

Ceramic

Frequency Mixer WIDE BAND

New!

MCA1-60LH

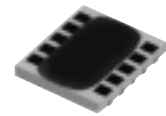
Level 10 (LO Power +10 dBm) 1700 to 6000 MHz

Features

- low conversion loss, 6.2 dB typ.
- wide bandwidth, 1700 to 6000 MHz
- useable to 8 GHz
- IF, DC to 2000 MHz
- LTCC double balanced mixer
- low cost
- low profile, 0.07"

Applications

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



BLUE CELL™

CASE STYLE: DZ885

PRICE: \$ 8.45 ea. QTY.: (10-49)

(Patent pending)

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.		
MCA1-60LH	1700-4400	DC-2000	6.6	0.1	7.9	35	23	17	—	13	0.3
	4400-6000	DC-2000	6.0	0.1	8.3	27	20	21	—	11	0.1

1dB Compr.: + 5 dBm typ.

E= $(IP3(\text{dBm}) - LO \text{ Power}(\text{dBm}))/10$

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

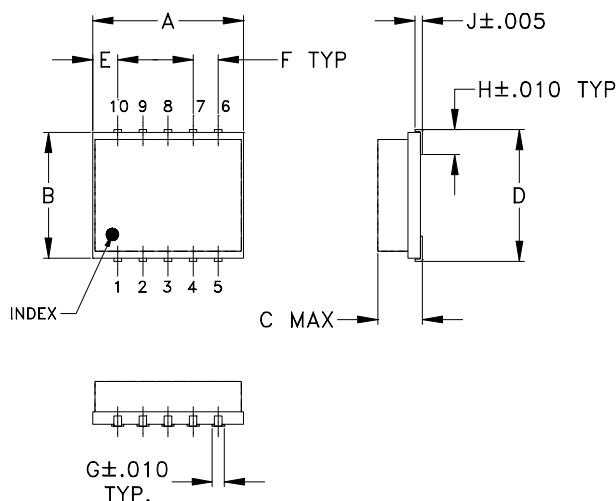
Pin Connections

LO	10
RF	5
IF	3
GROUND	1,2,4,6,7,8,9
DEMO BOARD	TB-144

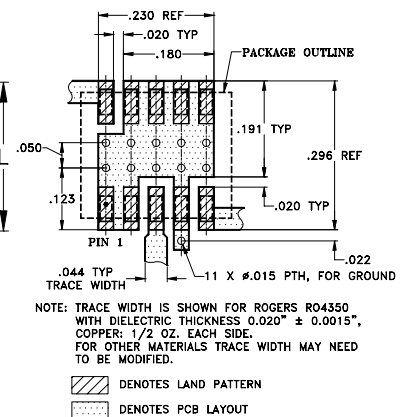
Maximum Ratings

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

Outline Drawing



Suggested PCB Layout (PL-045)



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	L	M	wt.
.30	.250	.065	.262	.050	.050	.024	.050	.015	.085	.296	.030	grams
7.62	6.35	1.65	6.65	1.27	1.27	0.61	1.27	0.38	2.16	7.52	0.76	0.3



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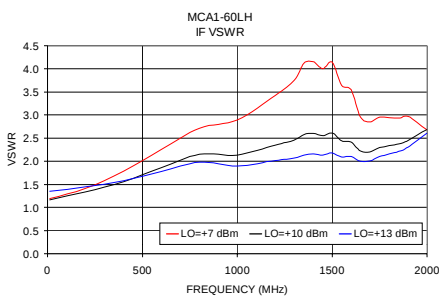
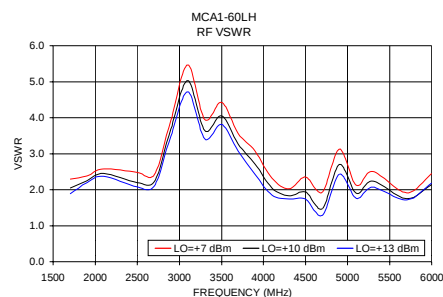
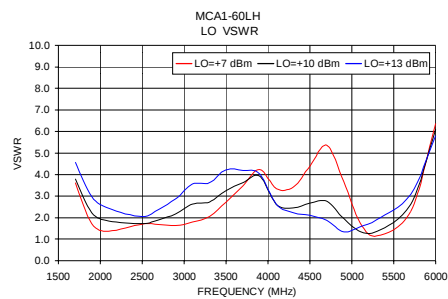
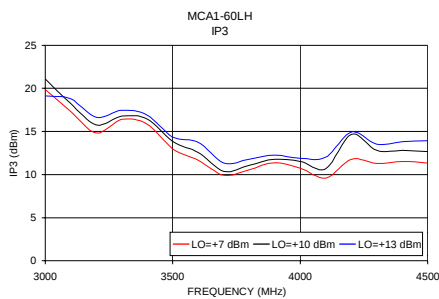
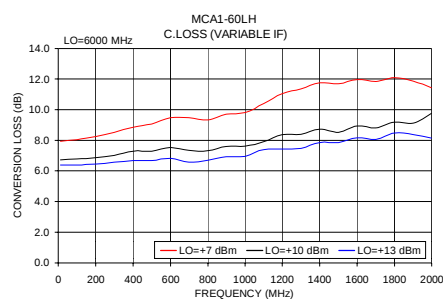
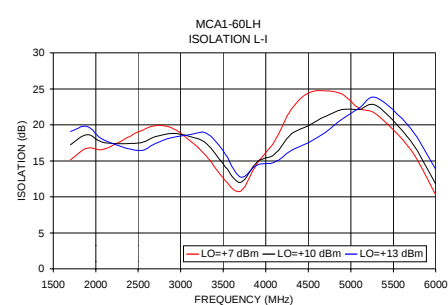
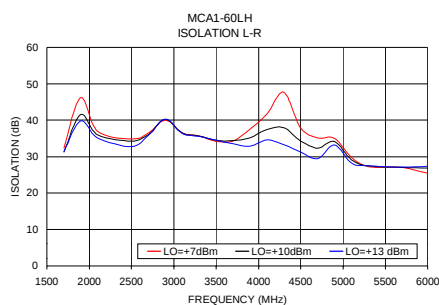
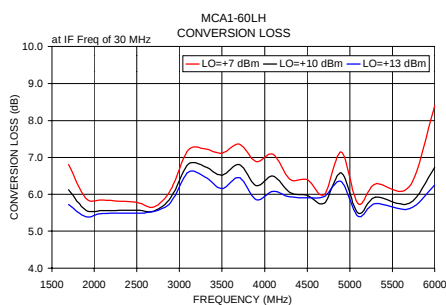
ISO 9001 CERTIFIED

REV. A
 M82065
 ED-10107/14
 MCA1-60LH
 DJ/TD/CP
 020703
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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
1700.00	1730.00	6.12	31.11	17.21	3.80	2.04
1900.00	1930.00	5.58	41.49	18.61	2.23	2.25
2100.00	2130.00	5.56	36.04	17.55	1.85	2.45
2500.00	2530.00	5.57	34.25	17.48	1.72	2.19
2700.00	2730.00	5.54	36.00	18.36	1.90	2.22
2900.00	2930.00	5.92	40.21	18.81	2.18	3.68
3100.00	3130.00	6.80	36.38	18.44	2.63	5.02
3300.00	3330.00	6.75	35.64	17.41	2.73	3.64
3500.00	3530.00	6.51	34.52	14.61	3.26	4.06
3700.00	3730.00	6.81	34.43	12.04	3.62	3.26
3900.00	3930.00	6.24	35.17	14.87	3.93	2.71
4100.00	4130.00	6.49	37.36	15.93	2.62	2.04
4300.00	4330.00	6.05	37.95	18.73	2.45	1.83
4500.00	4530.00	5.97	34.27	19.90	2.66	1.93
4700.00	4730.00	5.76	32.31	21.16	2.76	1.47
4900.00	4930.00	6.58	34.11	22.13	1.96	2.70
5100.00	5130.00	5.50	29.13	22.12	1.35	1.90
5300.00	5330.00	5.92	27.47	22.67	1.37	2.24
5700.00	5730.00	5.76	26.99	17.82	2.61	1.75
6000.00	6030.00	6.73	26.82	11.81	6.10	2.14

Performance Charts



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