

Plug-In Frequency Doubler, 20 - 1500 MHz Output

Rev. V3

Features

- n Relay Header Case
- n Multioctave Frequency Coverage
- n Conversion Loss: 12 dB Midband
- n Impedance: 50 Ohms Nominal
- n Maximum Input Power: 300 mW Max.
- n MIL-STD-883 Screening Available

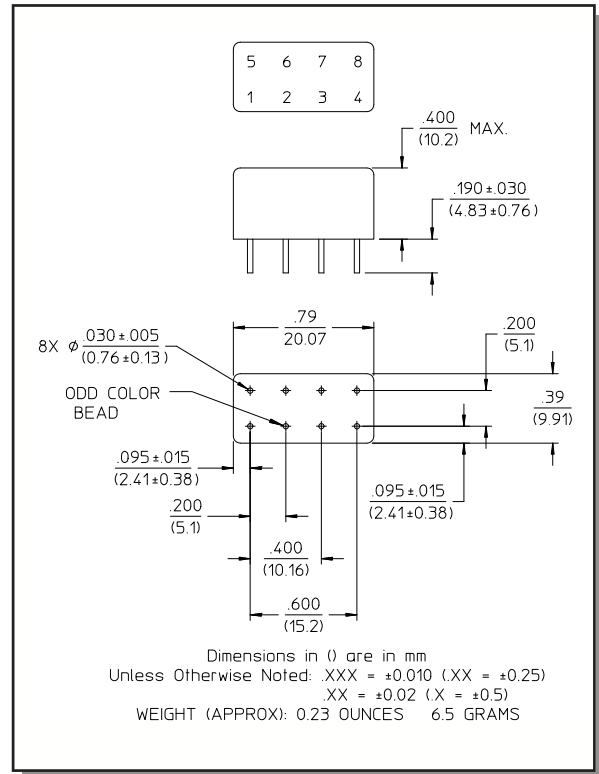
Description

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

RH-3



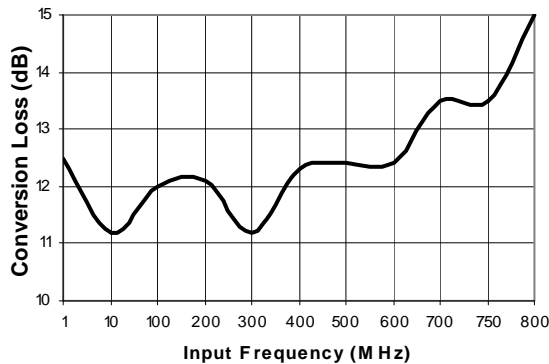
Electrical Specifications¹: T_A = -55°C to +85°C

Parameter	Test Conditions	Frequency	Units	Min	Typ	Max
Frequency Range	Input Output	10 - 750 20 - 1500	MHz MHz	— —	— —	— —
Conversion Loss		10 - 500 MHz 500 - 750 MHz	dB dB	— —	— —	14.5 15.5
Spurious (Referred to Output F ₂ Level)	F ₁	10 - 100 MHz	dB	25	—	—
		100 - 300 MHz	dB	20	—	—
		300 - 500 MHz	dB	15	—	—
		500 - 750 MHz	dB	10	—	—
	F ₃	30 - 300 MHz	dB	35	—	—
		300 - 900 MHz	dB	30	—	—
		900 - 1500 MHz	dB	25	—	—
		1500 - 2250 MHz	dB+	20	—	—
VSWR	Input	—	Ratio	—	<2.0:1	—
Conversion Loss as Quadrupler	—	—	dB	—	30	—

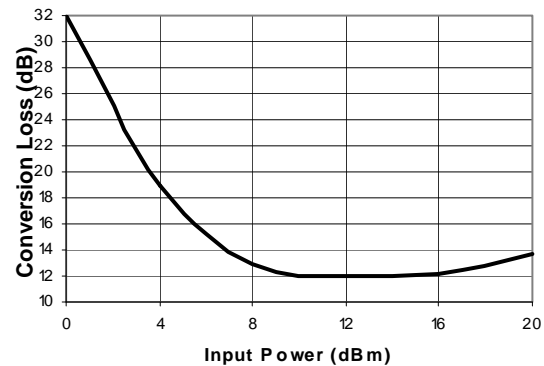
1. All specifications apply when operated at +13 dBm input power with 50 ohm source and load impedance.

Typical Performance Curves

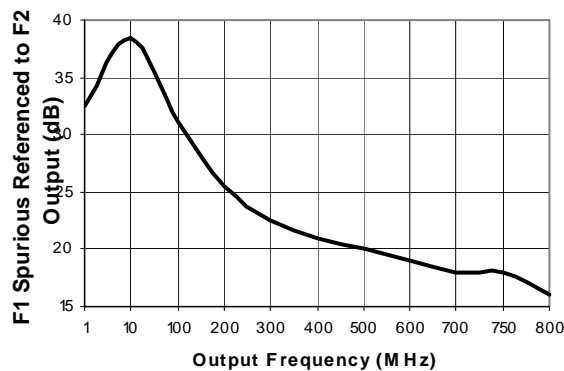
Conversion Loss



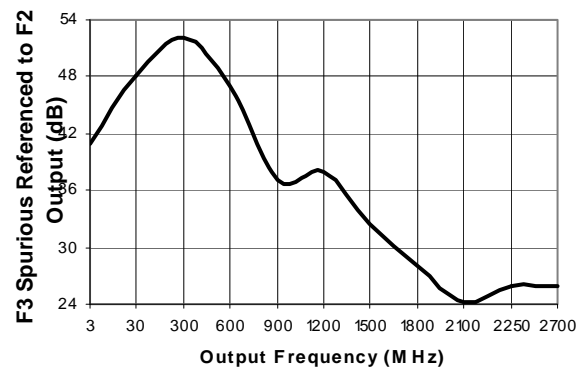
Conversion Loss vs. Input Power



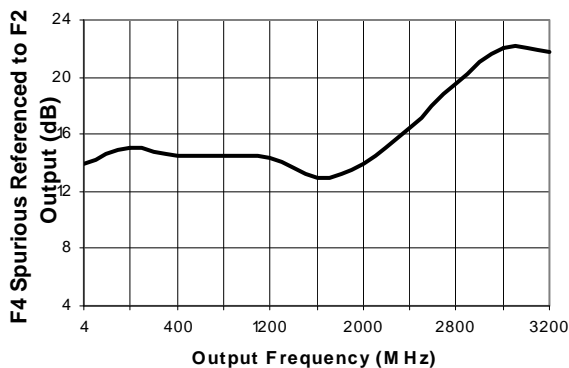
Spurious Response



Spurious Response



Spurious Response



Ordering Information

Part Number	Package
FM-105 PIN	RH-3