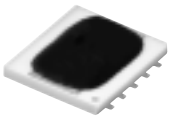
Ceramic

Frequency Mixer WIDE BAND

New!

MCA1-42LH

Level 10 (LO Power +10 dBm) 1000 to 4200 MHz



BLUE CELL™

CASE STYLE: DZ885
PRICE: $7.45 ea. QTY (10-49)

(Patent pending)

Features

- low conversion loss, 6.0 dB typ.
- excellent L-R isolation, 38 dB typ.
- wide bandwidth, 1000 to 4200 MHz
- double balanced mixer
- low cost
- low profile, 0.08"

Applications

- cellular
- PCN
- fixed satellite
- WCDMA
- defense radar
- defense communications

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.		
MCA1-42LH	1000-4200	DC-1500	6.0	0.1	8.9	38	23	20	11	12	0.2

1dB Compr.: + 5 dBm typ.
E= [IP3(dBm)-LO Power(dBm)]/10

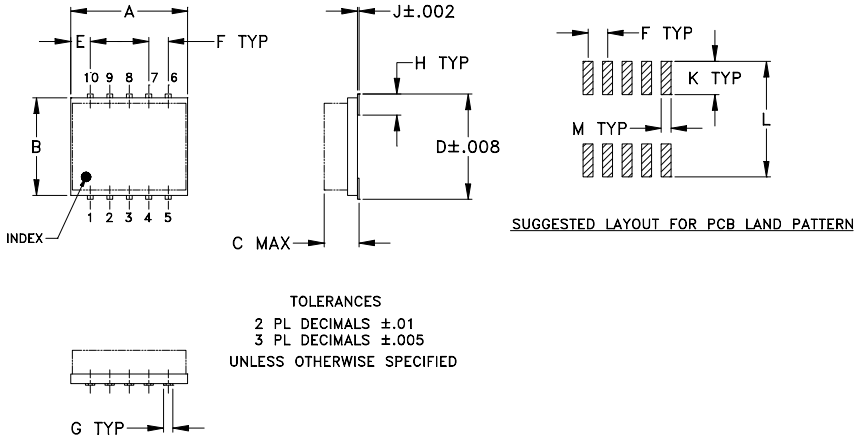
Pin Connections

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

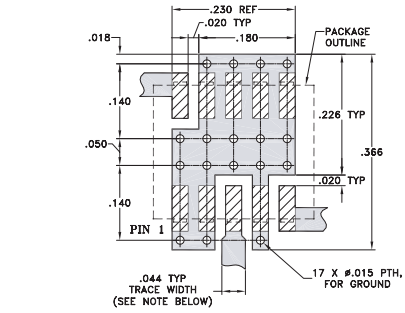
Maximum Ratings

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

Outline Drawing



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

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K	L	M	wt.
.30	.250	.080	.274	.050	.050	.024	.05	.004	.085	.296	.030	grams
7.62	6.35	2.03	6.96	1.27	1.27	0.61	1.27	0.10	2.16	7.52	0.76	0.3

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ISO 9001 CERTIFIED

REV. D
M85169
ED-10107/7
MCA1-42LH
DJ/TD/CP
030203

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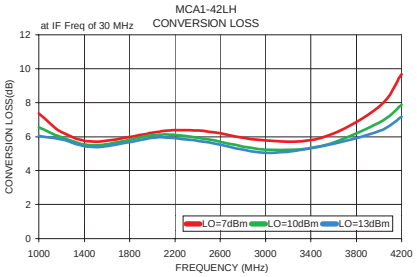
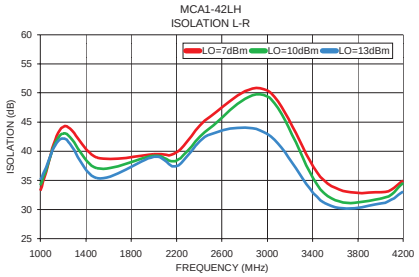
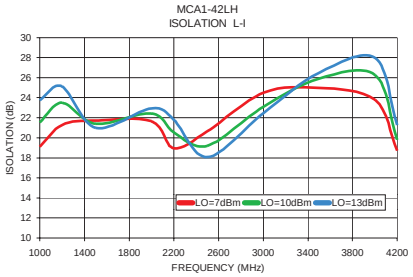
Typical Performance Data at 25°C

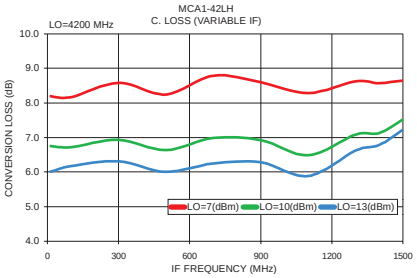
Frequency		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR LO port (:1)	VSWR RF port (:1)
RF MHz	LO MHz	LO +10 dBm	LO +10 dBm	LO +10 dBm	LO +10 dBm	LO +10 dBm
1000.10	1030.10	6.55	34.13	21.54	5.34	2.14
1200.10	1230.10	5.97	43.05	23.49	2.96	2.95
1500.10	1530.10	5.49	37.05	21.39	2.57	2.84
2000.10	2030.10	6.09	39.22	22.41	2.93	2.57
2200.10	2230.10	6.10	38.41	20.53	3.47	2.50
2500.10	2530.10	5.83	44.08	19.19	3.86	2.17
3000.10	3030.10	5.23	49.42	23.08	3.37	1.78
3500.10	3530.10	5.48	32.83	25.91	1.72	1.56
4000.10	4030.10	6.81	31.85	26.26	3.03	3.18
4200.10	4230.10	7.86	34.53	19.79	3.54	3.76

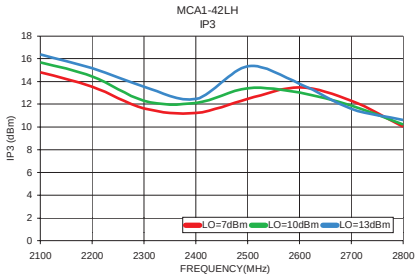
Performance Charts

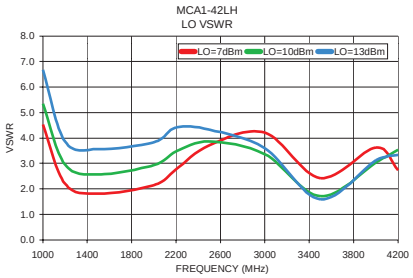


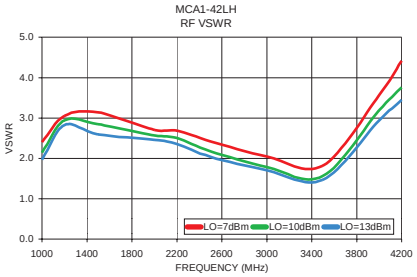


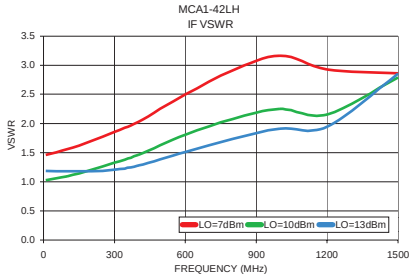


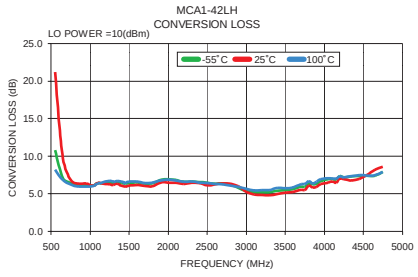


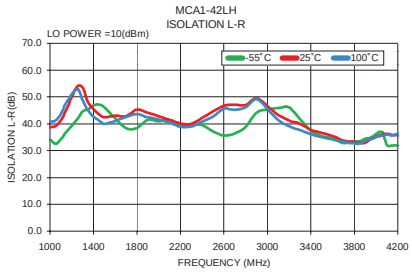


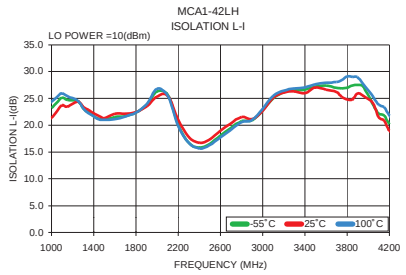












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