

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.

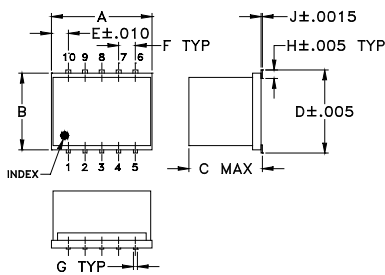
Maximum Ratings

| | |
|---|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| LO & RF Power | 20 dBm |
| Permanent damage may occur if any of these limits are exceeded. | |

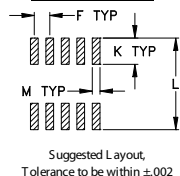
Pin Connections

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

Outline Drawing



PCB Land Pattern

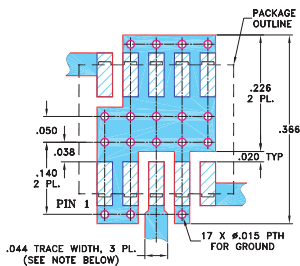


Suggested L layout,
Tolerance to be within ±0.02

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

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

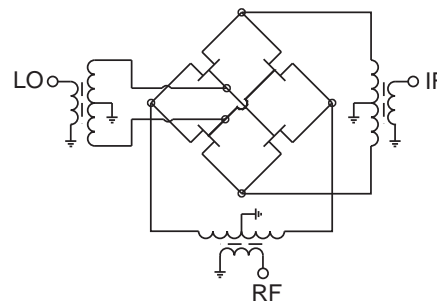
Electrical Specifications (T_{AMB}=-55°C to 100°C)

| 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. |
| 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 |

Electrical Schematic



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs
& shopping online see web site

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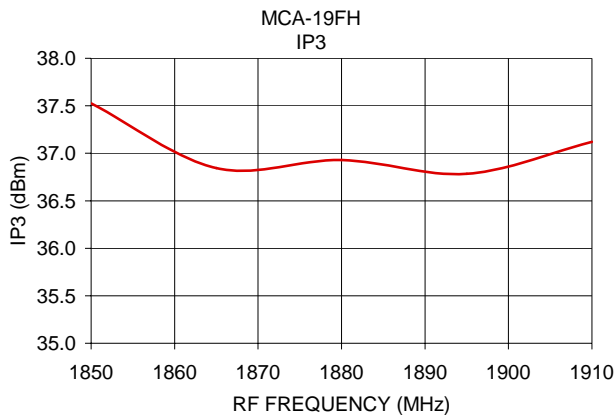
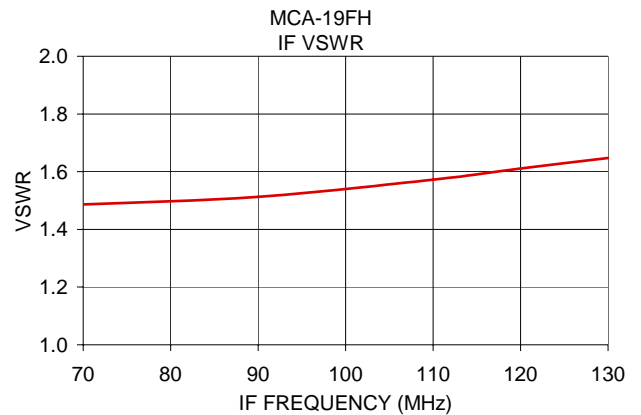
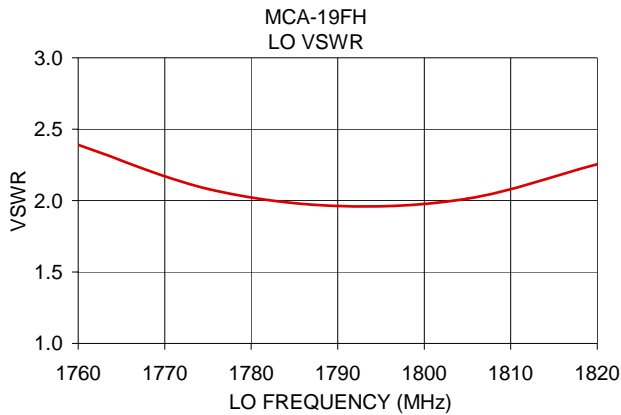
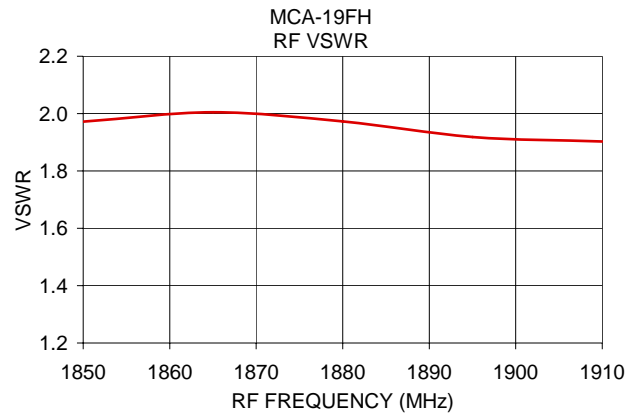
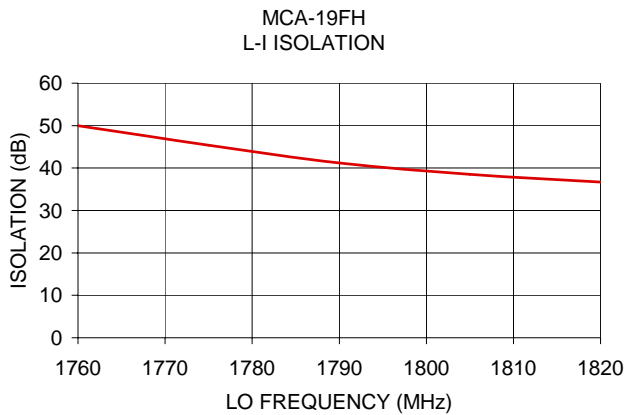
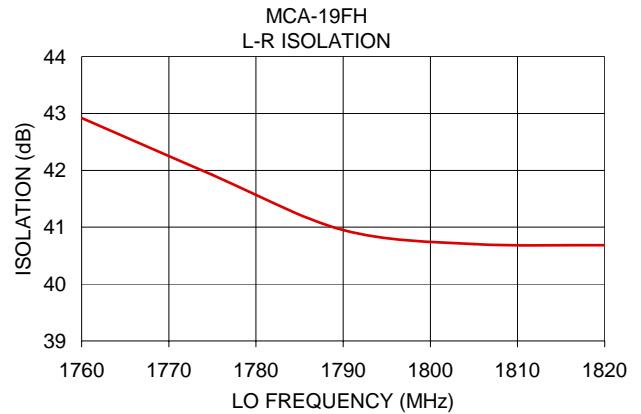
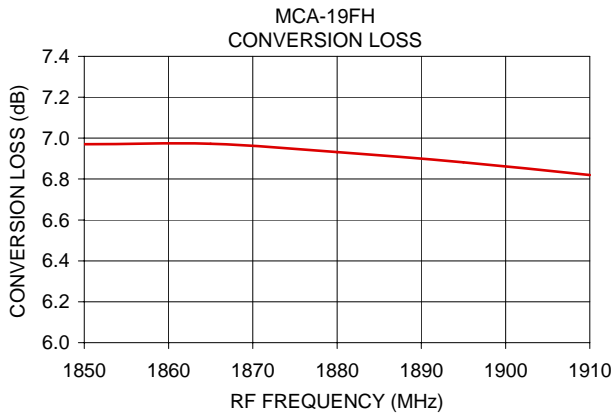
IF/RF MICROWAVE COMPONENTS

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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Performance Charts

MCA-19FH+ MCA-19FH



For detailed performance specs & shopping online see web site

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