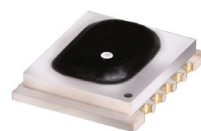


Ceramic

Frequency Mixer WIDE BAND

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

MCA1T-12GL+



CASE STYLE: DZ885-2

PRICE: \$10.45 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

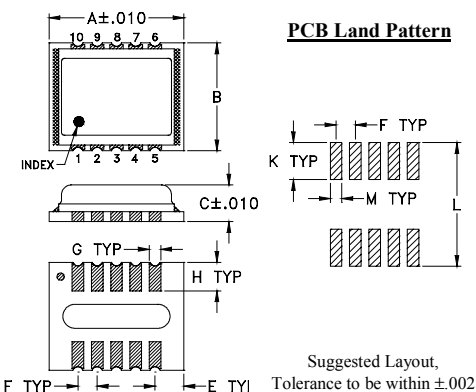
LO 10

RF 5

IF 3

GROUND 1,2,4,6,7,8,9

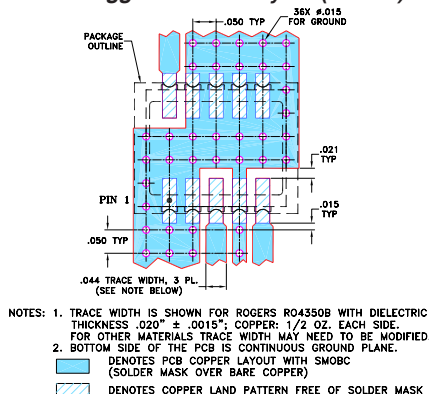
Outline Drawing



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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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.

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

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 & 8,749,989

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 _L -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

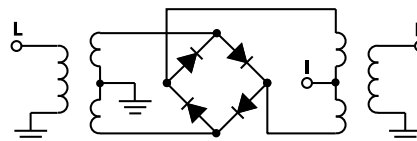
1 dB COMPR. +1 dBm typ.

* Conversion loss at 30 MHz IF, increases with IF frequency.

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

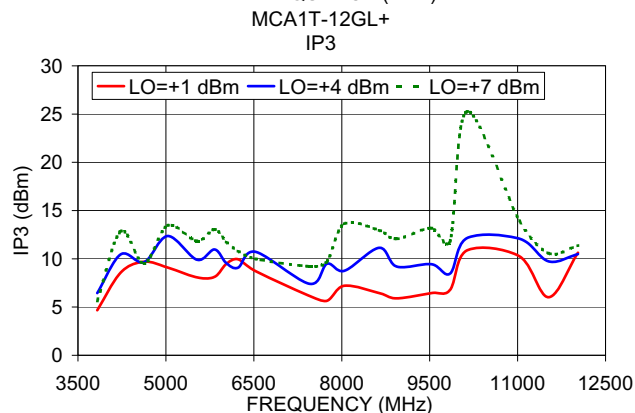
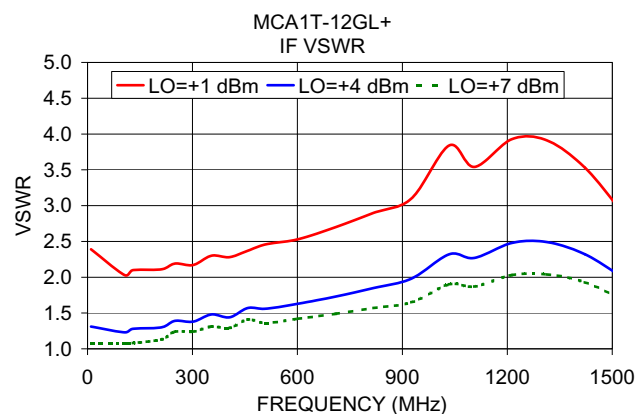
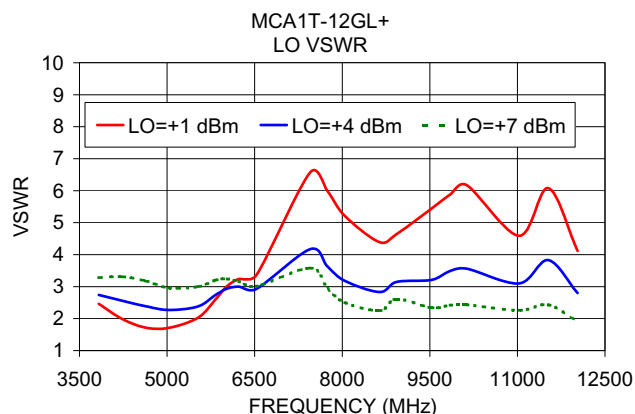
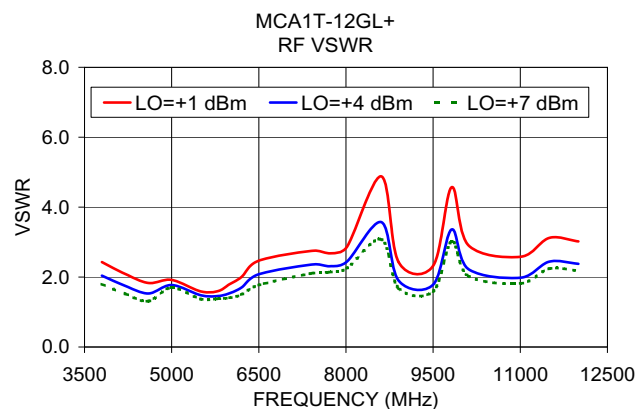
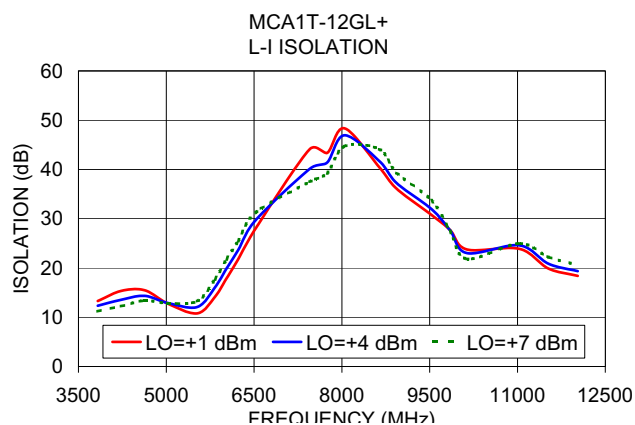
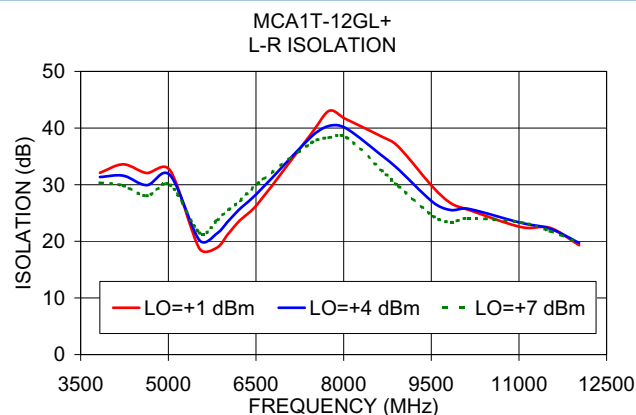
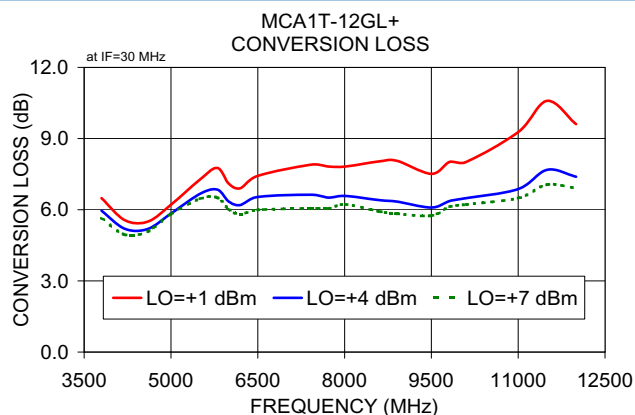


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Performance Charts

MCA1T-12GL+



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