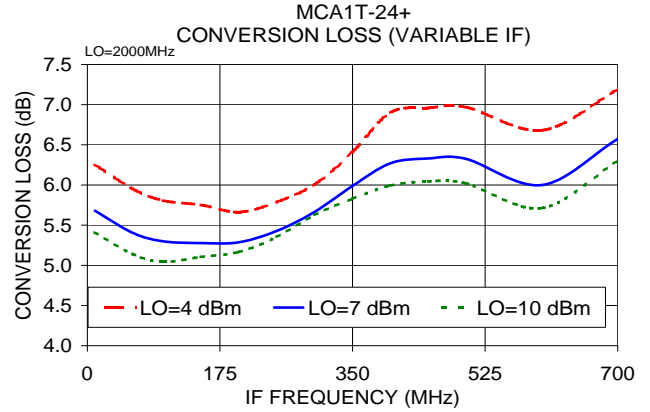
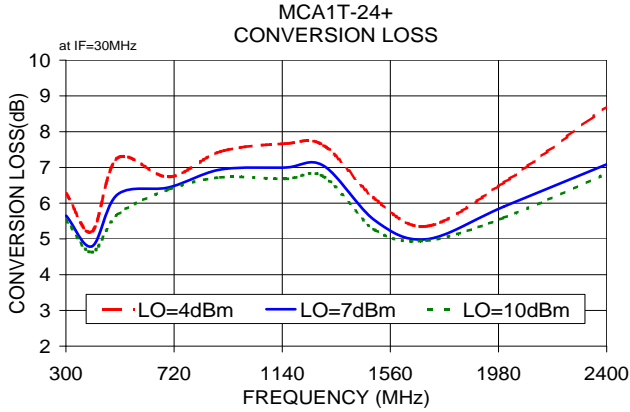
For detailed performance specs & shopping online see web site

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