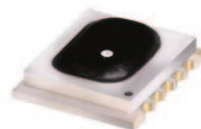


Ceramic

Frequency Mixer WIDE BAND

MCA1T-12GL+

Level 4 (LO Power+4 dBm) 3800 to 12000 MHz



CASE STYLE: DZ885-2
PRICE: \$10.45 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, 3800 to 12000 MHz
- high L-R isolation, 32 dB typ.
- IF, DC to 1500 MHz
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.095"
- protected by US Patent 7,027,795
- additional patent pending

Applications

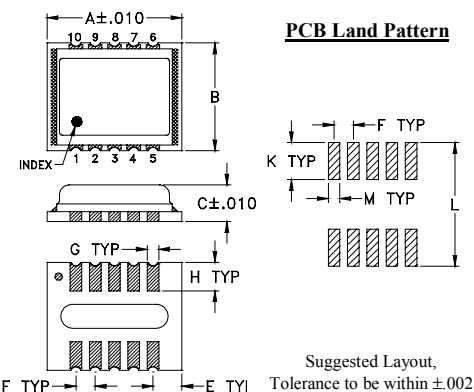
- satellite up and down converters
- line of sight links
- defense radar
- defense communication
- federal fixed service

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.
3800-12000	DC-1500								
3800-6500	DC-1500	6.8	0.2	8.5*	32	17	13	8	9
6500-9500	DC-1500	6.5	0.3	9.2*	38	24	40	23	9
9500-12000	DC-1500	7.0	0.3	—	25	17	26	15	9

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

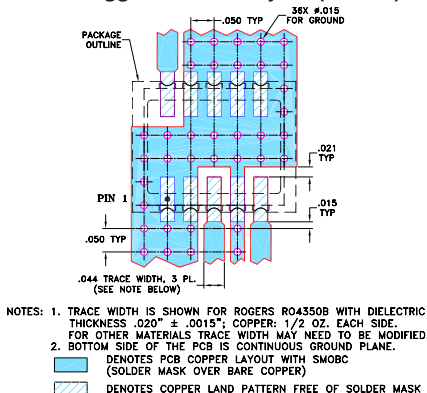
Outline Drawing



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	

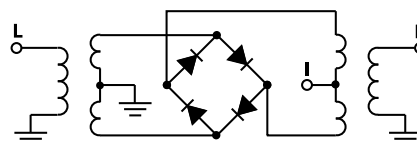
Demo Board MCL P/N: TB-493+ Suggested PCB Layout (PL-288)



Typical Performance Data at 25°C

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
3800.00	3830.00	5.96	31.35	12.33	2.04	2.74
4200.00	4230.00	5.20	31.58	13.53	1.75	2.56
4600.00	4630.00	5.19	29.91	14.34	1.53	2.39
5000.00	5030.00	5.84	31.66	12.87	1.77	2.27
5500.00	5530.00	6.67	20.22	12.09	1.48	2.38
5800.00	5830.00	6.85	21.36	16.03	1.46	2.74
6000.00	6030.00	6.34	23.61	19.87	1.54	2.94
6200.00	6230.00	6.20	25.77	23.66	1.70	3.00
6500.00	6530.00	6.54	28.57	29.74	2.08	2.93
7421.00	7451.00	6.63	38.49	40.13	2.36	4.17
7718.00	7748.00	6.51	40.37	41.39	2.31	3.63
8015.00	8045.00	6.58	39.93	46.93	2.44	3.18
8609.00	8639.00	6.40	35.27	41.70	3.57	2.83
8906.00	8936.00	6.34	32.73	37.23	1.90	3.15
9500.00	9530.00	6.09	26.88	31.96	1.78	3.21
9818.00	9848.00	6.37	25.51	27.65	3.36	3.49
10106.00	10136.00	6.49	25.73	23.02	2.23	3.56
11000.00	11030.00	6.87	23.28	24.60	1.98	3.10
11500.00	11530.00	7.68	22.24	20.87	2.44	3.83
12000.00	12030.00	7.39	19.74	19.35	2.38	2.80

Electrical Schematic



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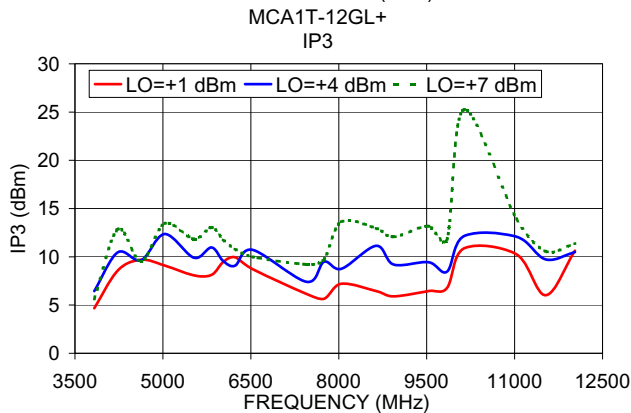
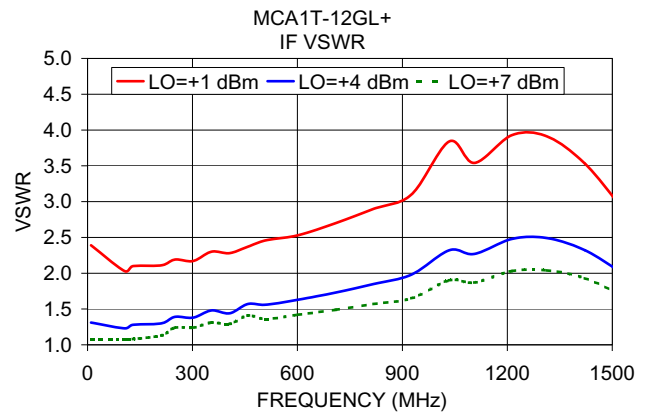
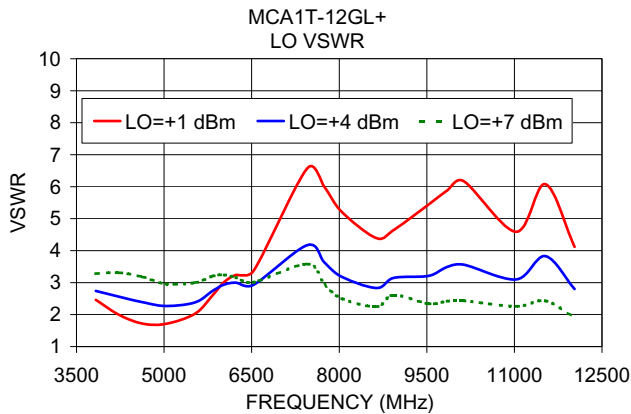
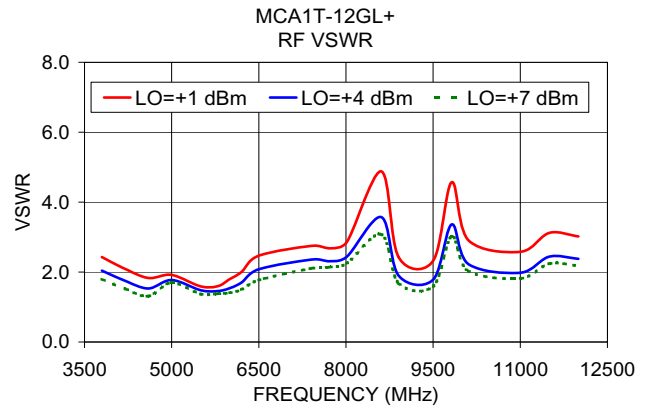
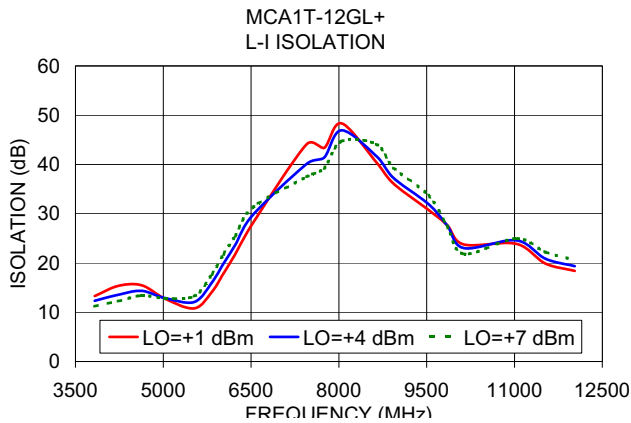
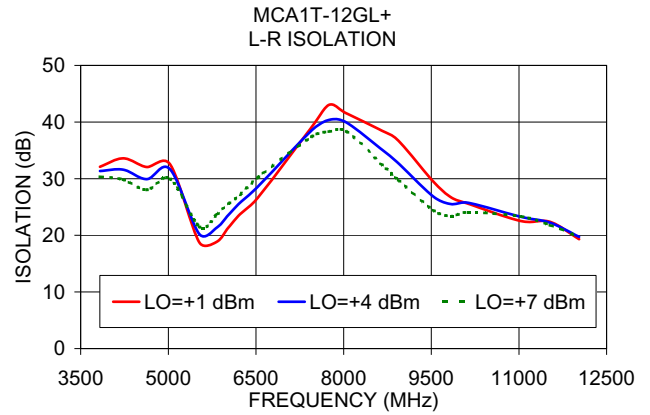
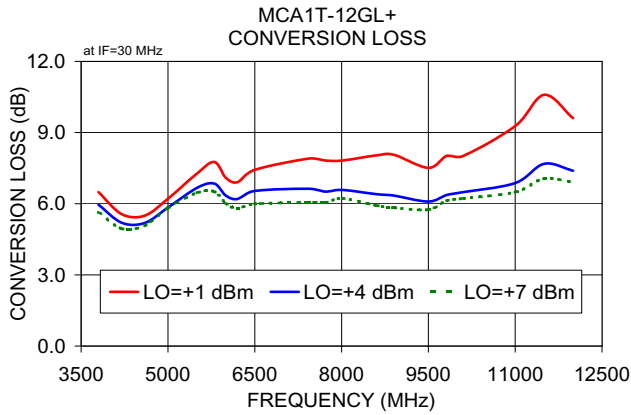
IF/RF MICROWAVE COMPONENTS

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IF/RF MICROWAVE COMPONENTS

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