

# High IP3 Frequency Mixer

## MCA-19FH+ MCA-19FH

Level 17 (LO Power+17 dBm) 1850 to 1910 MHz



CASE STYLE: DZ883  
PRICE: \$11.95 ea. QTY.(1-9)

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

The +Suffix identifies 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	20 dBm

### Pin Connections

LO	10
RF	5
IF	3
GROUND	1,2,4,6,7,8,9

### Features

- excellent IP3, 35 dBm typ.
- excellent L-R isolation, 40 dB typ.
- excellent 1 dB 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

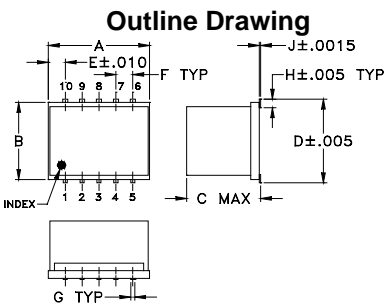
- GSM 1800
- DECT

### Electrical Specifications (T<sub>AMB</sub>=-55°C to 100°C)

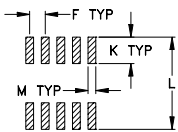
FREQUENCY (MHz)			IP3 (dBm)	RF in at 1 dB compr. (dBm)	CONVERSION LOSS (dB)		LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)	
RF	LO	IF			Typ.	Max.	Typ.	Min.	Typ.	Min.
1850-1910	1760-1820	70-130	35	17	6.9	8.5	40	22	39	20

### 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 +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
1850.00	1760.00	6.97	42.92	49.99	1.97	2.39	37.53
1865.00	1775.00	6.97	41.92	45.39	2.00	2.08	36.85
1880.00	1790.00	6.93	40.95	41.21	1.97	1.96	36.93
1895.00	1805.00	6.88	40.70	38.54	1.92	2.01	36.79
1910.00	1820.00	6.82	40.68	36.69	1.90	2.25	37.12



### PCB Land Pattern

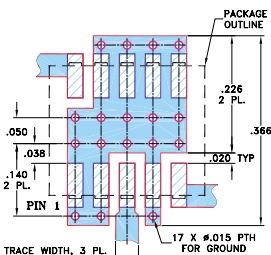


Suggested Layout.  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

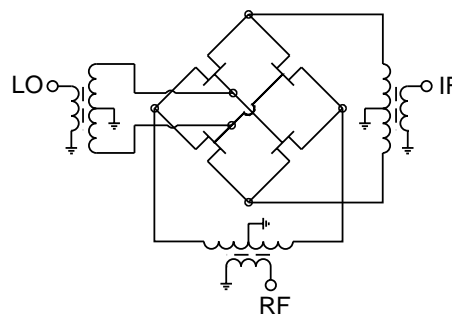
A	B	C	D	E	F	G
.30	.250	.190	.266	.050	.050	.012
7.62	6.35	4.83	6.76	1.27	1.27	0.30
H	J	K	L	M		wt
.029	.004	.085	.296	.030		grams
0.74	0.10	2.16	7.52	0.76		0.5

### 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 Schematic



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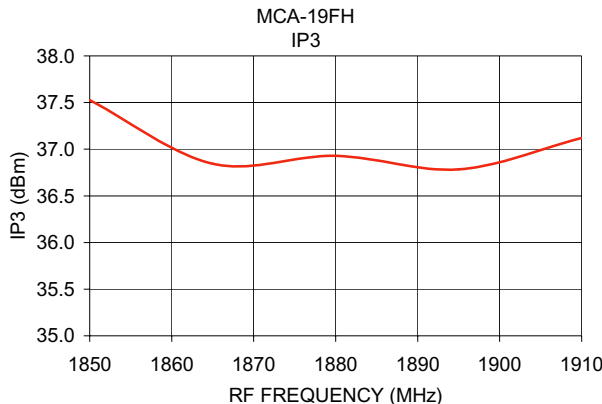
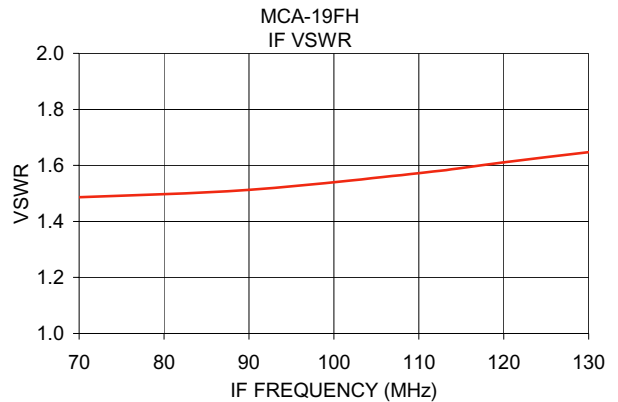
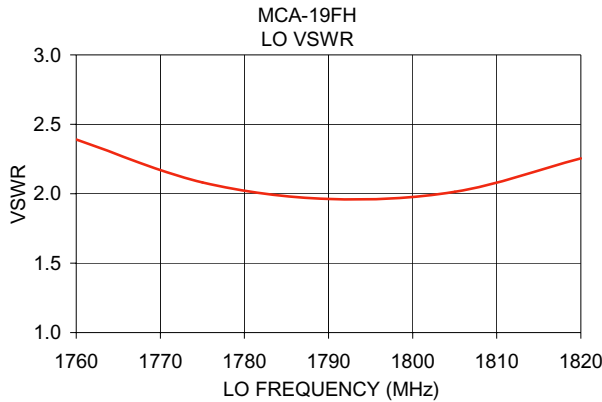
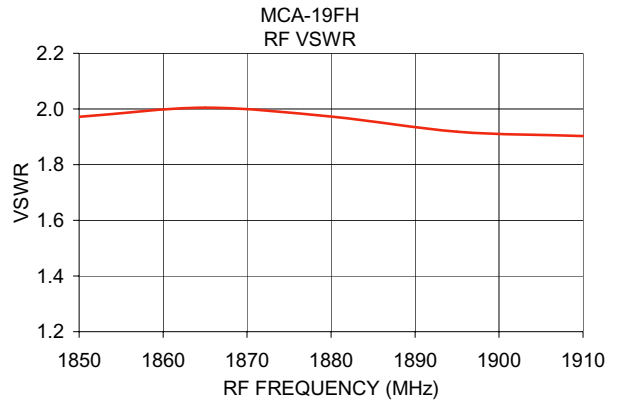
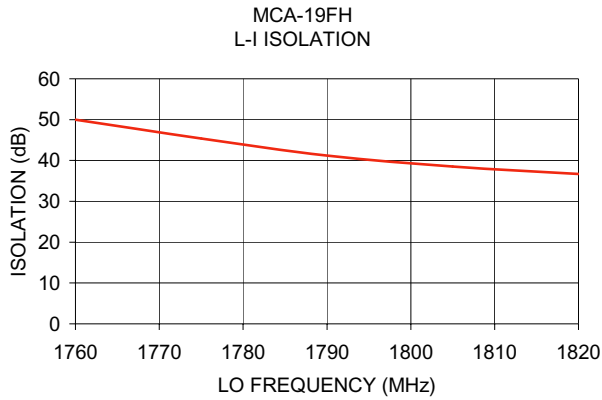
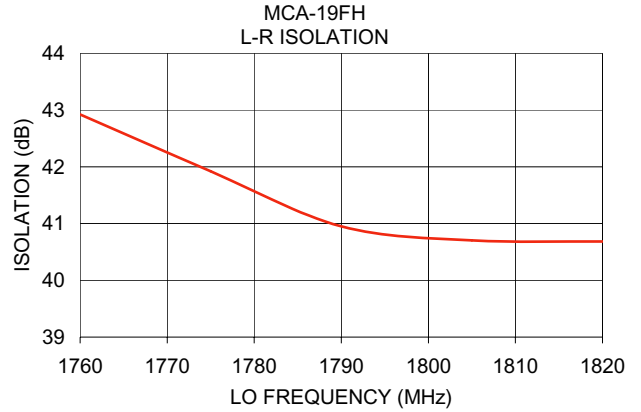
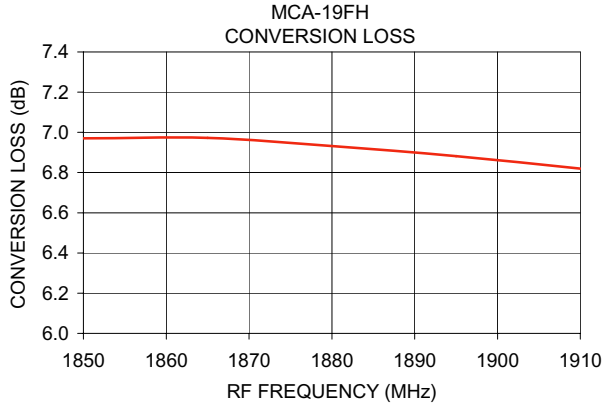
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RF/IF MICROWAVE COMPONENTS

REV. D  
M102713  
ED-9488A/2  
MCA-19FH  
DJ/TD/CP  
071206  
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# Performance Charts

# MCA-19FH+ MCA-19FH



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