

Plug-In

Frequency Mixer

Level 7 (LO Power +7 dBm) 1 to 1000 MHz

TFM-2+



CASE STYLE: B02
PRICE: \$17.20 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.

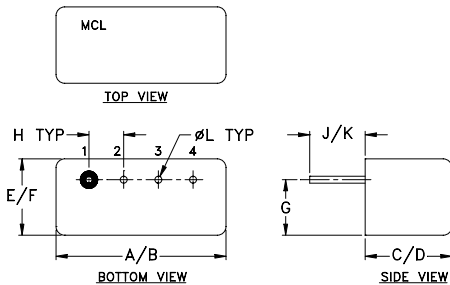
Maximum Ratings

| | |
|---|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 50mW |
| IF Current | 40mA |
| Permanent damage may occur if any of these limits are exceeded. | |

Pin Connections

| | |
|-------------|---|
| LO | 4 |
| RF | 1 |
| IF | 2 |
| GROUND | 3 |
| CASE GROUND | 3 |

Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F |
|-------|-------|------|------|------|-------|
| .480 | .500 | .240 | .255 | .210 | .230 |
| 12.19 | 12.70 | 6.10 | 6.48 | 5.33 | 5.84 |
| G | H | J | K | L | wt |
| .16 | .100 | .14 | .20 | .020 | grams |
| 4.06 | 2.54 | 3.56 | 5.08 | 0.51 | 1.9 |

Features

- low conversion loss, 5.74 dB typ.
- wideband, 1 to 1000 MHz
- good L-R isolation, 40 db typ.
- rugged welded construction
- hermetically sealed

Applications

- VHF/UHF
- aviation
- cellular
- ISM/GSM

Electrical Specifications

| FREQUENCY (MHz) | | CONVERSION LOSS (dB) | | | | LO-RF ISOLATION (dB) | | | | | | LO-IF ISOLATION (dB) | | | | | |
|--------------------|---------------|----------------------|----------|------------------------|------|----------------------|------|------|------|------|------|----------------------|------|------|------|----|----|
| LO/RF f_L-f_U | IF DC-1000 | Mid-Band m | | Total Range Max. | Typ. | L | | M | | U | | L | | M | | U | |
| | | \bar{X} | σ | | | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Min. | Typ. | Min. | | |
| 1-1000 | DC-1000 | 5.74 | 0.07 | 7.5 | 8.5 | 50 | 45 | 40 | 25 | 30 | 25 | 45 | 40 | 35 | 25 | 25 | 18 |

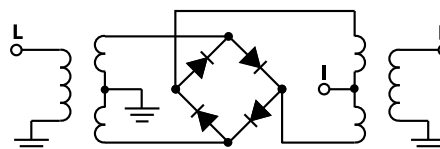
1 dB COMP.: +1 dBm typ.

L = low range [f_L to $10 f_L$]
m = mid band [$2f_L$ to $f_U/2$]
M = mid range [$10 f_L$ to $f_U/2$]
U = upper range [$f_U/2$ to f_U]

Typical Performance Data

| Frequency (MHz) | | Conversion Loss (dB) | Isolation L-R (dB) | Isolation L-I (dB) | VSWR RF Port (:1) | VSWR LO Port (:1) |
|-----------------|--------|----------------------|--------------------|--------------------|-------------------|-------------------|
| RF | LO | LO +7dBm | LO +7dBm | LO +7dBm | LO +7dBm | LO +7dBm |
| 1.00 | 31.00 | 7.23 | >67.00 | >67.00 | 1.30 | 2.70 |
| 2.00 | 32.00 | 6.50 | >67.00 | >67.00 | 1.15 | 2.63 |
| 5.00 | 35.00 | 5.80 | >67.00 | >67.00 | 1.07 | 2.77 |
| 10.00 | 40.00 | 5.62 | >67.00 | >67.00 | 1.06 | 2.55 |
| 20.00 | 50.00 | 5.68 | >67.00 | >67.00 | 1.07 | 2.41 |
| 50.00 | 80.00 | 5.58 | 61.94 | 63.74 | 1.09 | 2.37 |
| 100.00 | 70.00 | 5.53 | 54.33 | 54.76 | 1.11 | 2.29 |
| 167.34 | 137.34 | 5.57 | 48.65 | 47.61 | 1.16 | 2.20 |
| 233.87 | 203.87 | 5.72 | 45.10 | 43.03 | 1.18 | 2.16 |
| 300.40 | 270.40 | 5.45 | 42.56 | 40.00 | 1.20 | 2.13 |
| 366.94 | 336.94 | 5.73 | 40.45 | 37.57 | 1.22 | 2.06 |
| 466.74 | 436.74 | 5.82 | 38.33 | 34.32 | 1.23 | 2.13 |
| 500.00 | 470.00 | 5.72 | 38.80 | 34.10 | 1.26 | 2.09 |
| 599.81 | 569.81 | 6.02 | 37.43 | 32.81 | 1.29 | 2.09 |
| 666.34 | 636.34 | 6.11 | 37.94 | 31.57 | 1.24 | 2.04 |
| 799.41 | 769.41 | 6.27 | 36.06 | 29.67 | 1.40 | 2.13 |
| 832.68 | 802.68 | 6.46 | 35.22 | 28.79 | 1.47 | 2.19 |
| 899.21 | 869.21 | 7.00 | 33.77 | 26.14 | 1.55 | 2.24 |
| 932.48 | 902.48 | 7.37 | 33.17 | 25.03 | 1.66 | 2.28 |
| 1000.00 | 969.00 | 7.63 | 32.49 | 23.59 | 1.72 | 2.30 |

Electrical Schematic



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

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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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Page 1 of 2

