

High IP3 Frequency Mixer

HJK-19H+ HJK-19H

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



Maximum Ratings

| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°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 | 2 |
| RF | 1 |
| IF | 3 |
| GROUND | 4,5,6 |

Features

- high IP3, 34 dBm typ.
- compression, 3 dB higher than LO power

Applications

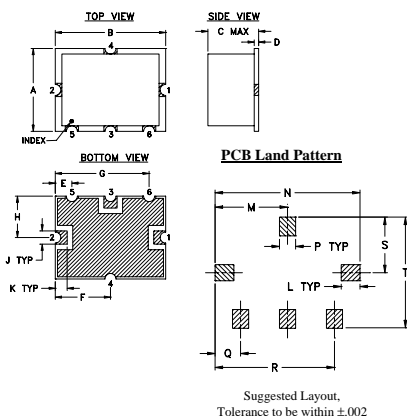
- base stations
- communication systems
- cellular

CASE STYLE: TTT167
PRICE: \$16.95 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.

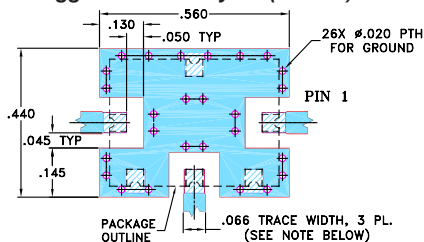
Outline Drawing



Outline Dimensions (inch mm)

| | | | | | | | | | | |
|------|-------|-------|------|------|-------|-------|-------|------|------|-------|
| A | B | C | D | E | F | G | H | J | K | |
| .38 | .50 | .23 | .020 | .075 | .250 | .425 | .187 | .050 | .050 | |
| 9.65 | 12.70 | 5.84 | 0.51 | 1.91 | 6.35 | 10.80 | 4.75 | 1.27 | 1.27 | |
| L | M | N | P | Q | R | S | T | | | wt. |
| .070 | .270 | .540 | .060 | .095 | .445 | .208 | .415 | | | grams |
| 1.78 | 6.86 | 13.72 | 1.52 | 2.41 | 11.30 | 5.28 | 10.54 | | | 0.8 |

Demo Board MCL P/N: TB-12 Suggested PCB Layout (PL-079)



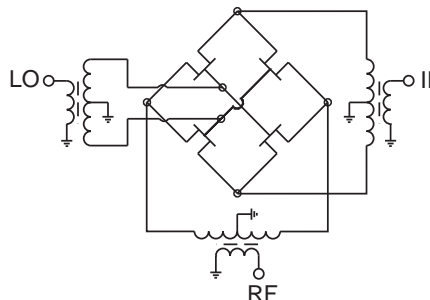
Electrical Specifications

| FREQUENCY (MHz) | | | CONVERSION LOSS (dB) | | | RF in at 1dB Compr (dBm) | IP3 (dBm) | LO-RF ISOLATION (dB) | | LO-IF ISOLATION (dB) | |
|-----------------|-----------|--------|----------------------|-----|------|--------------------------|-----------|----------------------|------|----------------------|------|
| RF | LO | IF | Typ. | σ | Max. | Typ. | Typ. | Typ. | Min. | Typ. | Min. |
| 1850-1910 | 1780-1840 | 70-130 | 8.0 | 0.2 | 8.9 | +20 | 32 | 26 | 20 | 29 | 20 |

Typical Performance Data

| Frequency | | Conversion Loss (dB) | Isolation L-R (dB) | Isolation L-I (dB) | VSWR RF Port (:1) | VSWR LO Port (:1) | IP3 (dBm) |
|-----------|---------|----------------------|--------------------|--------------------|-------------------|-------------------|-----------|
| RF MHz | LO MHz | LO +17dBm | LO +17dBm | LO +17dBm | LO +17dBm | LO +17dBm | LO +17dBm |
| 1850.10 | 1780.00 | 7.88 | 27.59 | 30.60 | 2.19 | 1.88 | 32.40 |
| 1854.10 | 1784.00 | 7.89 | 27.43 | 30.45 | 2.18 | 1.87 | 32.40 |
| 1858.10 | 1788.00 | 7.89 | 27.27 | 30.28 | 2.17 | 1.88 | 32.47 |
| 1862.10 | 1792.00 | 7.90 | 27.11 | 30.13 | 2.17 | 1.89 | 32.49 |
| 1866.10 | 1796.00 | 7.90 | 26.95 | 29.98 | 2.17 | 1.91 | 32.47 |
| 1870.10 | 1800.00 | 7.90 | 26.81 | 29.86 | 2.16 | 1.92 | 32.84 |
| 1874.10 | 1804.00 | 7.90 | 26.68 | 29.72 | 2.16 | 1.93 | 32.80 |
| 1878.10 | 1808.00 | 7.91 | 26.59 | 29.65 | 2.16 | 1.94 | 33.01 |
| 1882.10 | 1812.00 | 7.91 | 26.51 | 29.58 | 2.15 | 1.95 | 33.23 |
| 1886.10 | 1816.00 | 7.92 | 26.45 | 29.52 | 2.16 | 1.95 | 33.25 |
| 1890.10 | 1820.00 | 7.93 | 26.39 | 29.46 | 2.15 | 1.94 | 33.44 |
| 1894.10 | 1824.00 | 7.95 | 26.35 | 29.43 | 2.14 | 1.94 | 33.70 |
| 1898.10 | 1828.00 | 7.98 | 26.31 | 29.40 | 2.15 | 1.92 | 33.58 |
| 1902.00 | 1832.00 | 7.99 | 26.28 | 29.40 | 2.14 | 1.90 | 33.59 |
| 1906.00 | 1836.00 | 8.01 | 26.22 | 29.34 | 2.14 | 1.89 | 33.56 |
| 1910.00 | 1840.00 | 8.01 | 26.16 | 29.29 | 2.13 | 1.87 | 33.55 |

Electrical Schematic



Mini-Circuits®
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

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-Circuit's 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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