

# Frequency Mixer

Level 10 (LO Power +10 dBm) 818 to 853 MHz

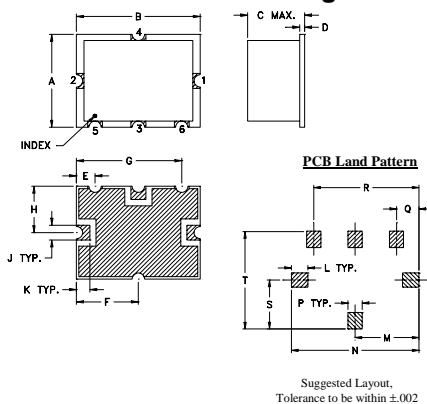
## Maximum Ratings

|                       |                |
|-----------------------|----------------|
| Operating Temperature | -20°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| LO & RF Power         | 16 dBm         |

## Pin Connections

|        |       |
|--------|-------|
| LO     | 2     |
| RF     | 1     |
| IF     | 3     |
| GROUND | 4,5,6 |

## Outline Drawing



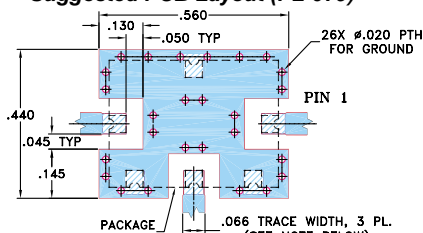
## Outline Dimensions (inch)

| A    | B     | C    | D    | E    | F    | G     | H    | J    |
|------|-------|------|------|------|------|-------|------|------|
| .375 | .500  | .23  | .020 | .075 | .250 | .425  | .187 | .050 |
| 9.53 | 12.70 | 5.84 | 0.51 | 1.91 | 6.35 | 10.80 | 4.75 | 1.27 |

| K    | L    | M    | N     | P    | Q    | R     | S    | T     | wt.   |
|------|------|------|-------|------|------|-------|------|-------|-------|
| .050 | .070 | .270 | .540  | .060 | .095 | .445  | .208 | .415  | grams |
| 1.27 | 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)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002", COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. GROUND PAD SHALL BE FREE OF SOLDER MASK IF REQUIRED FOR SOLDERING.  
3. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.  
■ DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER), SEE NOTE 2.  
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

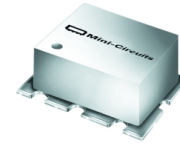
## Features

- high IP3, 27 dBm typ.
- compression, 3 dB higher than LO power

## Applications

- base stations
- communication systems
- PCS

# HJK-9LH+ HJK-9LH



CASE STYLE: TTT167  
PRICE: \$12.95 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.

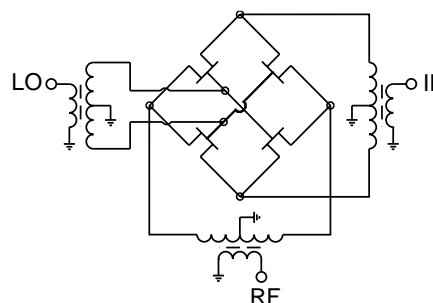
## Electrical Specifications

| 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. |
| 818-853         | 753-778 | 40-100 | 6.7                  | 0.2 | 8.0  | +13                      | 27        | 37                   | 24   | 27                   | 20   |

## Typical Performance Data

| Frequency |        | Conversion Loss (dB) | Isolation L-R | Isolation L-I | VSWR RF Port | VSWR LO Port | IP3 (dBm) |
|-----------|--------|----------------------|---------------|---------------|--------------|--------------|-----------|
| RF MHz    | LO MHz | LO +10dBm            | LO +10dBm     | LO +10dBm     | LO +10dBm    | LO +10dBm    | LO +10dBm |
| 818.00    | 753.00 | 6.72                 | 36.24         | 32.11         | 1.77         | 1.46         | 28.61     |
| 821.50    | 755.50 | 6.75                 | 36.20         | 31.99         | 1.76         | 1.46         | 27.11     |
| 825.00    | 758.00 | 6.78                 | 36.14         | 31.88         | 1.77         | 1.47         | 28.58     |
| 828.50    | 760.50 | 6.80                 | 36.12         | 31.76         | 1.77         | 1.48         | 29.06     |
| 832.00    | 763.00 | 6.82                 | 36.06         | 31.67         | 1.77         | 1.50         | 27.54     |
| 835.50    | 765.50 | 6.83                 | 36.05         | 31.60         | 1.77         | 1.53         | 28.34     |
| 839.00    | 768.00 | 6.80                 | 36.04         | 31.51         | 1.77         | 1.56         | 27.07     |
| 842.50    | 770.50 | 6.81                 | 36.05         | 31.48         | 1.77         | 1.59         | 26.83     |
| 846.00    | 773.00 | 6.77                 | 36.05         | 31.38         | 1.77         | 1.63         | 28.96     |
| 849.50    | 775.50 | 6.77                 | 36.07         | 31.35         | 1.78         | 1.67         | 26.98     |
| 853.00    | 778.00 | 6.74                 | 36.03         | 31.31         | 1.77         | 1.71         | 26.72     |

## electrical schematic



# Performance Charts

## HJK-9LH+ HJK-9LH

