

High IP3

Frequency Mixer WIDE BAND

MCA-50H+

Level 17 (LO Power+17 dBm) 1000 to 5000 MHz



CASE STYLE: DZ883

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	200 mW
IF Current	40 mA

Pin Connections

LO	10
RF	5
IF	3
GROUND	1,2,4,6,7,8,9

Features

- wide bandwidth, 1000 to 5000 MHz
- good L-R isolation, 25 dB typ.; excellent L-I isolation, 30 dB typ.
- small size 0.25"x0.3"x0.2"
- aqueous washable
- triple balanced mixer
- protected by US Patent 6,917,796

Applications

- PCN
- satellite
- line of sight links
- WiMAX

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

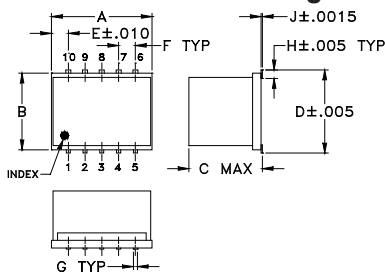
Electrical Specifications (T_{AMB}=-55°C to 100°C)

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.	
1000-5000	10-1500		7.3 0.2 10.2					
1000-1400	10-400		6.8 0.1 8.5	25	12	32	20	22
1400-2000	10-600		6.6 0.1 7.7	25	20	32	20	25
2000-2700	10-600		7.8 0.2 9.9	25	15	25	18	23
2700-4500	10-1500		7.8 0.1 8.8	35	20	30	18	23
4500-5000	50-500		8.0 0.2 10.2	30	18	35	18	21

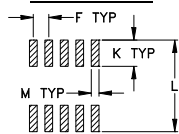
1 dB COMPR. +14 dBm typ.

• see individual band specs

Outline Drawing



PCB Land Pattern

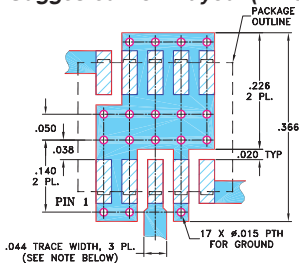


Suggested L layout, Tolerance to be within ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	
.30	.250	.190	.266	.050	.050	.012	
7.62	6.35	4.83	6.76	1.27	1.27	0.30	
H	J	K	L	M		wt	
.029	.004	.085	.296	.030		grams	
0.74	0.10	2.16	7.52	0.76		0.5	

Demo Board MCL P/N: TB-144 Suggested PCB Layout (PL-045)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

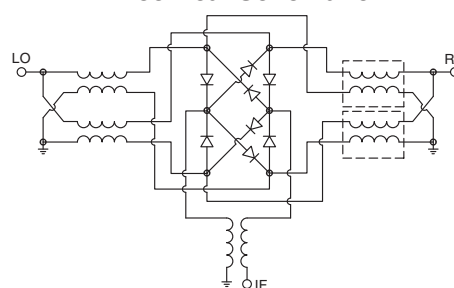
Notes

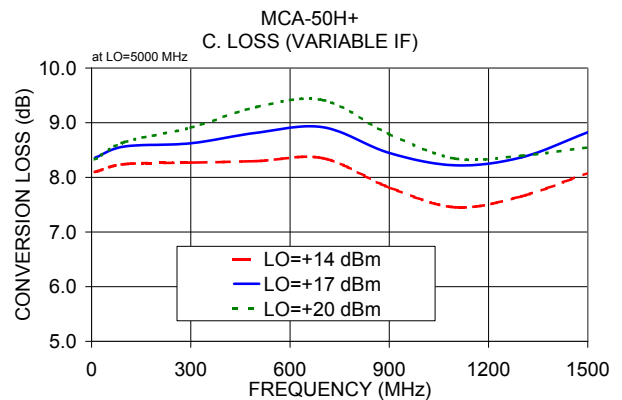
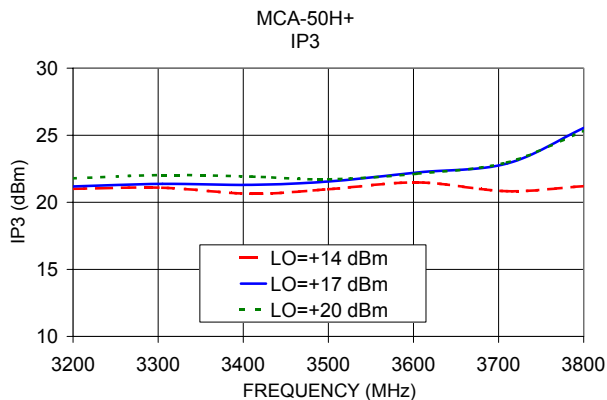
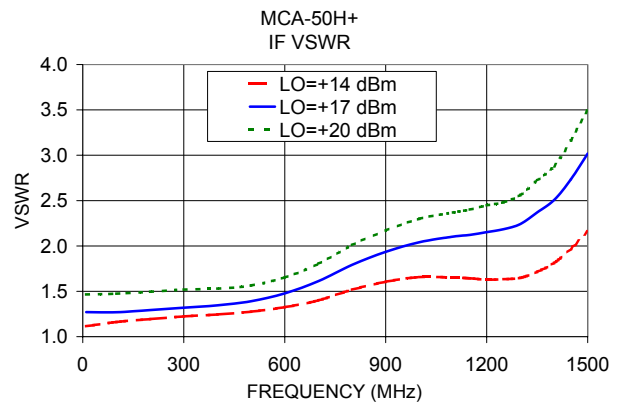
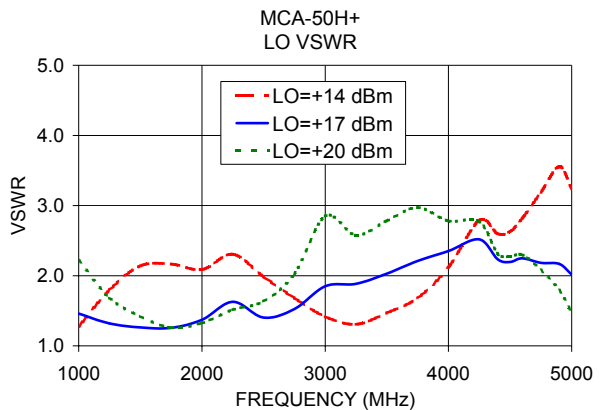
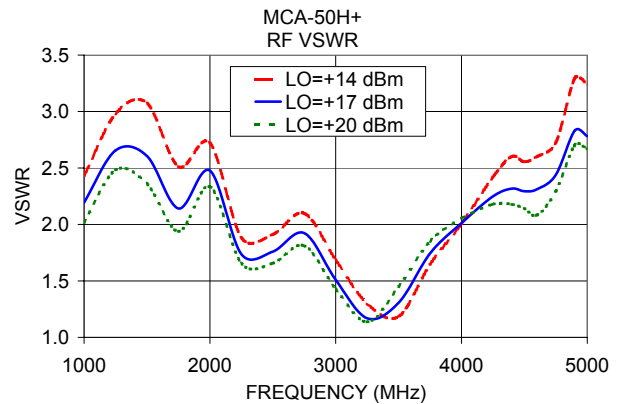
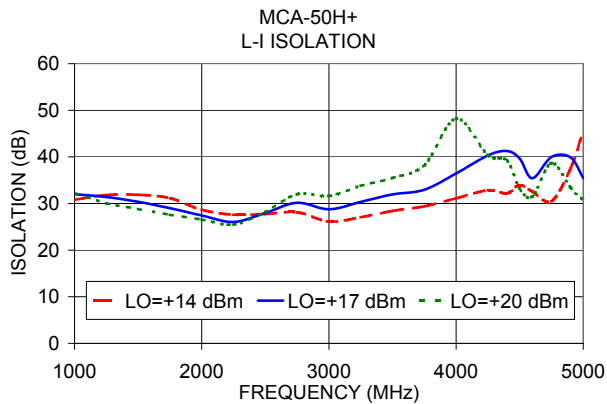
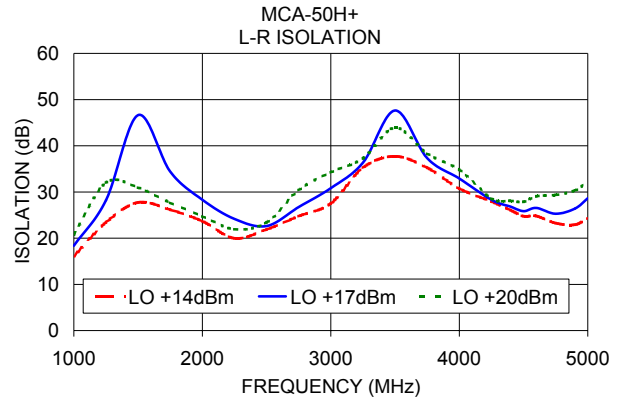
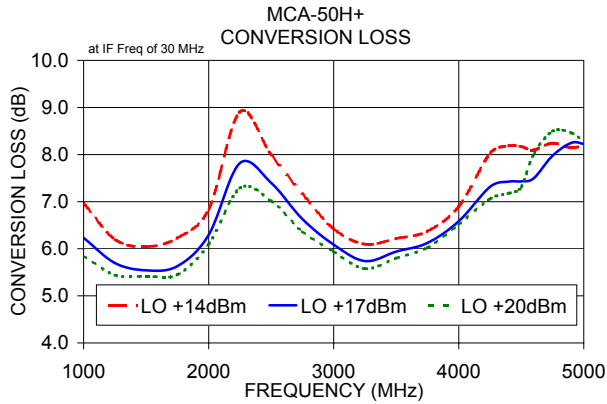
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Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
1000.10	1030.10	6.23	18.37	31.99	1.46	2.19
1250.10	1280.10	5.70	28.23	31.40	1.32	2.66
1500.10	1530.10	5.54	46.63	30.38	1.26	2.61
1750.10	1780.10	5.63	34.42	28.99	1.26	2.14
2000.00	2030.00	6.30	28.31	27.43	1.37	2.48
2250.00	2280.00	7.82	24.16	26.03	1.63	1.74
2500.00	2530.00	7.40	22.63	27.98	1.40	1.76
2750.00	2780.00	6.63	26.73	30.16	1.52	1.92
3000.00	3030.00	6.09	30.82	28.77	1.85	1.51
3250.00	3280.00	5.74	36.36	30.34	1.88	1.17
3500.00	3530.00	5.94	47.63	31.95	2.03	1.31
3750.00	3780.00	6.13	37.32	32.96	2.21	1.74
4000.00	4030.00	6.59	32.92	36.46	2.35	2.01
4250.00	4280.00	7.32	28.31	40.32	2.52	2.25
4400.00	4430.00	7.43	26.83	41.25	2.23	2.32
4500.00	4530.00	7.43	25.84	39.65	2.20	2.29
4600.00	4630.00	7.50	26.53	35.42	2.25	2.31
4750.00	4780.00	7.97	25.29	39.98	2.18	2.44
4900.00	4930.00	8.25	26.41	39.88	2.17	2.83
5000.00	5030.00	8.23	28.64	35.47	2.02	2.78

Electrical Schematic





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