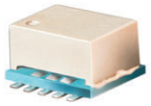
High IP3

Frequency Mixer

MCA-36FMH+

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



CASE STYLE: DZ883
PRICE: $10.95 ea. QTY.(1-9)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

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

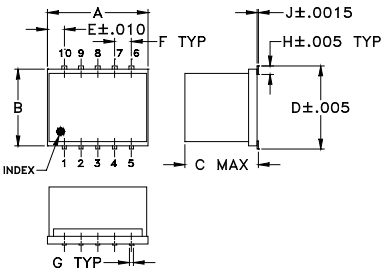
Features

- 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

Outline Drawing

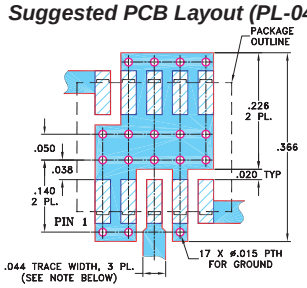


Outline Dimensions (inch / mm)

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" ± .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

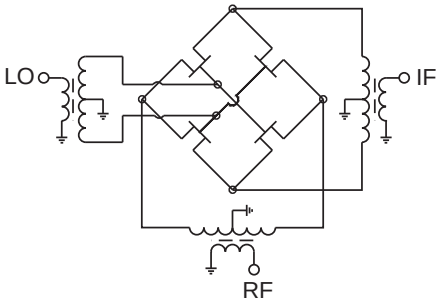
Electrical Specifications (T_{AMB}=-55°C to 100°C)

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

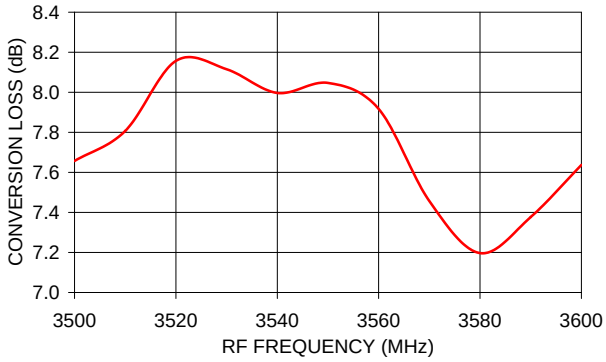
Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	IP3 (dBm)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
3500.00	3070.00	7.66	43.70	24.07	2.20	3.50	32.03
3510.00	3080.00	7.81	42.84	24.46	2.36	3.62	32.45
3520.00	3090.00	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

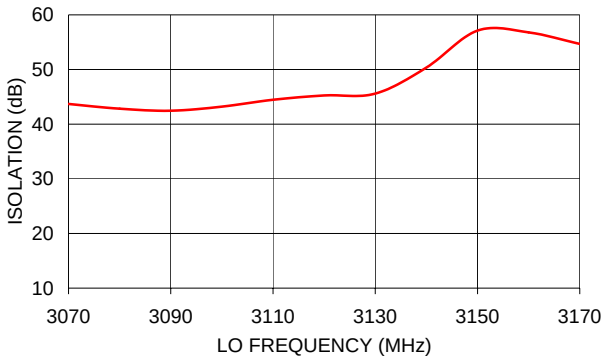


REV. F
M121747
ED-9488C2/2
MCA-36FMH+
DJ/TD/CP/AM
090611

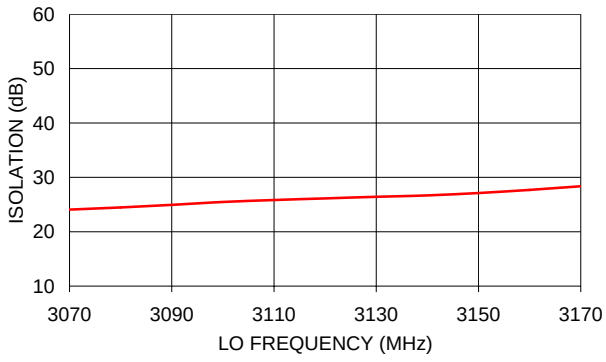
MCA-36FMH+
CONVERSION LOSS



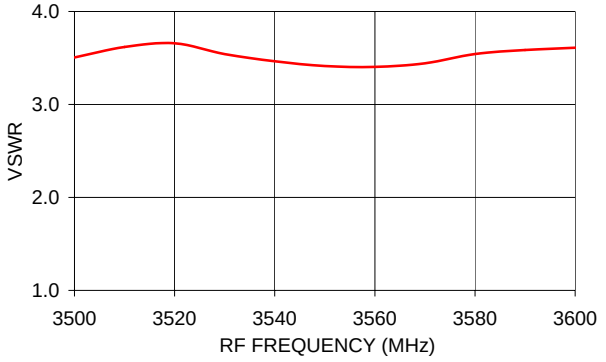
MCA-36FMH+
L-R ISOLATION



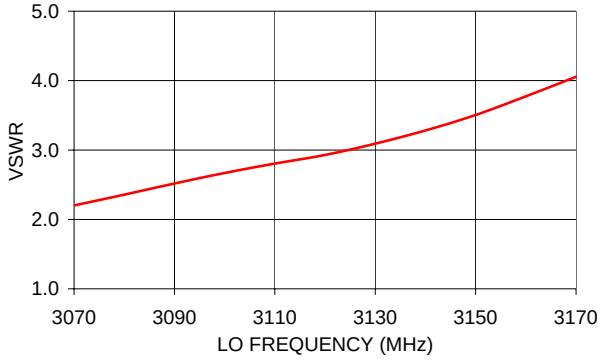
MCA-36FMH+
L-I ISOLATION



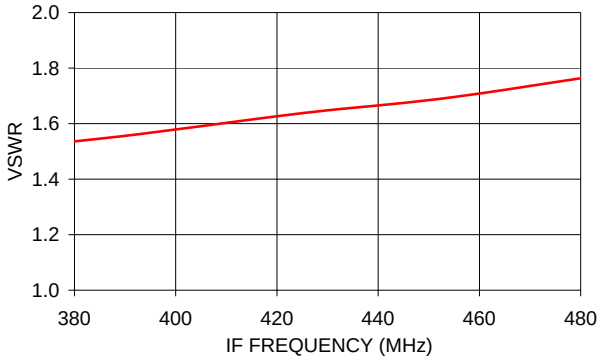
MCA-36FMH+
RF VSWR



MCA-36FMH+
LO VSWR



MCA-36FMH+
IF VSWR



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IP3