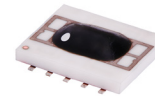


Ceramic

Frequency Mixer WIDE BAND

MCA1-80MH+

Level 13 (LO Power+13 dBm) 2800 to 8000 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, 2800 to 8000 MHz
- low conversion loss, 5.6 dB typ.
- high L-R isolation, 27 dB typ.
- IF, DC to 1250 MHz
- LTCC double balanced mixer
- aqueous washable
- low cost
- low profile, 0.08"
- protected by US Patent 7,027,795

Recommended Replacement:

MAC-80MH+

- Footprint Compatible
- MIL Level Reliability

[Click here for data sheet](#)

+RoHS Compliant

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

Available Tape and Reel at no extra cost

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

Applications

- satellite up and down converters
- line of sight links
- defense radar
- defense communication

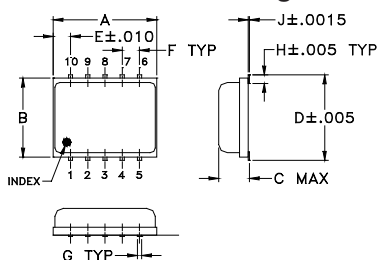
Electrical Specifications (T_{AMB}=-55°C to 100°C)

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.
2800-8000	DC-1250	5.5	0.2	8.2*	27	20	12	7	19
5000-8000	DC-1250	5.7	0.2	8.7*	27	17	35	13	18

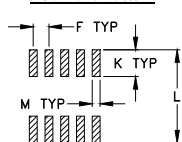
1 dB COMPR. +9 dBm typ.

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

Outline Drawing



PCB Land Pattern



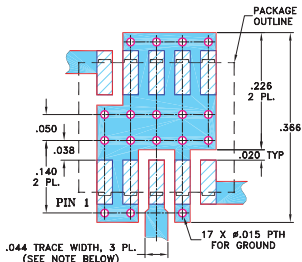
Suggested Layout, Tolerance to be within ±.002

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)

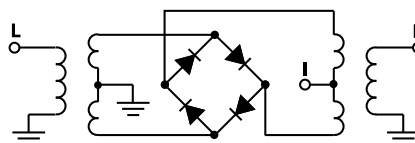


- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
■ DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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	+13dBm	+13dBm	+13dBm	+13dBm	+13dBm
2810.1	2840.1	4.83	34.14	11.44	2.01	3.11
3265.1	3295.1	4.40	36.85	12.24	1.37	2.84
3492.6	3522.6	4.46	29.76	11.94	1.33	2.60
3720.1	3750.1	4.45	26.88	11.23	1.49	2.61
4175.1	4205.1	6.49	23.45	13.13	1.96	2.60
4402.6	4432.6	6.49	26.30	18.30	2.24	2.84
4857.6	4887.6	6.44	33.11	26.26	3.24	3.48
5085.1	5115.1	6.06	37.04	27.27	3.27	3.96
5312.6	5342.6	6.04	40.67	27.90	3.19	4.61
5540.1	5570.1	6.04	48.84	28.42	3.13	4.87
5767.6	5797.6	5.94	49.07	29.41	3.00	5.02
5995.1	6025.1	6.16	47.62	31.11	3.44	5.65
6222.6	6252.6	5.94	42.39	33.48	3.21	5.83
6450.1	6480.1	5.81	41.97	37.91	2.76	5.10
6927.9	6957.9	5.99	32.17	34.30	2.18	3.03
7178.1	7208.1	6.23	27.59	31.55	1.88	2.73
7405.6	7435.6	5.58	26.03	28.14	1.95	2.40
7655.9	7685.9	5.50	23.63	25.26	2.08	2.19
7883.4	7913.4	5.65	21.87	18.93	2.22	2.40
8133.6	8163.6	5.94	20.50	16.13	2.48	2.73

Electrical Schematic



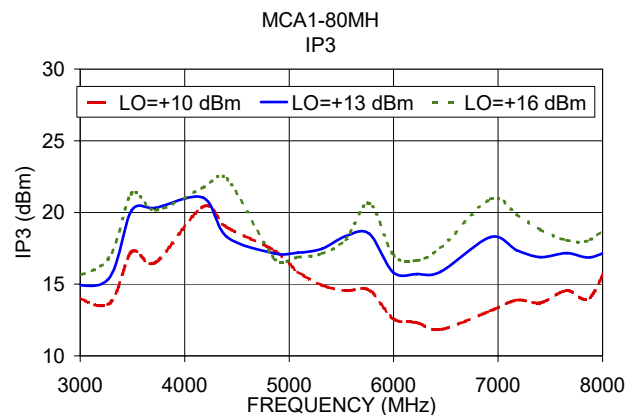
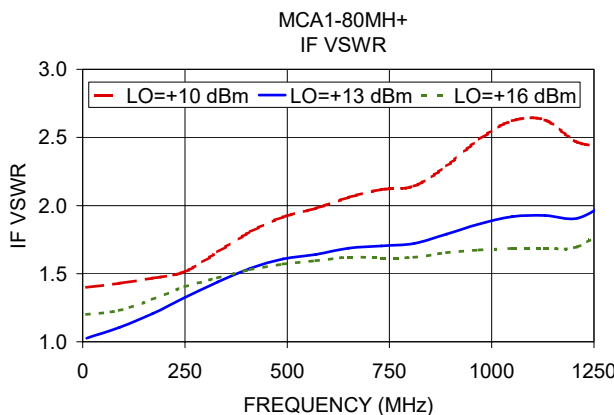
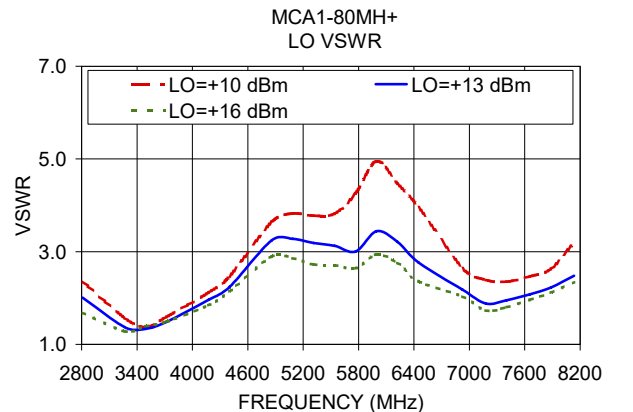
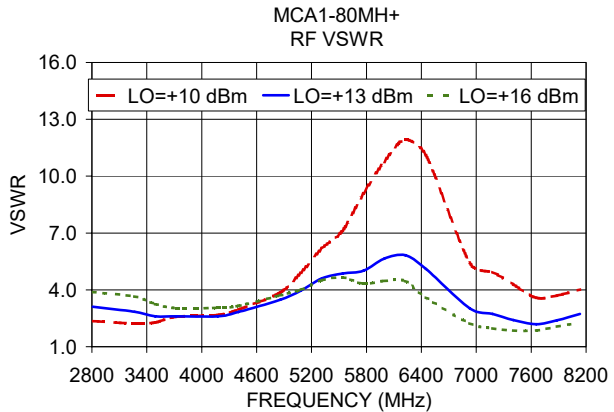
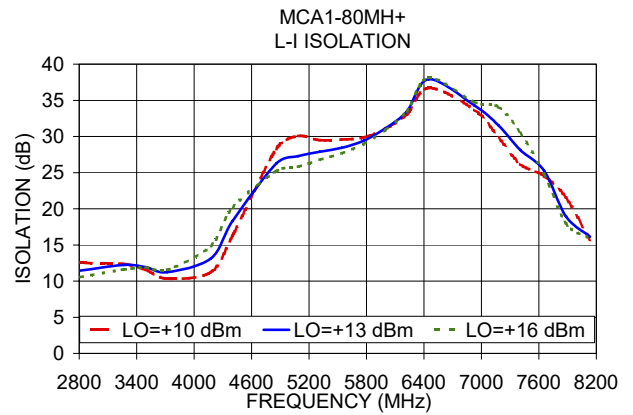
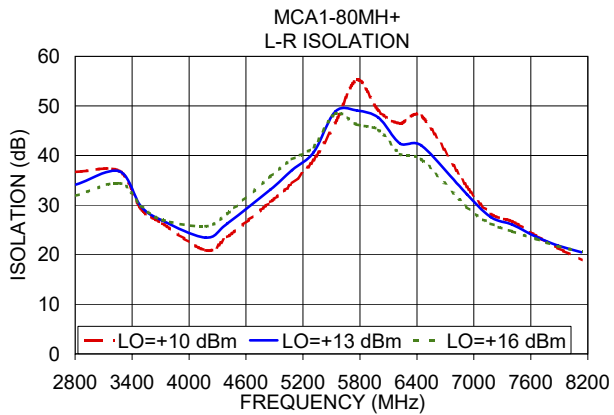
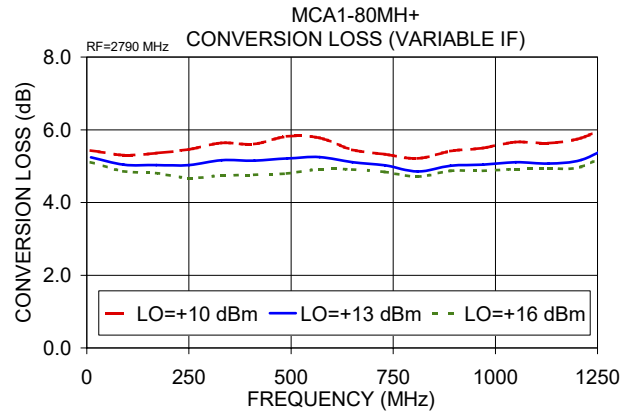
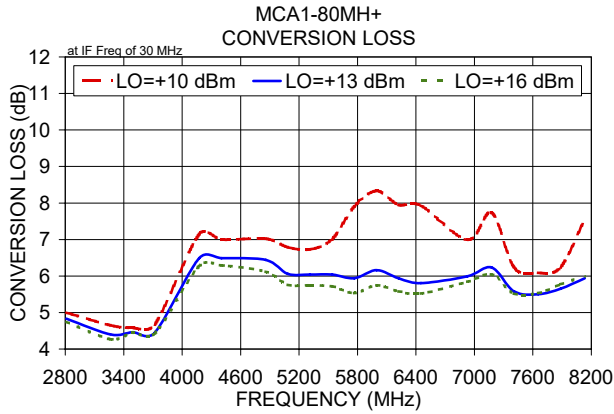
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