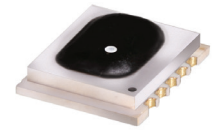


Frequency Mixer WIDE BAND

MCA1T-85L+

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



CASE STYLE: DZ885-2

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

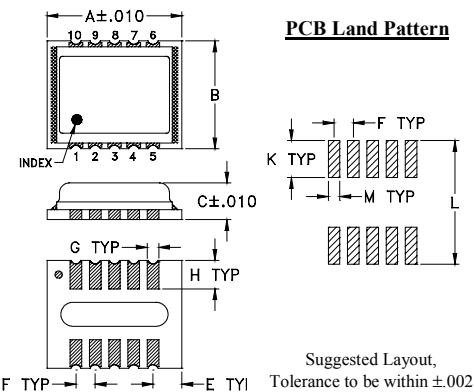
- wide bandwidth, 2800 to 8500 MHz
- high L-R isolation, 35 dB typ.
- IF, DC to 1200 MHz
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.095"
- protected by US Patent 7,027,795 & 8,749,989

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

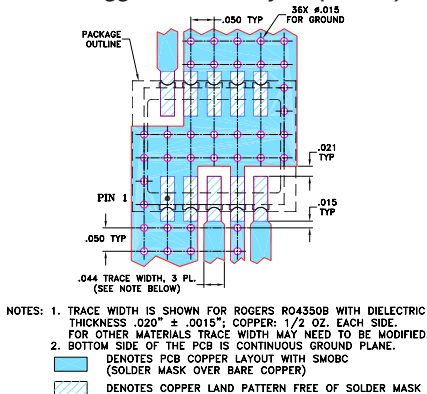
Outline Drawing



Outline Dimensions (inch/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)



Notes

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Electrical Specifications (T_{AMB} = -40°C to 85°C)

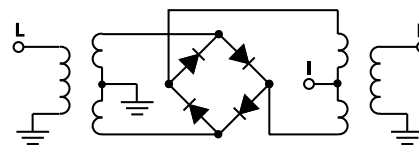
FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
LO/RF f _c -f _u	IF	\bar{X}	σ	Max.	Typ.	Min.	Typ.	Min.	Typ.
2800-8500	DC-1200	5.7	0.2	8.4*	35	20	13	7	11
2800-5000	DC-1200	6.0	0.3	8.4*	35	20	38	20	7
5000-7500	DC-1200	7.0	0.3	—	31	—	32	—	8

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

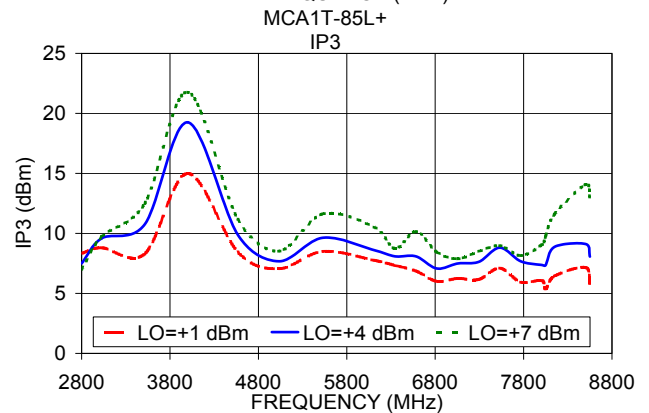
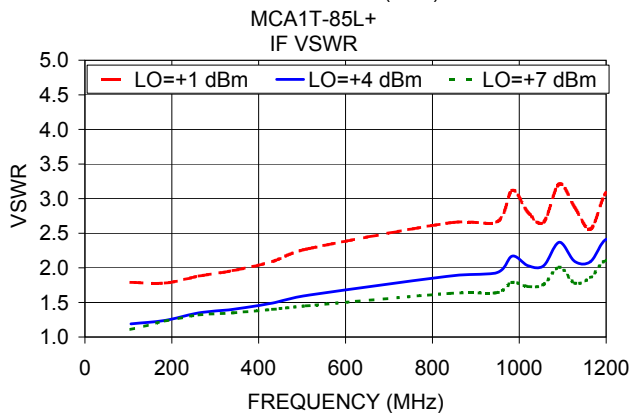
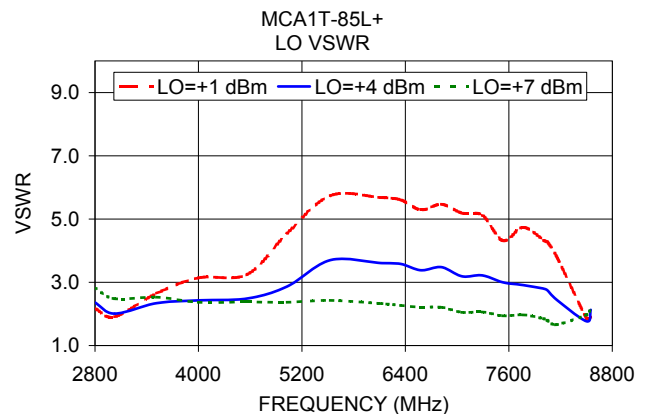
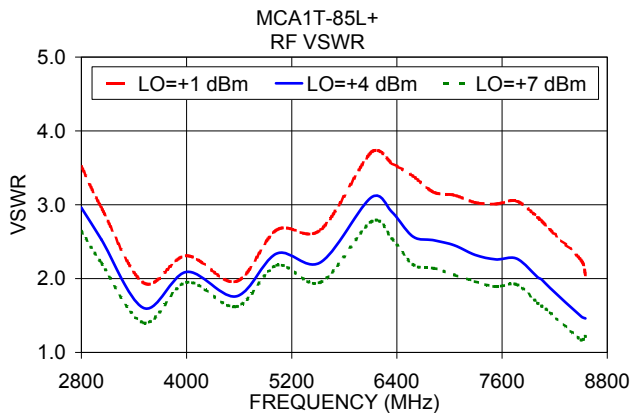
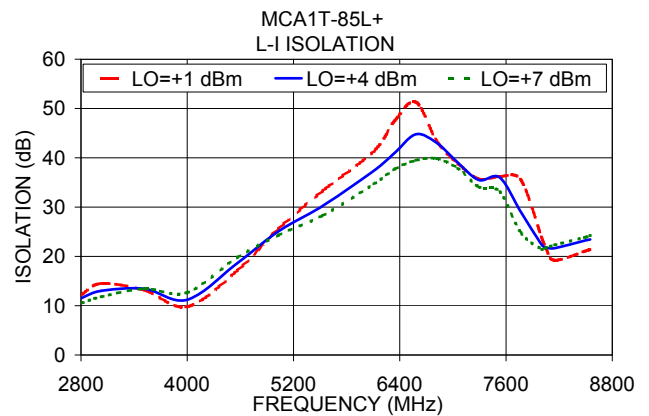
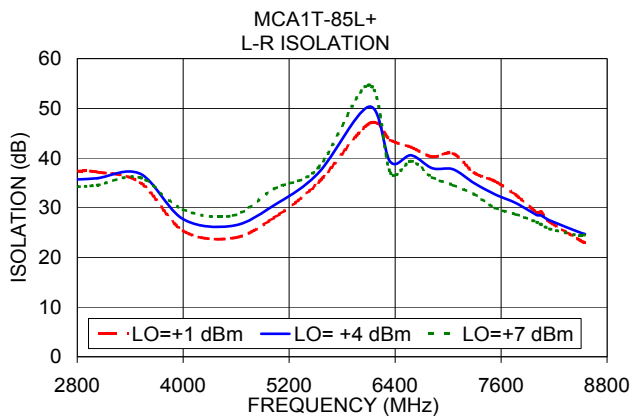
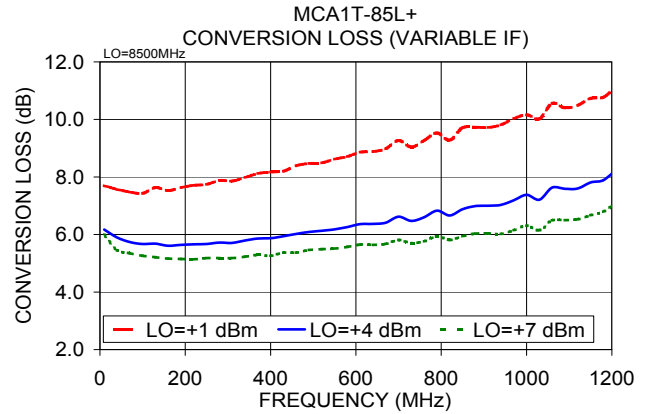
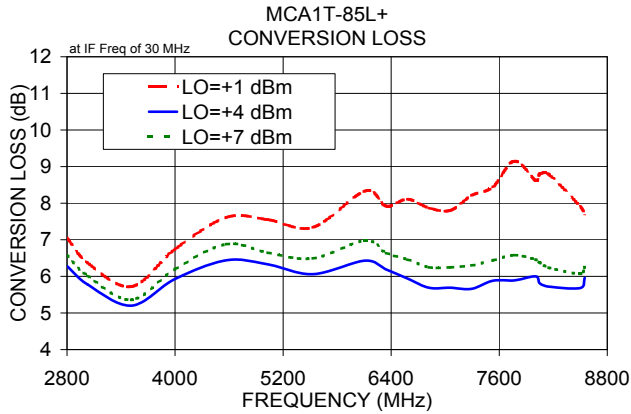
Electrical Schematic



NON-CATALOG

Performance Charts

MCA1T-85L+



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