

Broadband Frequency Doubler, 400 - 6000 MHz Output

FM-106

Features

- Hermetic Flatpack
- Multi-octave Operation
- Conversion Loss: 11 dB Midband
- Impedance: 50 Ohms Nominal
- Maximum Input Power: 300 mW Max.
- MIL-STD-202 Screening Available

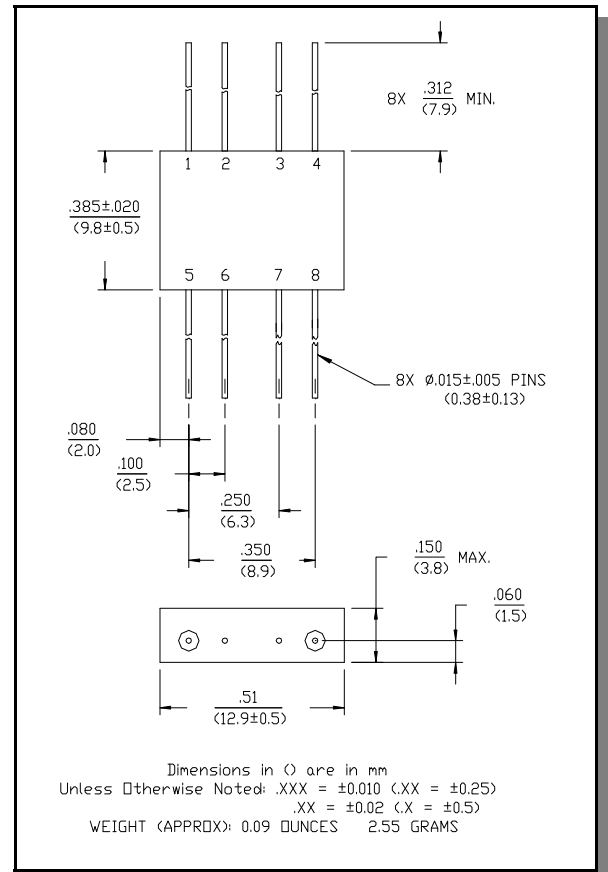
Description

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	5	GND
2	GND	6	GND
3	GND	7	GND
4	Input	8	Output

FP-2



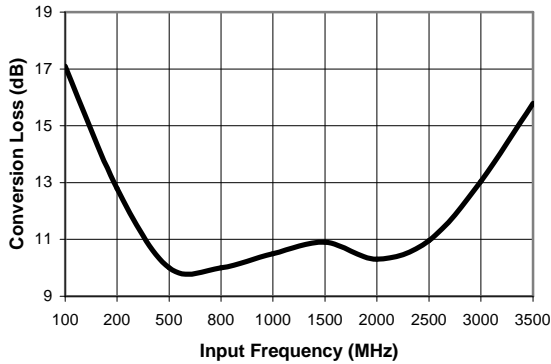
Electrical Specifications¹: $T_A = -55^\circ\text{C}$ to $+85^\circ\text{C}$

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max	
Frequency Range	Input	200 - 3000	MHz	—	—	—	
	Output	400 - 6000	MHz	—	—	—	
Conversion Loss		200 - 400 MHz	dB	—	—	14.5	
		400 - 2500 MHz	dB	—	—	13.0	
		2500 - 3000 MHz	dB	—	—	15.5	
Spurious (Referred to Output F_2 Level)	F_1	200 - 500 MHz	dB	20	—	—	
		500 - 3000 MHz	dB	15	—	—	
		F_3	600 - 2400 MHz	dB	25	—	—
			2400 - 9000 MHz	dB	20	—	—
VSWR	Input	200 - 500 MHz	Ratio	—	<3.0:1	—	
		500 - 3000 MHz	Ratio	—	<2.0:1	—	
Conversion Loss as Quadrupler	—	—	dB	—	30	—	

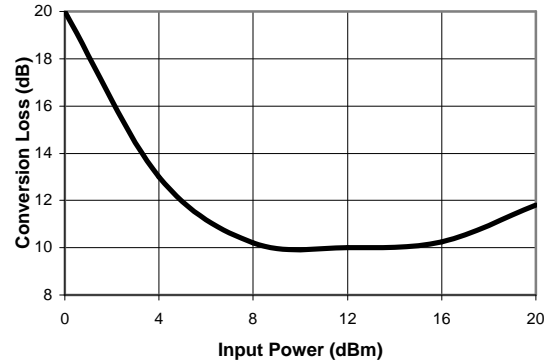
1. All specifications apply when operated at +13 dBm input power with 50 ohm source and load impedance.

Typical Performance Curves

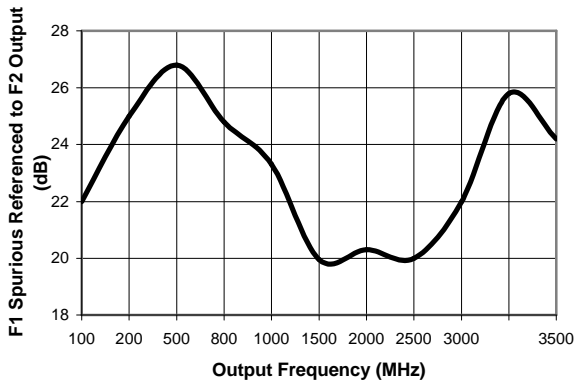
Conversion Loss



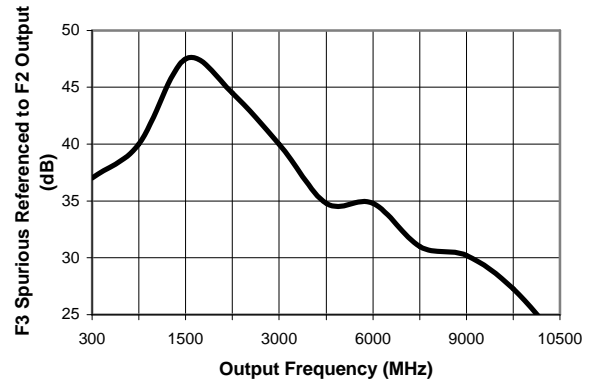
Conversion Loss vs. Input Power



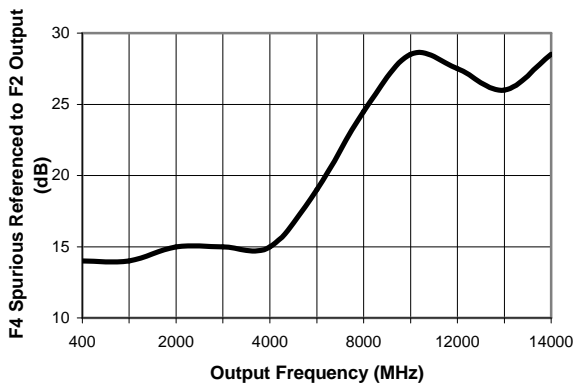
Spurious Response



Spurious Response



Spurious Response



Ordering Information

Part Number	Package
FM-106 PIN	FP-2

Specifications subject to change without notice.

- North America: Tel. (800) 366-2266
- Asia/Pacific: Tel.+81-44-844-8296, Fax +81-44-844-8298
- Europe: Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020

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