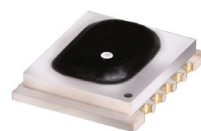


Ceramic

Frequency Mixer WIDE BAND

Level 4 (LO Power+4 dBm) 2800 to 8500 MHz

MCA1T-85L+



CASE STYLE: DZ885-2

PRICE: \$7.95 ea. QTY (10-49)

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 8500 MHz
- high L-R isolation, 35 dB typ.
- IF, DC to 1200 MHz
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.095"
- protected by US Patent 7,027,795 & 8,749,989

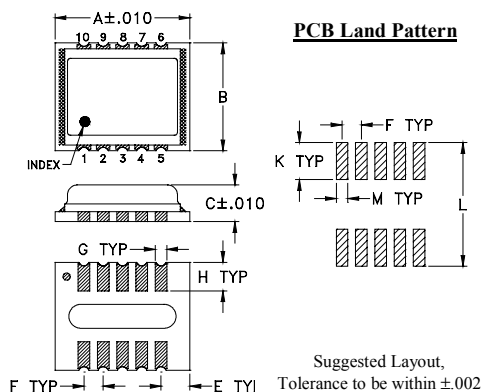
Applications

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

+RoHS Compliant

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

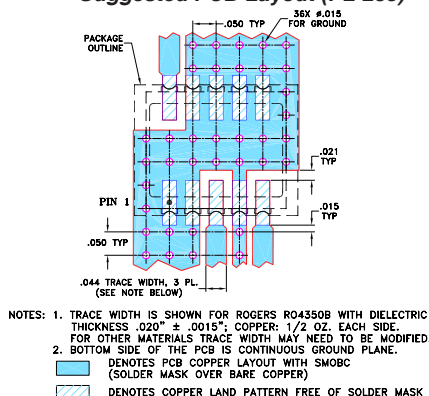
Outline Drawing



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

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C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

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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.	Typ.
2800-8500	DC-1200								
2800-5000	DC-1200	5.7	0.2	8.4*	35	20	13	7	11
5000-7500	DC-1200	6.0	0.3	8.4*	35	20	38	20	7
7500-8500	DC-1200	7.0	0.3	—	31	—	32	—	8

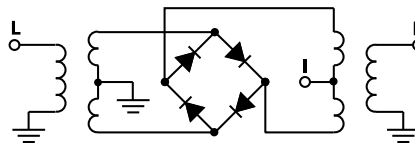
1 dB COMPR. 0 dBm typ.

* 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 +4dBm	LO +4dBm	LO +4dBm	LO +4dBm	LO +4dBm
2800.00	2770.10	6.57	35.68	11.51	2.96	2.36
3028.00	2998.10	6.02	35.94	13.02	2.53	2.01
3514.00	3484.10	5.36	36.84	13.44	1.60	2.34
4000.00	3970.10	6.20	27.71	11.19	2.09	2.43
4567.00	4537.10	6.88	26.37	18.64	1.76	2.49
5030.00	5000.10	6.65	30.49	25.08	2.34	2.87
5530.00	5500.10	6.49	36.99	30.26	2.22	3.70
6108.00	6078.10	6.98	50.37	37.40	3.10	3.61
6345.00	6315.10	6.64	39.24	41.03	2.90	3.58
6582.00	6552.10	6.46	40.54	44.77	2.57	3.38
6819.00	6789.10	6.25	37.96	43.02	2.52	3.48
7056.00	7026.10	6.25	37.74	39.02	2.45	3.19
7293.00	7263.10	6.30	34.97	35.49	2.32	3.22
7530.00	7500.10	6.44	32.69	35.99	2.26	3.00
7767.00	7737.10	6.58	30.94	29.06	2.27	2.91
8004.00	7974.10	6.46	28.52	22.33	2.02	2.80
8050.00	8020.10	6.38	28.47	21.82	1.99	2.74
8150.00	8120.10	6.24	27.46	21.67	1.87	2.46
8500.00	8470.10	6.07	24.98	23.26	1.49	1.77
8550.00	8520.10	6.26	24.71	23.44	1.46	2.13

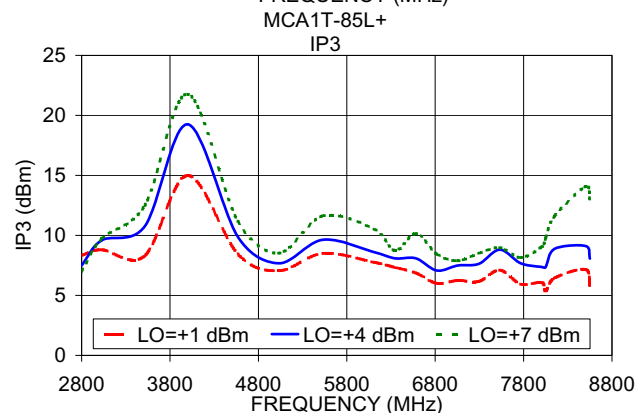
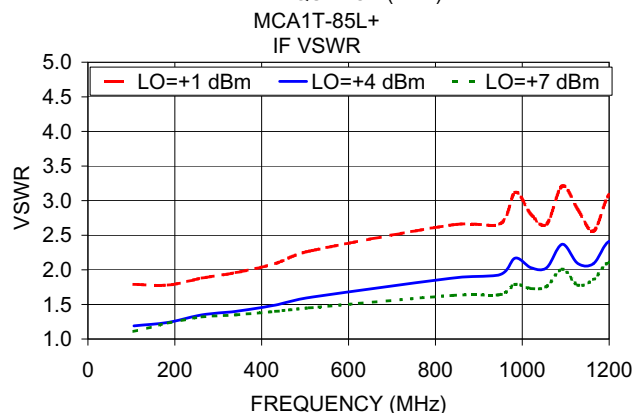
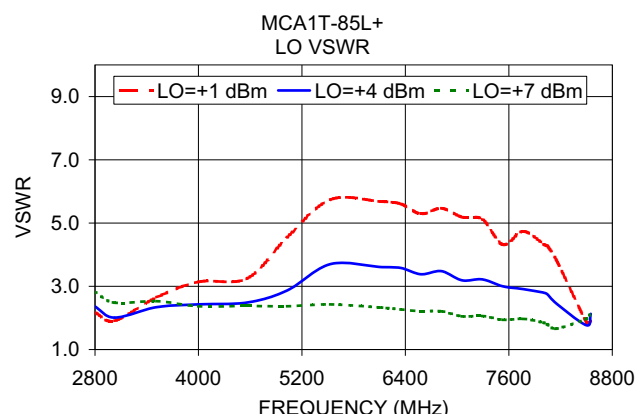
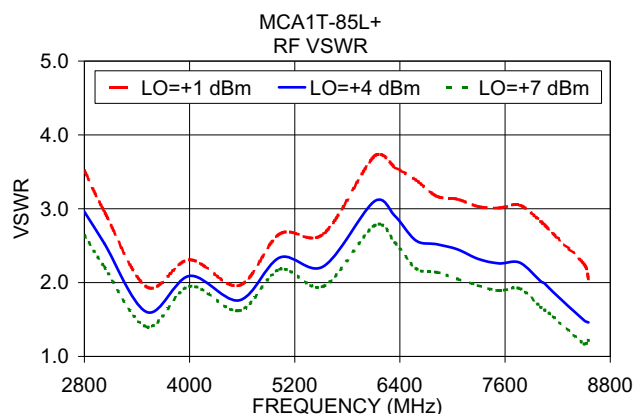
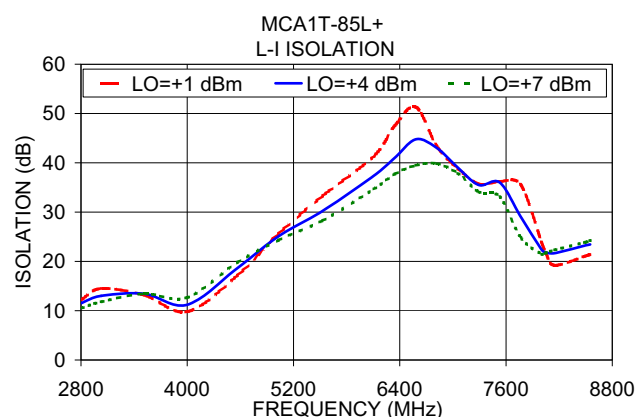
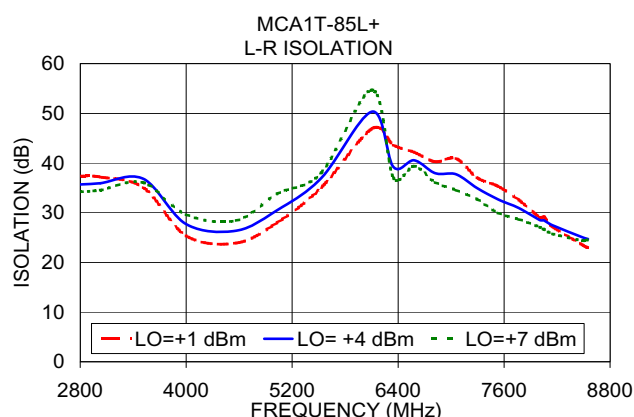
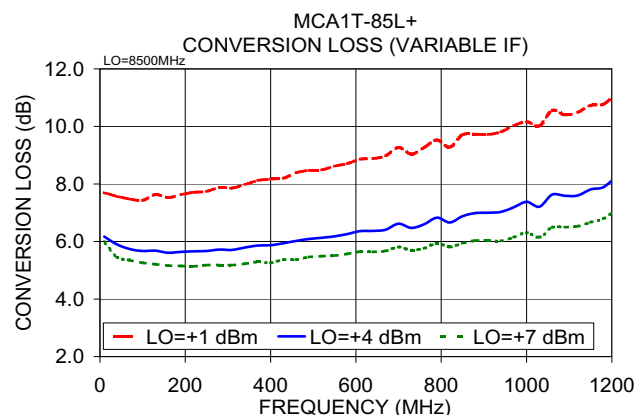
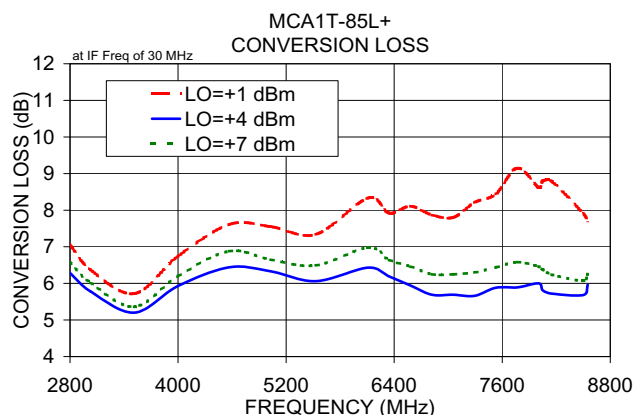
Electrical Schematic



REV. A
M128524
MCA1T-85L+
DJ/RS/CP/AM
140626

Performance Charts

MCA1T-85L+



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