

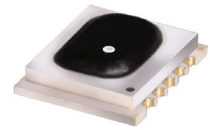
Ceramic

NON-CATALOG

Frequency Mixer WIDE BAND

MCA1T-60LH+

Level 10 (LO Power+10 dBm) 1700 to 6000 MHz



CASE STYLE: DZ885-2

Maximum Ratings

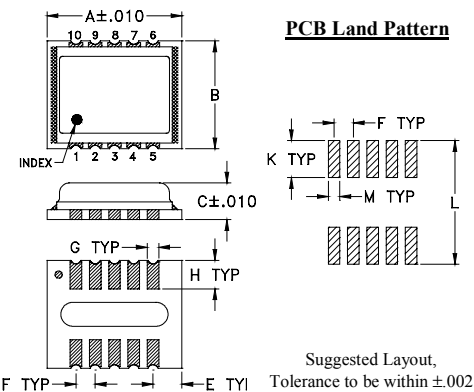
Operating Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
RF Power	50 mW
IF Current	40 mA

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

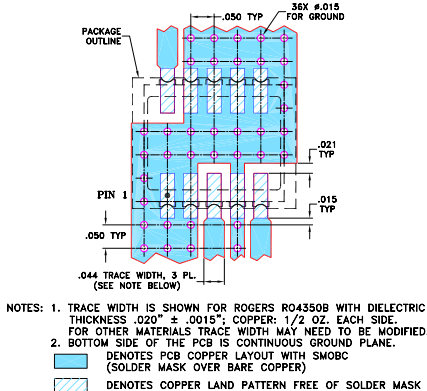
Outline Drawing



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

- 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.
- 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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Features

- wide bandwidth, 1700 to 6000 MHz
- useable to 8000 MHz
- low conversion loss, 6.2 dB typ.
- IF, DC to 2000 MHz
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.095"
- protected by US Patent 7,027,795 & 8,749,989

Applications

- PCN
- defense & weather radar
- WCDMA
- defense communications

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.
1700-4400	DC-2000	6.6	0.1	7.9*	35	23	17	—	13
4400-6000	DC-2000	6.0	0.1	8.3*	27	20	21	—	11

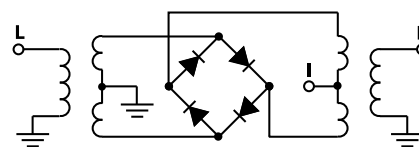
1 dB COMPR. +5 dBm typ.

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

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
1700.00	1730.00	6.12	31.11	17.21	2.04	3.80
1900.00	1930.00	5.58	41.49	18.61	2.25	2.23
2100.00	2130.00	5.56	36.04	17.55	2.45	1.85
2500.00	2530.00	5.57	34.25	17.48	2.19	1.72
2700.00	2730.00	5.54	36.00	18.36	2.22	1.90
2900.00	2930.00	5.92	40.21	18.81	3.68	2.18
3100.00	3130.00	6.80	36.38	18.44	5.02	2.63
3300.00	3330.00	6.75	35.64	17.41	3.64	2.73
3500.00	3530.00	6.51	34.52	14.61	4.06	3.26
3700.00	3730.00	6.81	34.43	12.04	3.26	3.62
3900.00	3930.00	6.24	35.17	14.87	2.71	3.93
4100.00	4130.00	6.49	37.36	15.93	2.04	2.62
4300.00	4330.00	6.05	37.95	18.73	1.83	2.45
4500.00	4530.00	5.97	34.27	19.90	1.93	2.66
4700.00	4730.00	5.76	32.31	21.16	1.47	2.76
4900.00	4930.00	6.58	34.11	22.13	2.70	1.96
5100.00	5130.00	5.50	29.13	22.12	1.90	1.35
5300.00	5330.00	5.92	27.47	22.67	2.24	1.37
5700.00	5730.00	5.76	26.99	17.82	1.75	2.61
6000.00	6030.00	6.73	26.82	11.81	2.14	6.10

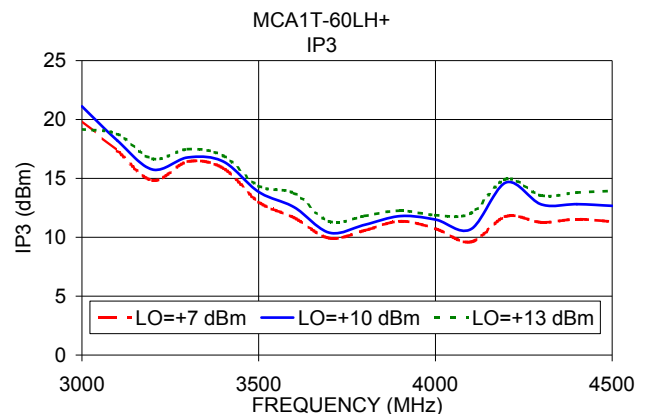
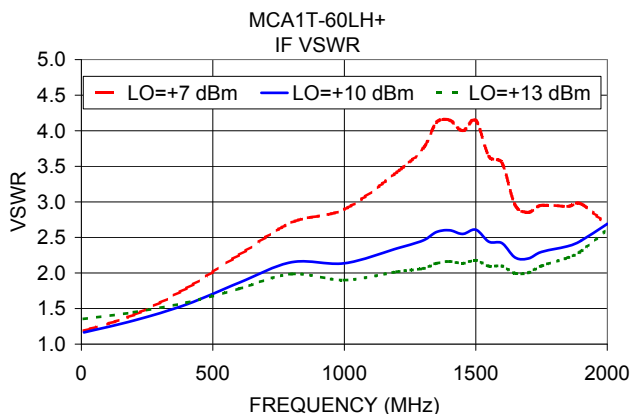
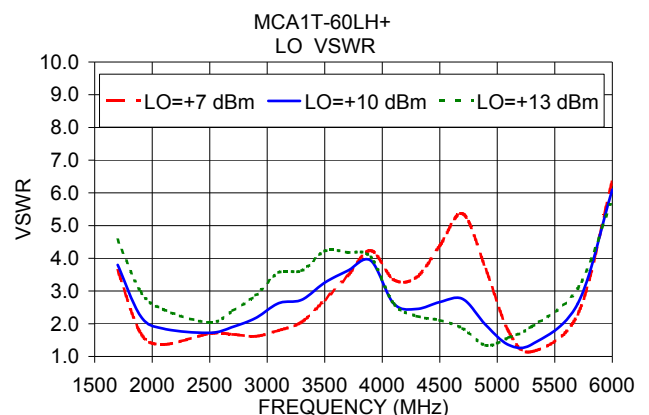
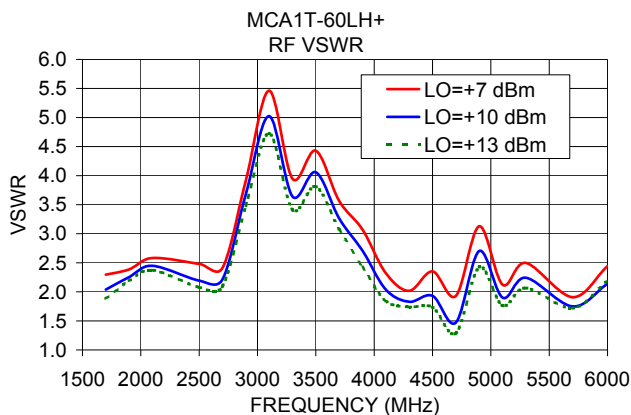
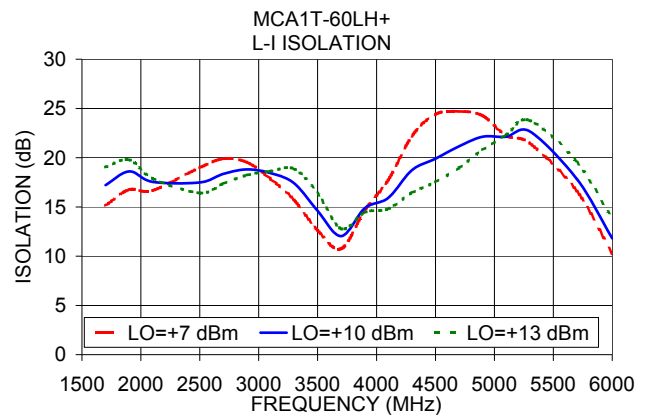
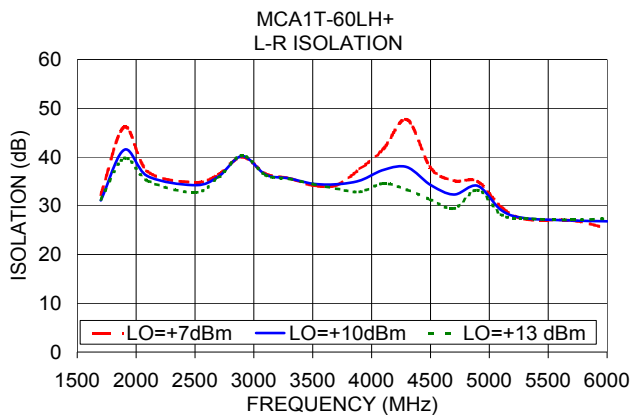
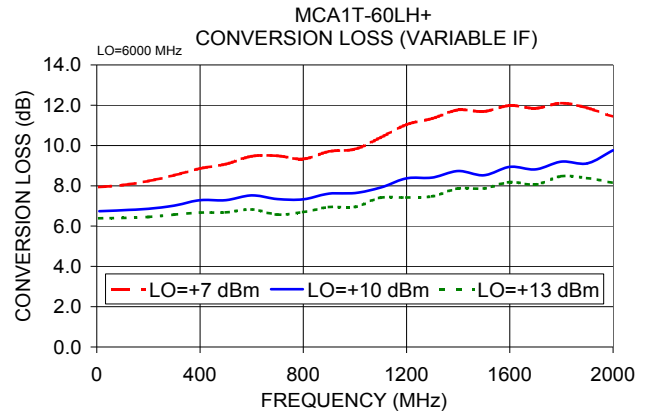
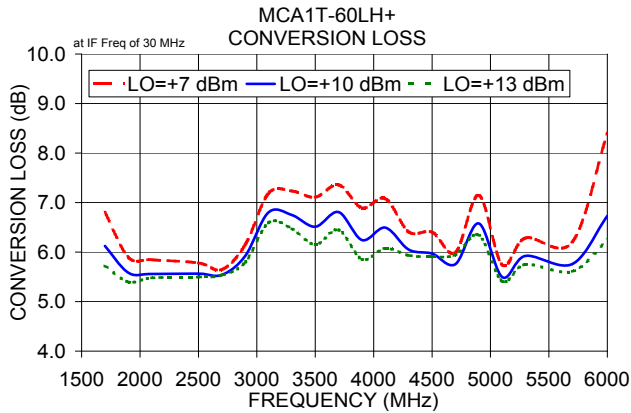
Electrical Schematic



NON-CATALOG

Performance Charts

MCA1T-60LH+



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