

Broadband Frequency Doubler, 150 - 3000 MHz Output

Rev. V3

Features

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

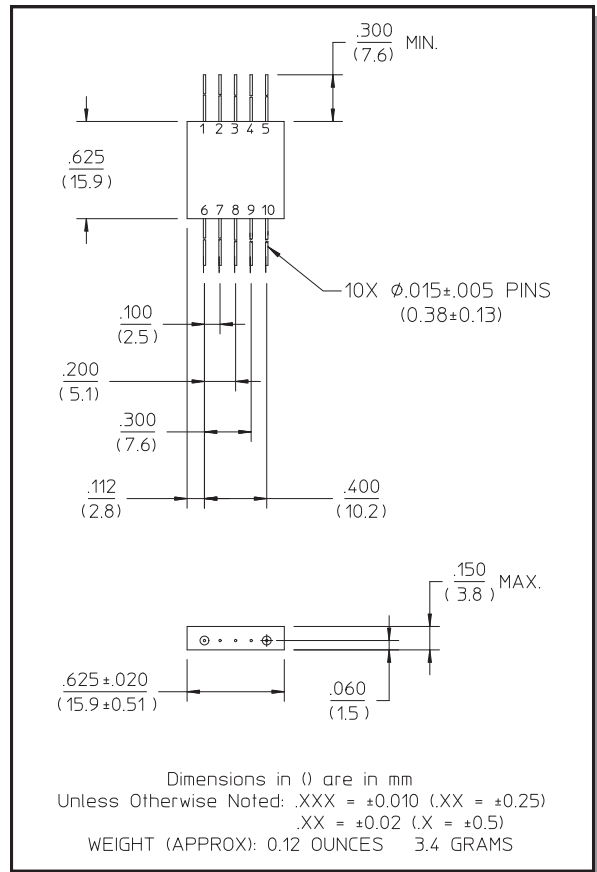
Description

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



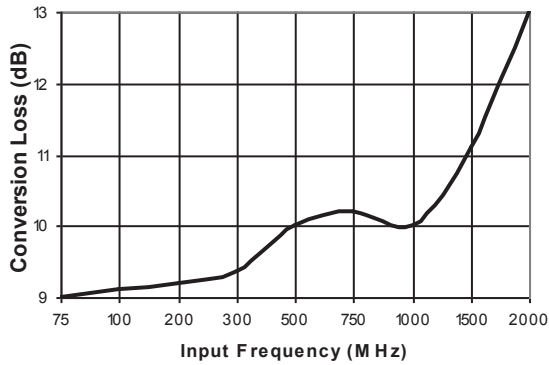
Electrical Specifications¹: $T_A = -55^\circ\text{C}$ to $+85^\circ\text{C}$

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Frequency Range	Input Output	75 - 1500	MHz	—	—	—
		150 - 3000	MHz	—	—	—
Conversion Loss		75 - 1000 MHz	dB	—	—	12
		1000 - 1500 MHz	dB	—	—	14
Spurious (Referred to Output F_2 Level)	F_1	75 - 1000 MHz	dB	20	—	—
		1000 - 1500 MHz	dB	17	—	—
		225 - 3000 MHz	dB	20	—	—
		3000 - 4500 MHz	dB	17	—	—
VSWR	Input	—	Ratio	—	<2.5:1	—
Conversion Loss as Quadrupler	—	—	dB	—	26	—

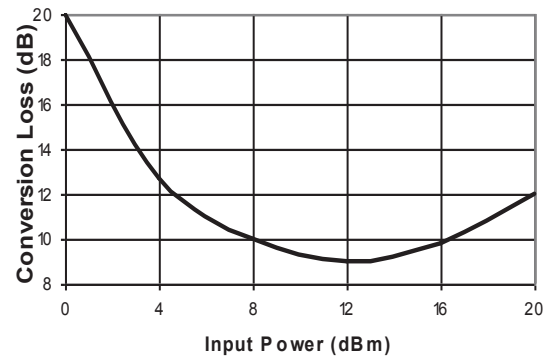
1. All specifications apply when operated at +13 dBm input power with 50 ohm source and load impedance.

Typical Performance Curves

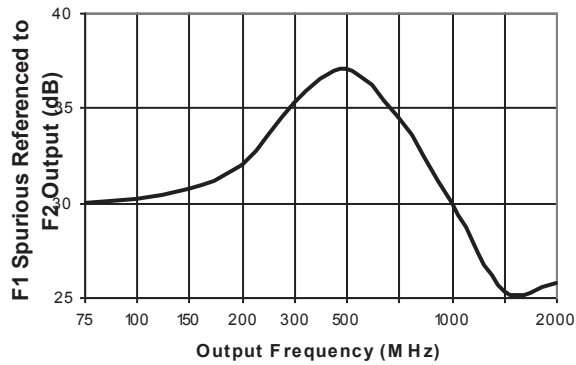
Conversion Loss



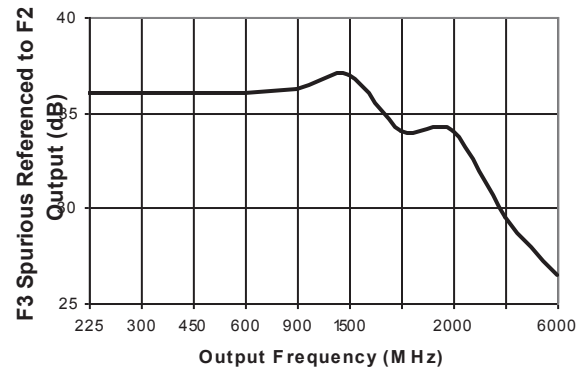
Conversion Loss vs. Input Power



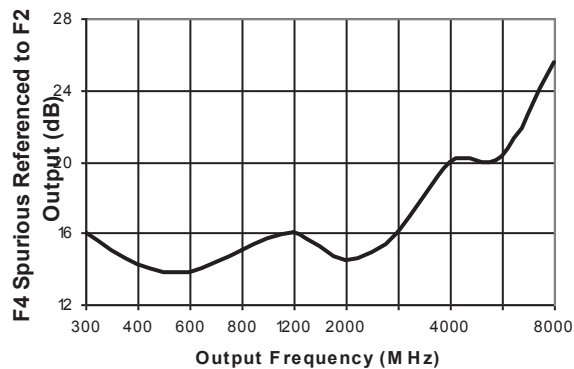
Spurious Response



Spurious Response



Spurious Response



Ordering Information

Part Number	Package
FM-104 PIN	FP-3

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