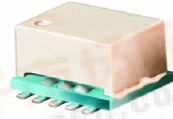


Ceramic

Frequency Mixer WIDE BAND

MCA-50LH+ MCA-50LH

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



CASE STYLE: DZ883

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

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

+ 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°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.

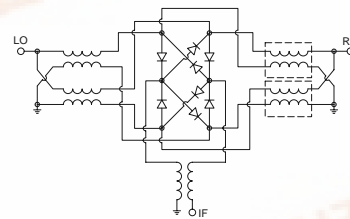
Pin Connections

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

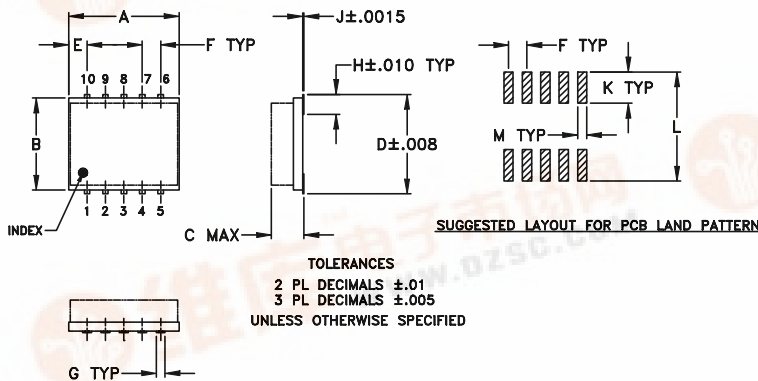
Maximum Ratings

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

electrical schematic



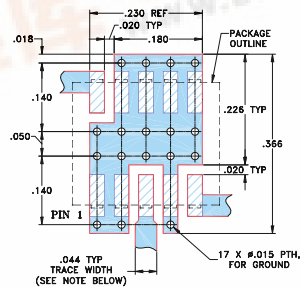
Outline Drawing



Outline Dimensions (inch/mm)

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
	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)



NOTE: TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS 0.020" ± 0.0015", COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK



MCA-50LH+ MCA-50LH

Typical Performance Data at 25°C

Frequency		Conversion Loss (dB) LO +10 dBm	Isolation L-R (dB) LO +10 dBm	Isolation L-I (dB) LO +10 dBm	VSWR LO port (:1) LO +10 dBm	VSWR RF port (:1) LO +10 dBm
RF MHz	LO MHz					
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

