

High IP3 Frequency Mixer

MCA-36FMH+

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

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

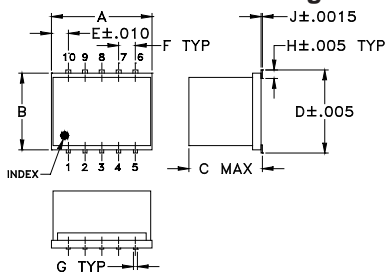
- line of sight links
- satellite communications
- WiMAX

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

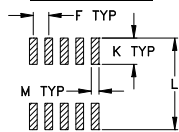
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

Outline Drawing



PCB Land Pattern

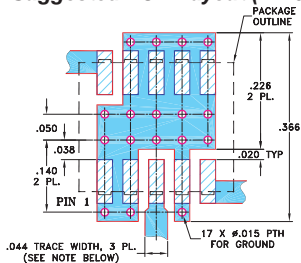


Suggested L layout,
Tolerance to be within ±0.02

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

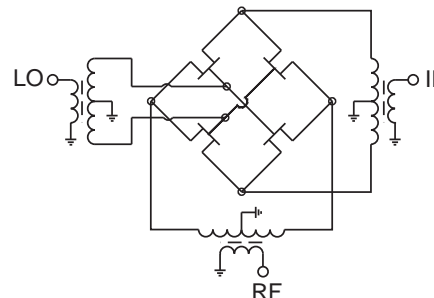
Electrical Specifications (T_{AMB}=-55°C to 100°C)

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.	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 (dB)		VSWR RF Port (:1)	VSWR LO Port (:1)		IP3 (dBm)
RF	LO		L-R (+13dBm)	L-I (+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



Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuits' applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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/MCLStore/terms.jsp.

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