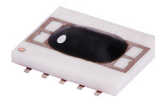


Ceramic

Frequency Mixer WIDE BAND

Level 13 (LO Power+13 dBm) 1600 to 6000 MHz

MCA1-60MH+



Generic photo used for illustration purposes only

CASE STYLE: DZ885

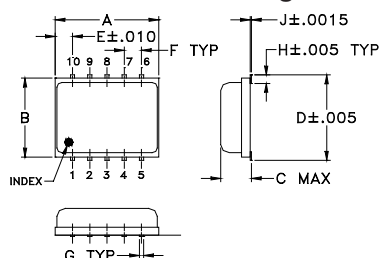
Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	200 mW
IF Current	40 mA
Permanent damage may occur if any of these limits are exceeded.	

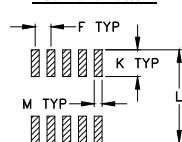
Pin Connections

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

Outline Drawing



PCB Land Pattern

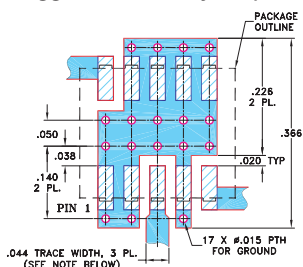


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch mm)

A	B	C	D	E	F	G
.30	.250	.085	.266	.050	.050	.012
7.62	6.35	2.16	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	0.25	

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

Features

- wide bandwidth, 1600 to 6000 MHz
- useable to 8000 MHz
- low conversion loss, 6.2 dB typ.
- IF, DC to 2000 MHz
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.08"
- protected by US Patent 7,027,795

Recommended Replacement:

MAC-60MH+

- Footprint Compatible
- MIL Level Reliability

[Click here for data sheet](#)

Applications

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

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.	Typ.
1600-4400	DC-2000	6.9	0.1	8.5*	32	25	17	—	15
4400-6000	DC-2000	6.0	0.1	8.5*	22	18	15	—	15

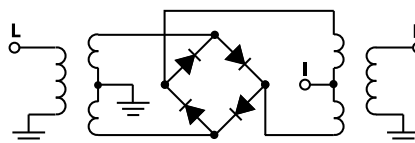
1 dB COMPR. +9 dBm typ.

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

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 +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
1600.00	1630.00	5.80	34.40	18.22	2.36	4.29
1800.00	1830.00	5.69	40.40	20.40	2.50	3.06
2000.00	2030.00	5.71	34.08	20.59	2.85	2.20
2400.00	2430.00	5.71	29.81	17.48	2.56	1.48
2600.00	2630.00	5.66	31.17	17.47	2.51	1.68
2800.00	2830.00	6.40	33.79	17.35	3.54	2.07
3000.00	3030.00	7.00	32.33	17.15	4.90	2.75
3200.00	3230.00	6.83	31.52	17.08	3.71	3.90
3400.00	3430.00	6.42	31.43	16.73	3.42	4.56
3600.00	3630.00	6.01	31.58	15.66	3.10	4.51
3800.00	3830.00	6.01	32.37	16.98	2.53	6.19
4000.00	4030.00	6.35	32.97	18.41	2.23	4.62
4400.00	4430.00	6.15	30.70	18.49	2.54	4.58
4600.00	4630.00	5.89	28.56	18.16	2.31	4.46
4800.00	4830.00	6.68	28.20	18.36	2.52	2.50
5000.00	5030.00	5.94	25.23	18.75	2.46	1.19
5200.00	5230.00	5.87	23.87	19.82	2.58	1.58
5600.00	5630.00	6.30	24.95	15.42	2.72	3.97
5800.00	5830.00	6.24	24.65	13.88	3.33	6.41
6000.00	6030.00	7.10	23.11	12.81	4.37	13.10

Electrical Schematic



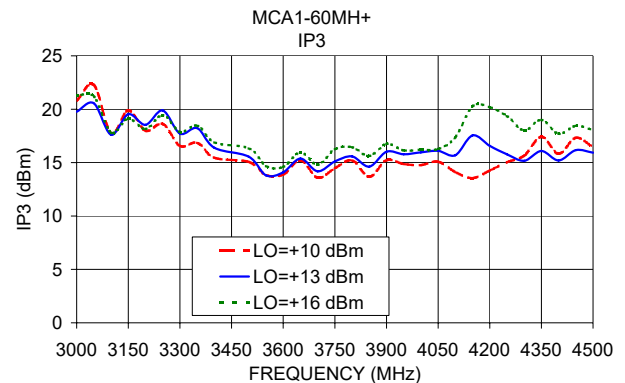
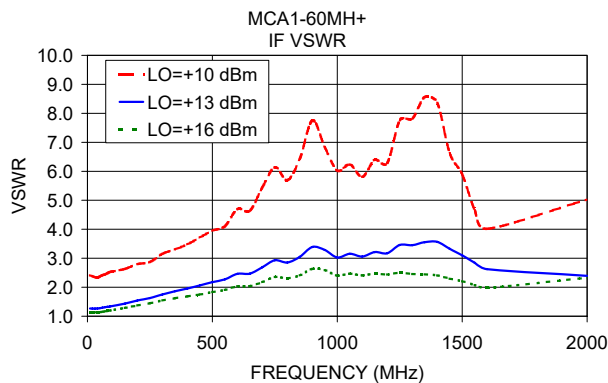
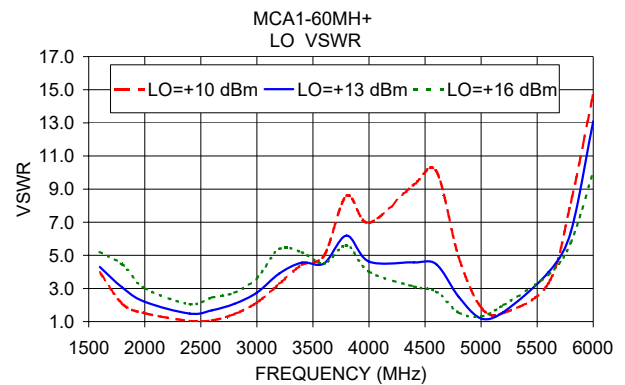
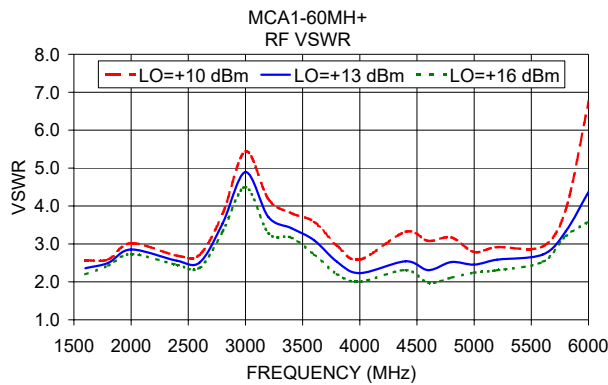
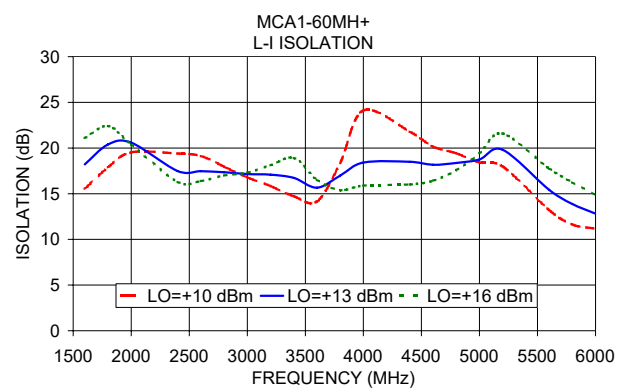
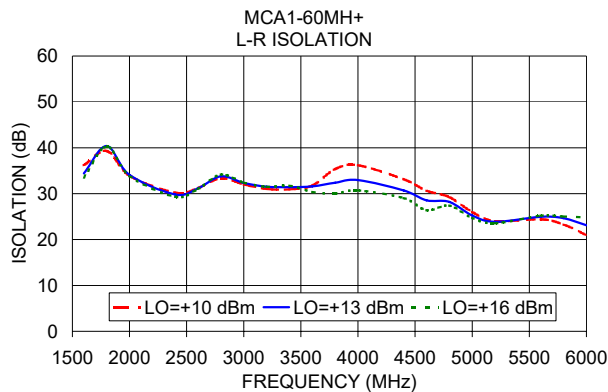
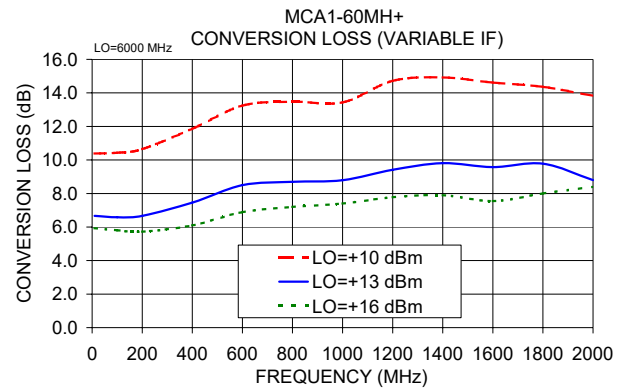
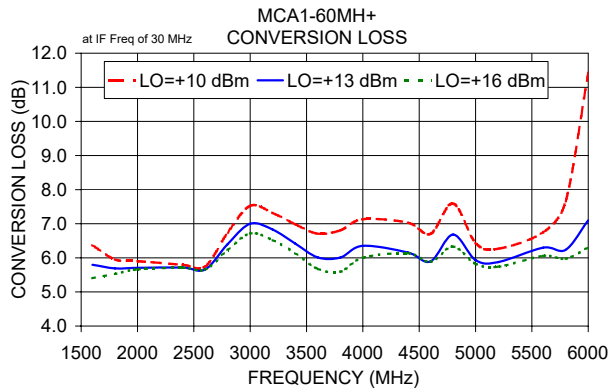
Notes

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