

Frequency Mixer

Level 13 (LO Power+13 dBm) 3500 to 3600 MHz

Maximum Ratings

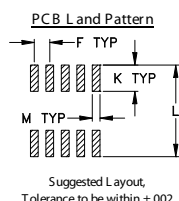
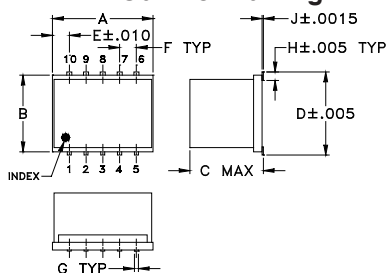
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
LO & RF Power	16 dBm

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

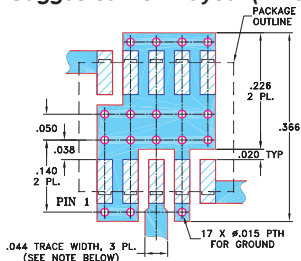
Outline Drawing



Outline Dimensions ($\frac{\text{inch}}{\text{mm}}$)

A	B	C	D	E	F	G
.30	.250	.190	.266	.050	.050	.012
7.62	6.35	4.83	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		0.5

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" $\pm$.0015"; COPPER: 1/2 OZ. EACH SIDE.
2. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
3. 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

- A.** 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.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCStore/terms.jsp

Features

- excellent IP3, 30 dBm typ.
- excellent L-R isolation, 42 dB typ.
- excellent 1dB compression, RF>LO power
- industry standard foot print
- LTCC design for excellent temperature stability, performance repeatability and small size
- aqueous washable
- double balanced mixer
- low price
- protected by US Patent 6,959,180

Applications

- line of sight links
- satellite communications
- WiMAX

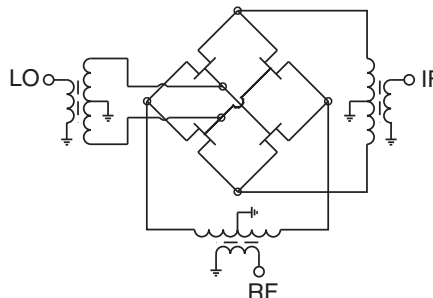
Electrical Specifications (T_{AMB}=-55°C to 100°C)

FREQUENCY (MHz)			IP3 (dBm)	RF in at 1 dB compr. (dBm)	CONVERSION LOSS (dB)		LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)	
RF	LO	IF	Typ.	Min.	Typ.	Max.	Typ.	Min.	Typ.	Min.
3500-3600	3070-3170	380-480	30	13	8.3	9.3	42	20	27	15

Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	IP3 (dBm)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
3500.00	3070.00	7.66	43.70	24.07	2.20	3.50	32.03
3510.00	3080.00	7.81	42.84	24.46	2.36	3.62	32.45
3520.00	3090.00	8.16	42.47	24.94	2.52	3.66	34.10
3530.00	3100.00	8.12	43.22	25.47	2.67	3.54	32.67
3540.00	3110.00	8.00	44.47	25.83	2.80	3.47	32.06
3550.00	3120.00	8.05	45.26	26.13	2.93	3.41	33.59
3560.00	3130.00	7.92	45.60	26.42	3.09	3.40	33.95
3570.00	3140.00	7.46	50.36	26.68	3.28	3.44	32.32
3580.00	3150.00	7.20	57.12	27.11	3.50	3.54	32.46
3590.00	3160.00	7.38	56.79	27.68	3.77	3.59	32.93
3600.00	3170.00	7.64	54.68	28.36	4.05	3.61	32.34

Electrical Schematic



CASE STYLE: DZ883

+RoHS Compliant

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

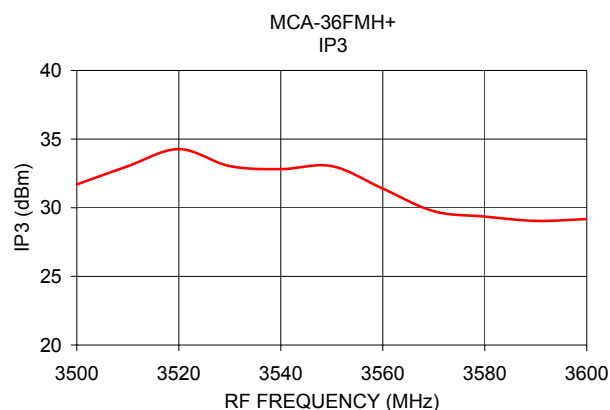
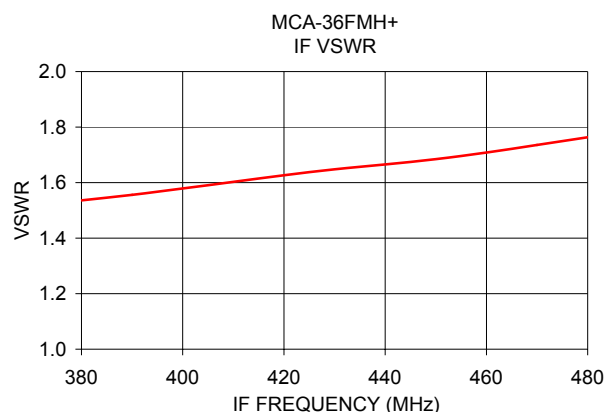
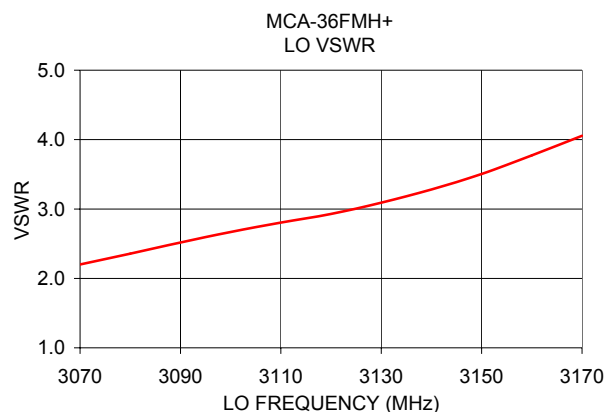
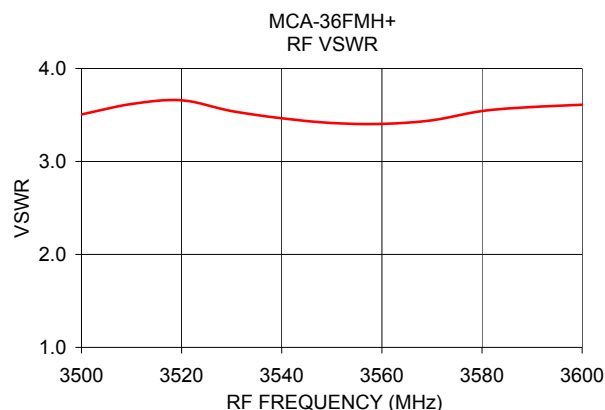
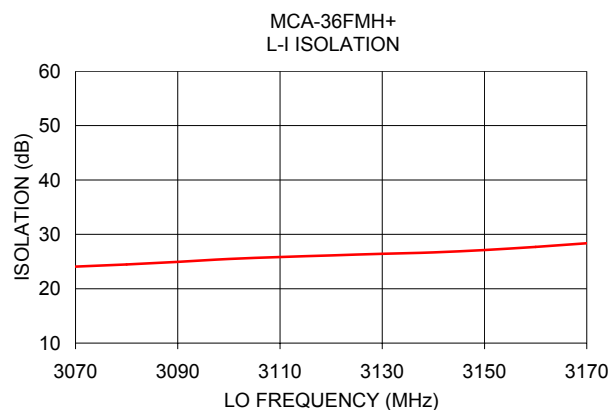
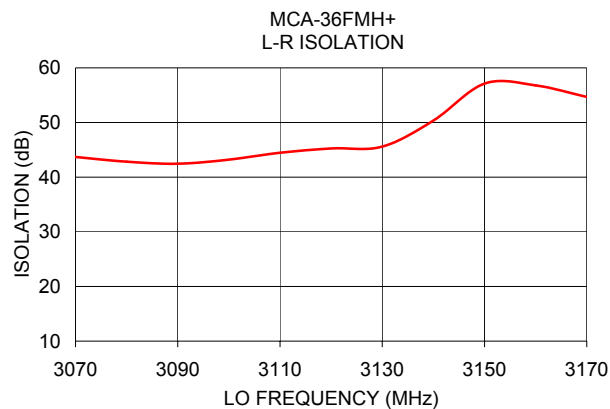
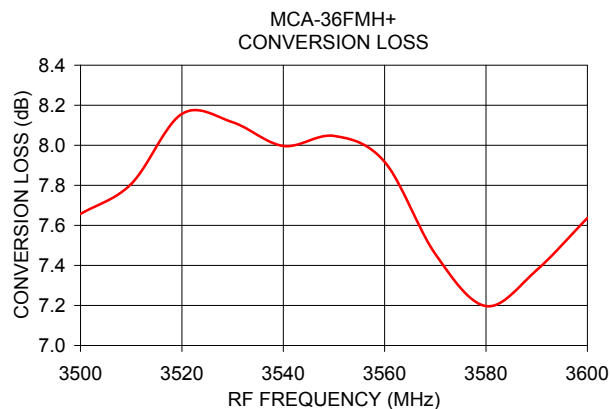


Available Tape and Reel at no extra cost

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

Performance Charts

MCA-36FMH+



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