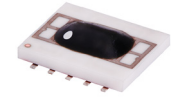


Ceramic

Frequency Mixer WIDE BAND

MCA1-42MH+

Level 13 (LO Power+13 dBm) 1000 to 4200 MHz



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

Features

- wide bandwidth, 1000 to 4200 MHz
- low conversion loss, 6.2 dB typ.
- excellent L-R isolation, 35 dB typ.
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.08"
- protected by US Patent 7,027,795

Recommended Replacement:

MAC-42MH+

- Footprint Compatible
- MIL Level Reliability

[Click here for data sheet](#)

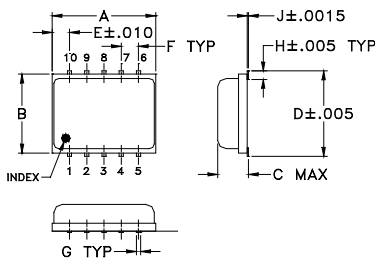
Applications

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

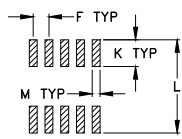
+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Reel Size	Devices/Reel
7"	10, 20, 50, 100, 200
13"	500, 1000

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	

Electrical Specifications (T_{AMB} = -55°C to 100°C)

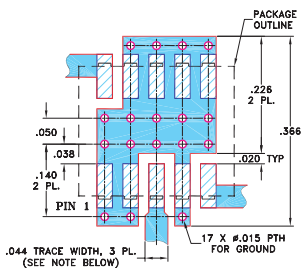
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)
		Typ.	Min.	Typ.	Min.	
LO/RF f _l -f _u	IF	\bar{X}	σ	Max.		
1000-4200	DC-1500	6.2	0.1	8.9	35	20

1 dB COMPR. +9 dBm typ.

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
1000.1	1030.1	6.41	38.13	22.25	2.53
1500.1	1530.1	5.46	31.57	22.23	3.23
1750.1	1780.1	5.77	32.48	20.81	2.57
2000.1	2030.1	5.96	33.34	21.32	2.78
2500.1	2530.1	5.99	32.94	21.44	2.45
3000.1	3030.1	5.22	32.62	21.48	2.24
3500.0	3530.1	5.84	30.35	23.79	2.50
4000.1	4030.1	7.32	33.89	20.18	4.57
4200.1	4230.1	8.14	37.60	17.38	4.90

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



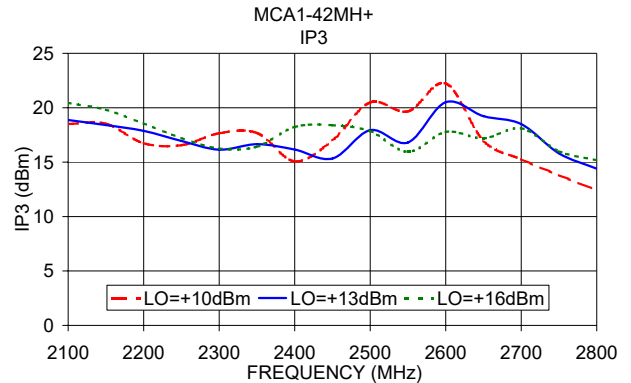
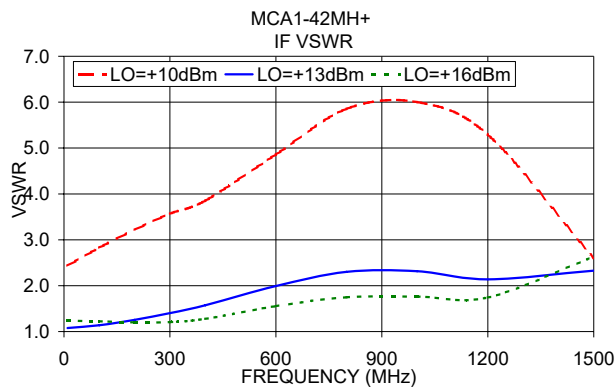
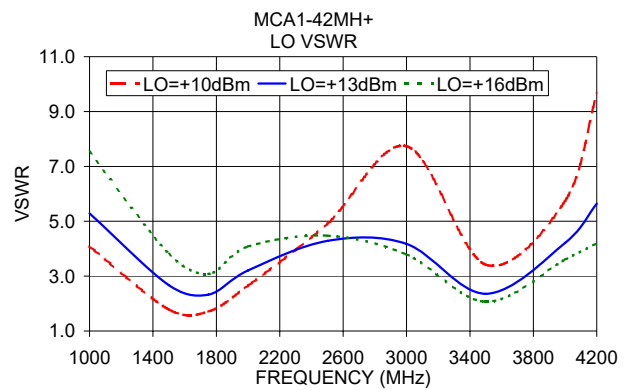
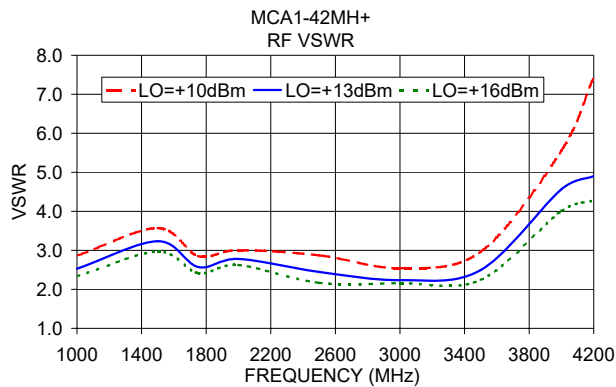
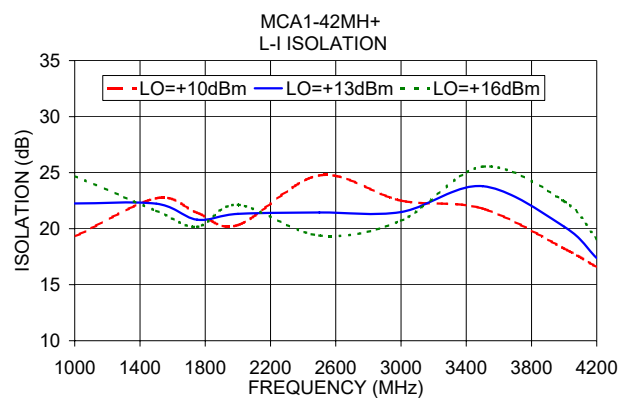
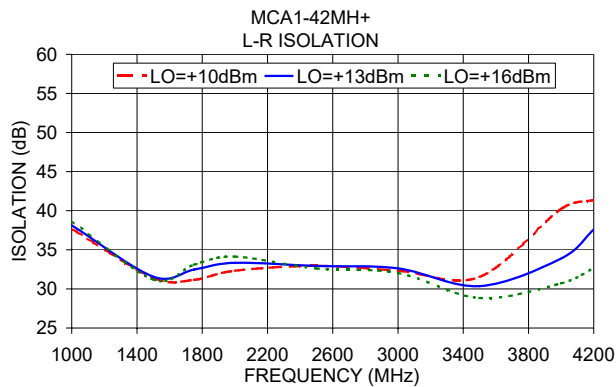
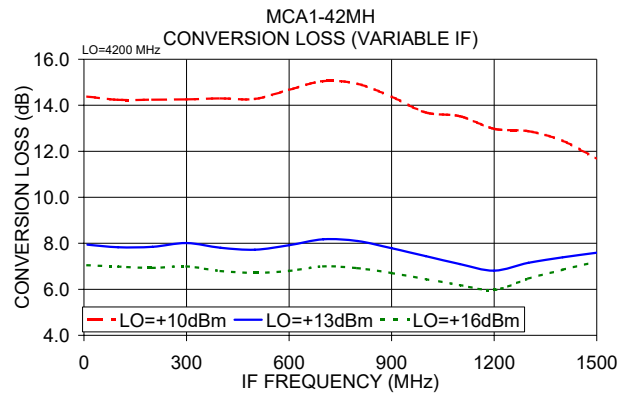
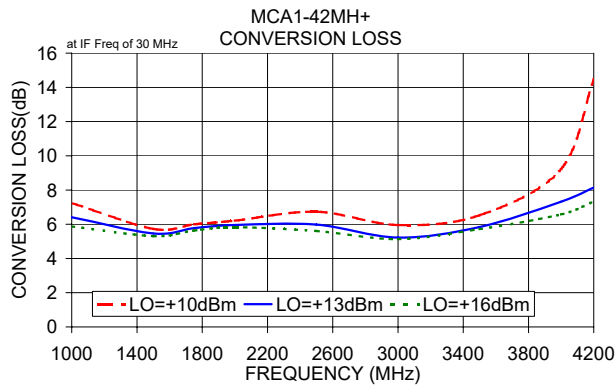
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- ▨ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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