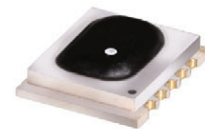


Ceramic

# Frequency Mixer WIDE BAND

## MCA1T-80LH+

Level 10 (LO Power+10 dBm) 2800 to 8000 MHz



CASE STYLE: DZ885-2  
PRICE: \$8.45 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

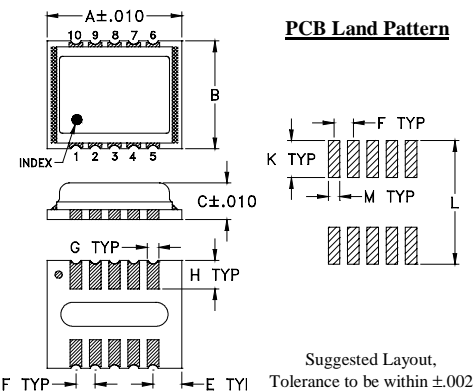
### Features

- wide bandwidth, 2800 to 8000 MHz
- low conversion loss, 5.9 dB typ.
- high L-R isolation, 35 dB typ.
- IF, DC to 1250 MHz
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.095"
- protected by US Patent 7,027,795
- additional patent pending

### Applications

- satellite up and down converters
- line of sight links
- defense radar
- defense communication

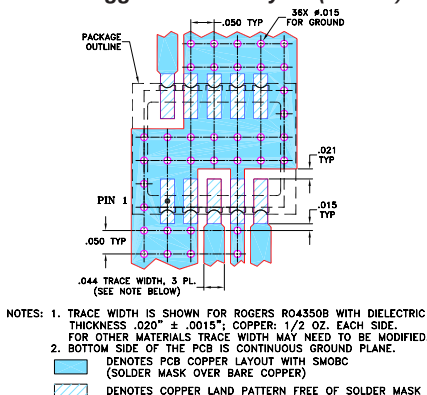
### Outline Drawing



### 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)

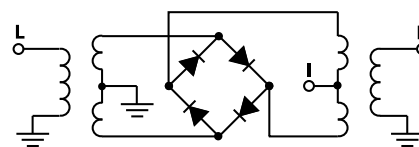
FREQUENCY (MHz)	CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
	LO/RF f <sub>L</sub> -f <sub>U</sub>	IF	$\bar{X}$ $\sigma$ Max.	Typ.	Min.	Typ.	Min.	
2800-8000	DC-1250		6.0    0.2    8.4*	35	25	13	8	15
2800-5000	DC-1250							
5000-8000	DC-1250		5.7    0.2    8.2*	35	20	40	19	12

1 dB COMPR. +5 dBm typ.  
\* Conversion loss at 30 MHz IF, increases with IF frequency.

### 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 +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
2800.00	2830.10	5.86	42.01	11.25	2.65	2.37
3100.00	3130.10	5.33	43.77	12.32	2.29	2.56
3400.00	3430.10	5.17	41.01	13.64	1.84	2.45
3700.00	3730.10	5.11	31.53	14.12	1.49	2.16
4000.00	4030.10	6.37	41.29	14.13	2.46	2.34
4300.00	4330.10	6.89	35.37	17.02	2.31	2.23
4600.00	4630.10	6.54	39.20	21.32	1.94	2.63
4900.00	4930.10	6.91	39.89	24.95	2.71	2.49
5200.00	5230.10	5.89	46.23	27.60	1.95	2.83
5500.00	5530.10	5.91	49.01	30.76	1.93	3.41
5800.00	5830.10	6.37	38.83	34.49	2.08	2.71
6100.00	6130.10	5.86	37.35	38.71	2.09	2.44
6400.00	6430.10	5.43	40.56	42.58	1.93	2.07
6700.00	6730.10	5.30	33.67	48.33	1.64	1.99
7000.00	7030.10	5.31	31.70	42.01	1.76	1.97
7300.00	7330.10	5.55	31.52	41.10	1.77	2.24
7600.00	7630.10	5.92	28.55	39.91	1.65	1.87
7800.00	7830.10	6.16	27.10	31.71	1.52	1.85
7900.00	7930.10	6.02	26.59	31.18	1.41	1.83
8000.00	8030.10	5.89	25.89	31.04	1.43	1.93

### Electrical Schematic



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

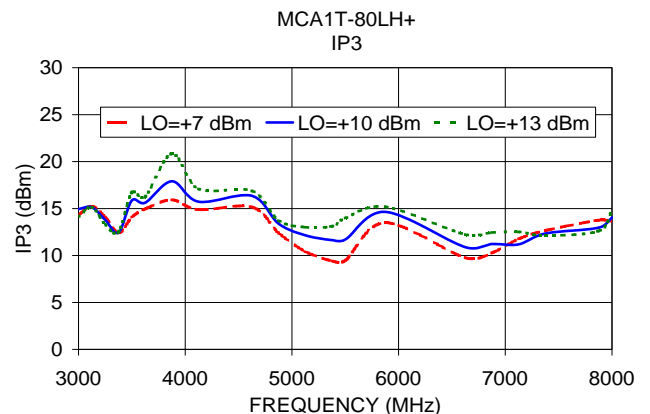
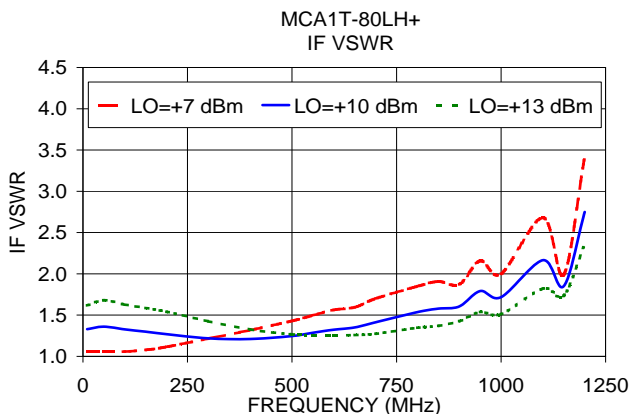
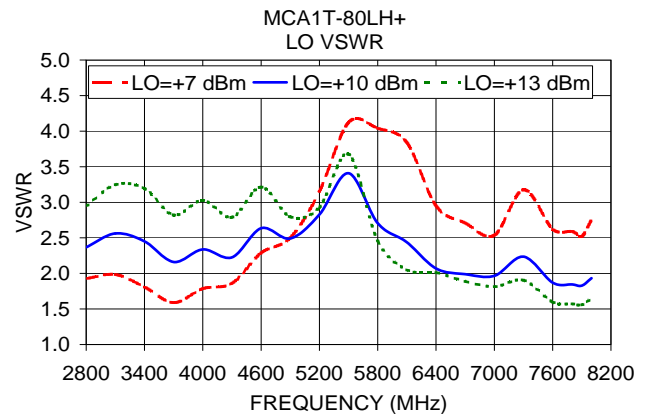
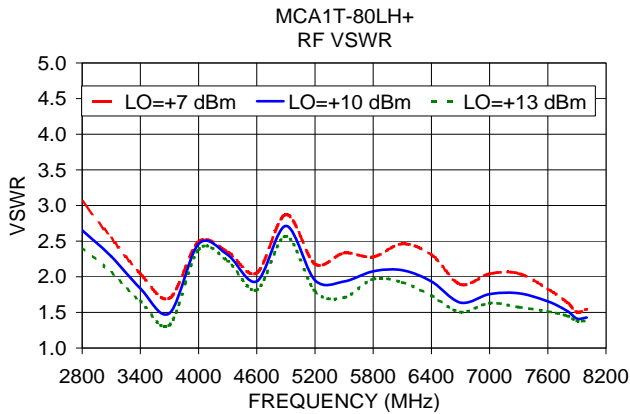
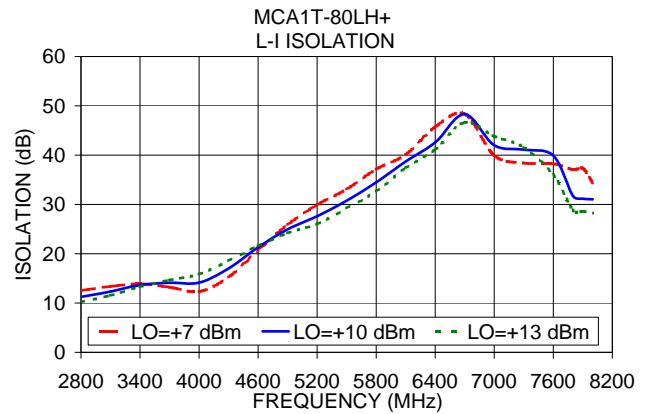
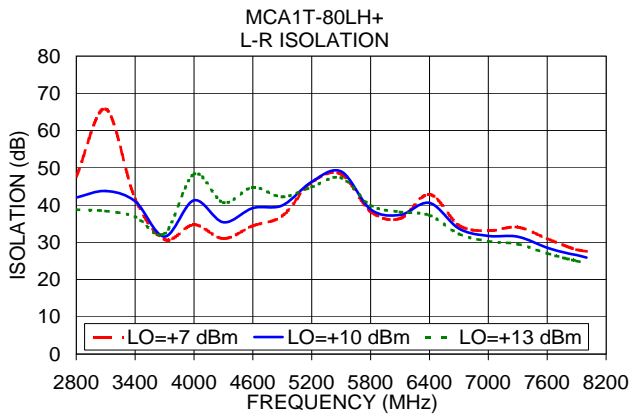
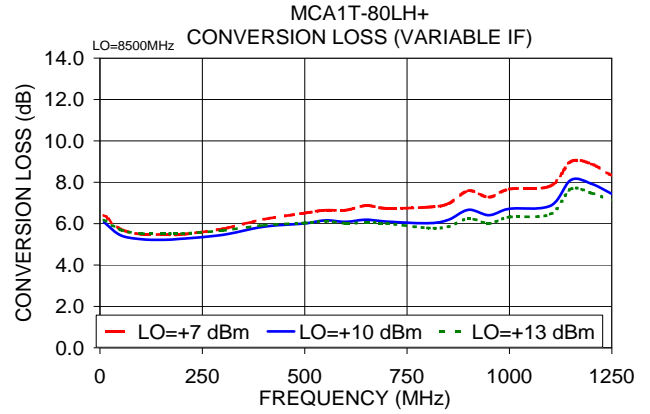
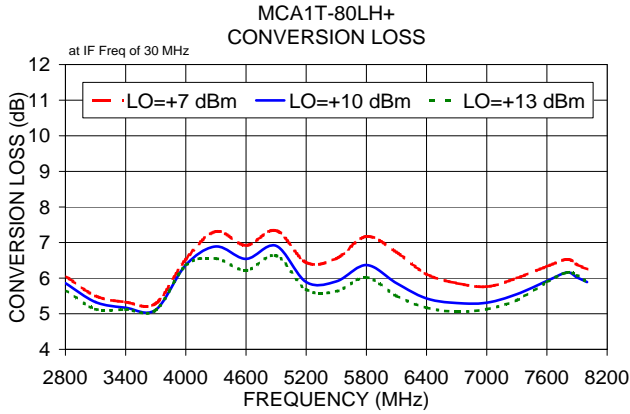
For detailed performance specs & shopping online see web site

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