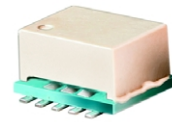


Ceramic

Frequency Mixer WIDE BAND

Level 10 (LO Power +10 dBm) 1000 to 5000 MHz

MCA-50LH+
MCA-50LH



Features

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

Applications

- PCN
- satellite
- line of sight links

CASE STYLE: DZ883

PRICE: \$ 8.95 ea. QTY (10-49)

+ RoHS compliant in accordance
with EU Directive (2002/95/EC)

See our web site for RoHS Compliance methodologies and
qualifications.

Mixer Electrical Specifications ($T_{AMB} = -55^{\circ}\text{C}$ to 100°C)

MODEL NO.	FREQUENCY (MHz)		CONVERSION LOSS (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3@ center band Typ. (dBm)	E FACTOR
	LO/Rf $f_L - f_U$	IF	$\bar{x}$	σ	Max.	Typ.	Min.	Typ.	Min.		
MCA-50LH	1000-5000	10-1500	7.3	0.2	9.9						
	1000-1400	10-400	6.8	0.1	8.5	20	11	32	25	17	0.7
	1400-2000	10-600	6.6	0.1	7.7	25	20	32	25	17	0.7
	2000-2600	10-600	7.8	0.2	9.9	25	18	30	24	18	0.8
	2600-4500	10-1500	7.8	0.1	8.6	35	20	25	15	15	0.5
	4500-5000	50-500	8.0	0.2	9.9	35	22	25	15	16	0.6

1dB Compr.: +6 dBm typ.
E= (IP3(dBm)-LO Power(dBm))/10

* see individual band specs.

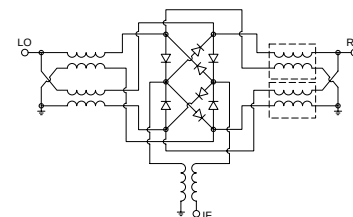
Pin Connections

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

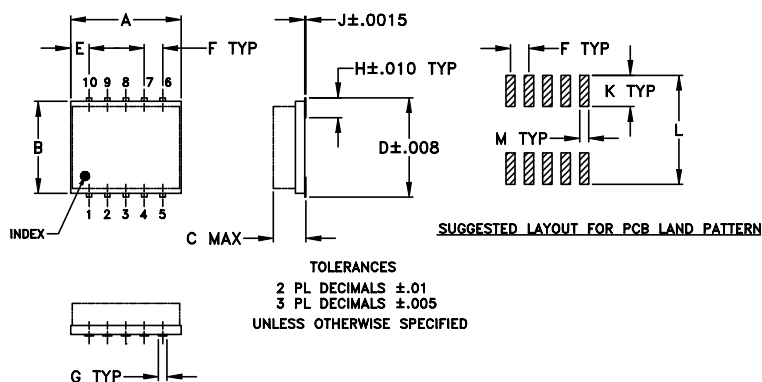
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA

electrical schematic



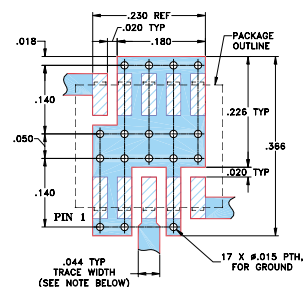
Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G	H	J	K	L	M	wt
.30	.250	.190	.274	.050	.050	.012	.057	.004	.085	.296	.030	grams
7.62	6.35	4.83	6.96	1.27	1.27	0.30	1.45	0.10	2.16	7.52	0.76	0.50

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



Mini-Circuits

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Page 1 of 2

MCA-50LH+ MCA-50LH

Typical Performance Data at 25°C

Frequency		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR LO port (:1)	VSWR RF port (:1)
RF MHz	LO MHz	LO +10 dBm	LO +10 dBm	LO +10 dBm	LO +10 dBm	LO +10 dBm
1000.00	1030.00	6.60	17.81	29.70	1.29	1.98
1200.00	1230.00	6.15	24.04	29.91	1.21	2.24
1400.00	1430.00	6.43	34.07	29.94	1.24	2.29
1600.00	1630.00	6.37	39.60	29.40	1.25	2.44
1800.00	1830.00	6.62	31.69	28.02	1.37	2.20
2000.00	2030.00	6.78	24.37	27.19	1.46	2.26
2200.00	2230.00	7.92	21.31	26.29	1.70	1.96
2400.00	2430.00	8.07	20.77	27.01	1.75	1.90
2600.00	2630.00	6.95	23.92	27.47	1.62	2.03
2800.00	2830.00	6.40	27.26	27.23	1.77	1.77
3000.00	3030.00	6.19	31.17	27.36	1.69	1.36
3200.00	3230.00	5.94	32.33	27.58	1.72	1.18
3400.00	3430.00	5.98	37.20	28.87	1.83	1.14
3600.00	3630.00	5.98	38.18	28.74	1.93	1.26
3800.00	3830.00	6.15	36.23	30.47	2.05	1.43
4000.00	4030.00	6.45	34.76	32.27	2.17	1.60
4200.00	4230.00	6.28	34.62	30.62	2.18	2.08
4400.00	4430.00	6.12	31.09	29.11	2.21	2.52
4600.00	4630.00	5.93	31.30	28.75	2.26	2.31
5000.00	5030.00	5.70	37.55	29.58	1.92	1.52

Performance Charts

