

Ceramic

Frequency Mixer WIDE BAND

MCA1T-80LH+

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

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

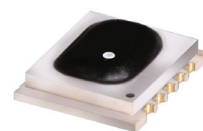
LO	10
RF	5
IF	3
GROUND	1,2,4,6,7,8,9

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 & 8,749,989

Applications

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



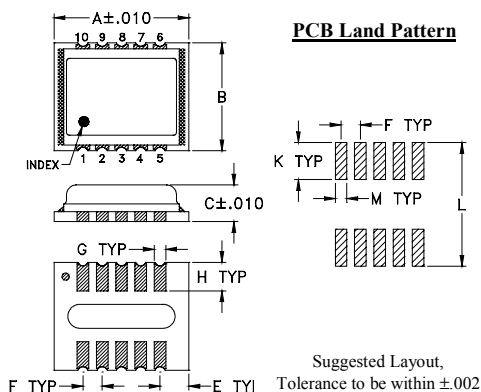
CASE STYLE: DZ885-2

PRICE: \$8.45 ea. QTY (10-49)

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

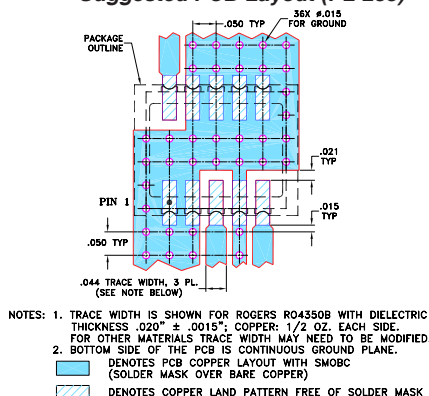
Outline Drawing



Outline Dimensions (inch)

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)



Notes

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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Electrical Specifications (T_{AMB} = -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 _L -f _U	IF	$\bar{X}$	σ	Max.	Typ.	Min.	Typ.	Min.	
2800-8000	DC-1250								
2800-5000	DC-1250	6.0	0.2	8.4*	35	25	13	8	15
5000-8000	DC-1250	5.7	0.2	8.2*	35	20	40	19	12

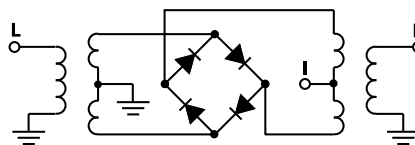
1 dB COMPR. +5 dBm typ.

* 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	6.01	38.69	10.54	2.56	2.86
3106.00	3136.10	5.29	41.71	12.00	2.28	2.83
3406.00	3436.10	4.98	40.03	13.45	1.68	2.69
3706.00	3736.10	4.91	29.58	13.53	1.45	2.58
4000.00	4030.10	5.72	31.08	13.04	1.96	2.56
4300.00	4330.10	6.77	28.29	15.90	1.99	2.60
4600.00	4630.10	6.42	29.67	20.20	1.70	2.57
4900.00	4930.10	6.53	41.70	23.73	2.24	2.35
5200.00	5230.10	5.64	41.08	26.38	2.00	2.36
5500.00	5530.10	5.70	42.50	28.95	1.84	2.20
5800.00	5830.10	5.77	50.71	32.43	2.05	2.18
6100.00	6130.10	6.17	40.53	35.90	2.78	2.43
6400.00	6430.10	5.77	37.72	39.36	2.50	2.32
6700.00	6730.10	5.66	33.56	43.31	2.41	2.48
7000.00	7030.10	5.55	31.26	41.62	2.28	2.56
7300.00	7330.10	5.66	31.10	37.52	2.24	2.48
7600.00	7630.10	5.85	28.60	30.61	2.18	2.54
7800.00	7830.10	5.79	28.27	23.94	1.96	2.43
7900.00	7930.10	5.83	27.62	20.54	1.79	2.41
8000.00	8030.10	5.80	25.80	19.33	1.60	2.52

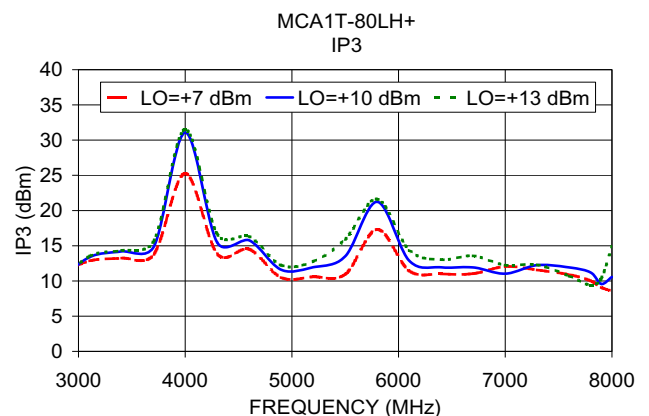
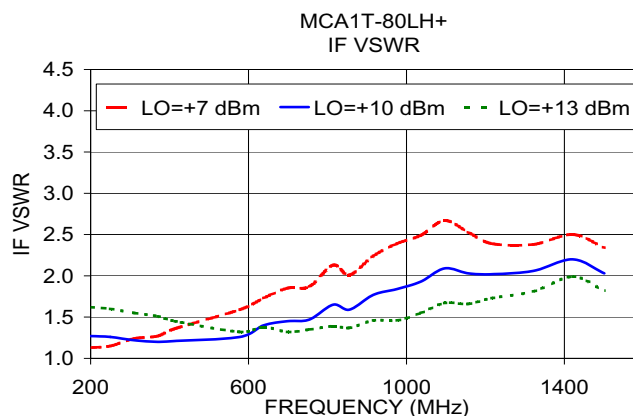
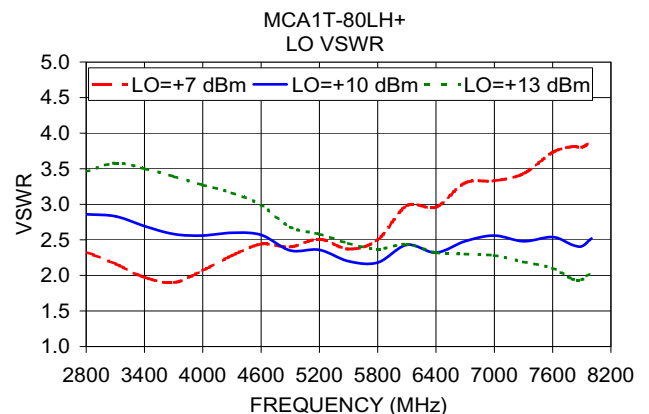
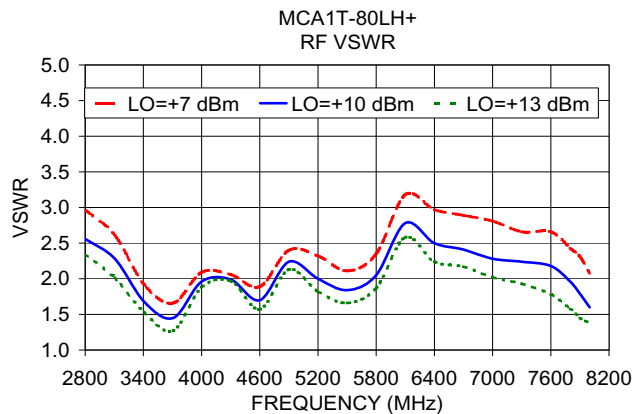
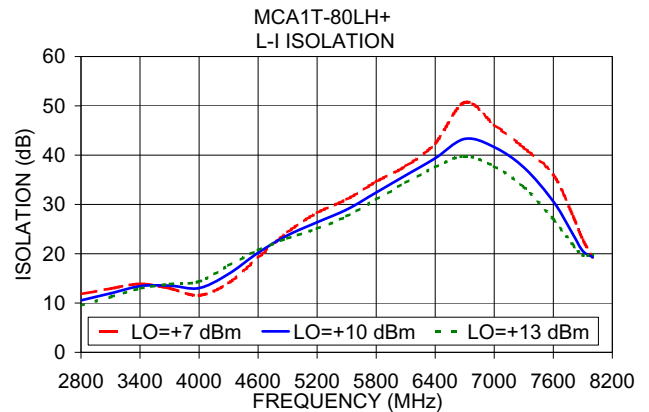
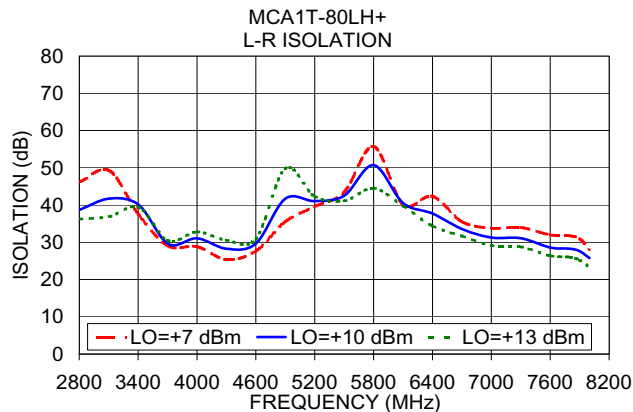
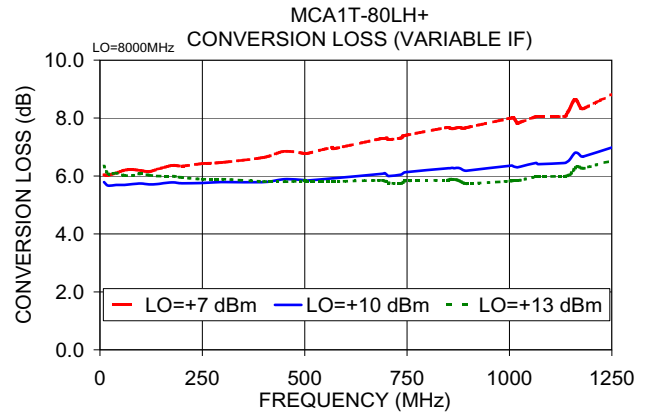
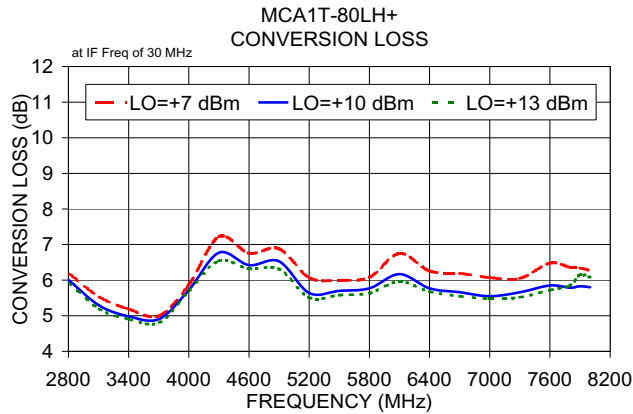
Electrical Schematic



REV. A
M128524
MCA1-80LH+
DJ/RS/CP/AM
140626

Performance Charts

MCA1T-80LH+



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