# Broadband Frequency Doubler, <br> 150-3000 MHz Output 

## Features

Hermetic Flatpack
Multioctave Frequency Coverage
Conversion Loss: 10 dB Midband
Impedance: 50 Ohms Nominal
Maximum Input Power: 300 mW Max.
MIL-STD-202 Screening Available

## Description

A transmission line balun transformer connects to Schottky diodes arranged in a bridge configuration. This design allows balanced activation of all diodes, and yields excellent conversion loss, and odd-order term suppression.

## Pin Configuration

| Pin No. | Function | Pin No. | Function |
| :---: | :---: | :---: | :---: |
| 1 | GND | 6 | GND |
| 2 | GND | 7 | GND |
| 3 | Input | 8 | Output |
| 4 | GND | 9 | GND |
| 5 | GND | 10 | GND |

FP-3


Dimensions in () are in mit
Unless Otherwise Noted: $X X X= \pm 0.010(X X= \pm 0.25)$ WEIGHT (APPROX): 0.12 OUNCES 3.4 GRAVS

## Electrical Specifications ${ }^{1}$ : $\mathrm{T}_{\mathrm{A}}=-55^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$

| Parameter | Test Conditions | Frequency | Units | Min | Typ | Max |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Frequency Range | Input <br> Output | $75-1500$ <br> $150-3000$ | MHz | - | - | - |
| Conversion Loss |  | MHz | - | - | - |  |
| Spurious (Referred to <br> Output $\mathrm{F}_{2}$ Level) | $\mathrm{F}_{1}$ | $75-1000 \mathrm{MHz}$ | dB | - | - | 12 |
|  |  | $\mathrm{~F}_{3}$ | $7500-1500 \mathrm{MHz}$ | dB | - | - |
| 14 |  |  |  |  |  |  |
| VSWR | Input | $1000-1500 \mathrm{MHz}$ | dB | 20 | - | - |
| $225-3000 \mathrm{MHz}$ | dB | 17 | - | - |  |  |
| Conversion Loss as |  |  |  |  |  |  |
| Quadrupler |  | - | - | $2000-4500 \mathrm{MHz}$ | dB | 17 |

1. All specifications apply when operated at +13 dBm input power with 50 ohm source and load impedance.

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.
PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

- North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400
- India Tel: +91.80.43537383
- China Tel: +86.21.2407.1588

Visit ww.macomtech.com for additional data sheets and product information.

## Broadband Frequency Doubler,

## Typical Performance Curves

## Conversion Loss



Spurious Response


Spurious Response


## Conversion Loss vs. Input Power



Spurious Response


## Ordering Information

| Part Number | Package |
| :---: | :---: |
| FM-104 PIN | FP-3 |

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.
PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

- North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400
- India Tel: +91.80.43537383 - China Tel: +86.21.2407.1588 Visit ww.macomtech.com for additional data sheets and product information.

