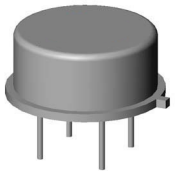
FD25H / FD25HC / SFD25H

Frequency Doubler

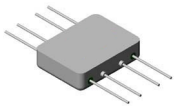
Rev. V4

Features

- Input 5 - 2400 MHz
- Output 10 - 4800 MHz
- Input Drive Level = 23 dBm (nominal)
- Hermetically-Sealed Package

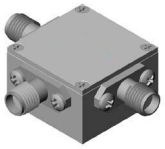


TO-8



Flatpack

Surface Mount



SMA Connectorized

Description

The FD25H is a passive bridge diode frequency doubler, designed for use in the high volume commercial and test equipment applications. The design utilizes Schottky bridge quad diodes and broadband baluns to attain excellent performance. The use of high temperature solder and welded assembly processes used internally makes it ideal for use in semi-automated and automated assembly. Environmental screening available to MIL-STD-883, MIL-STD-202, or MIL-DTL-28837, consult factory.

Electrical Specifications: Z_0 = 50 Ω, P_{IN} = 23 dBm

Parameter	Test Conditions Input Frequency (MHz)	Units	Typical	Guaranteed	
			+25ºC	+25ºC	-54ºC - +85ºC[1]
SSB Conversion Loss (max.)	5 - 2400	dB	12.0	13.5	13.8
Fundamental Suppression (min.)	5 - 1000 1000 - 2000 2000 - 2400	dBc	35 25 20	25 20 16	24 19 15
Third Harmonic Suppression	5 - 500 500 - 2400	dBc	40 35	30 25	29 24
Input VSWR	5 - 2400	ratio	1.5:1	—	—

1. The FD25HC specification limits apply at 0ºC to +50ºC.

Ordering Information

Part Number	Package
FD25H	TO-8
FD25HC	SMA Connectorized
SFD25H	Surface Mount
MAUC-010499-SFD25H	Surface Mount Screened

Absolute Maximum Ratings

Parameter	Absolute Maximum
Peak Input Power	27.6 dBm @ +25ºC 25.0 dBm @ +100ºC
Peak Input Current	50 mA DC
Operating Temperature	-54ºC to +100ºC
Storage Temperature	-65ºC to +100ºC

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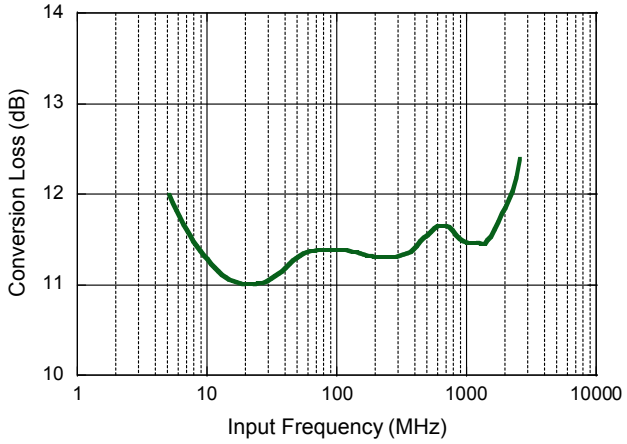
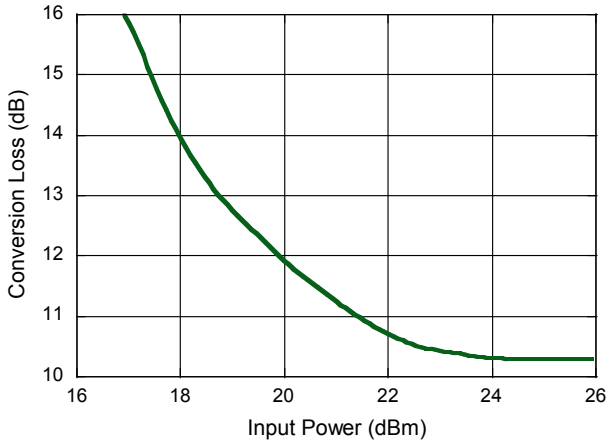
Typical Performance Curves

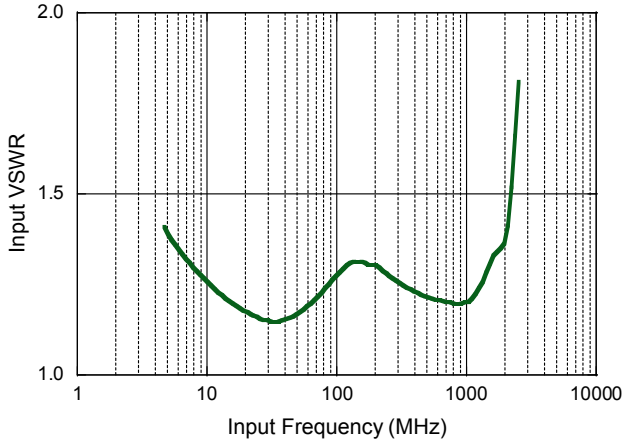
Conversion Loss vs. Input Frequency (P_{IN} = 23 dBm)



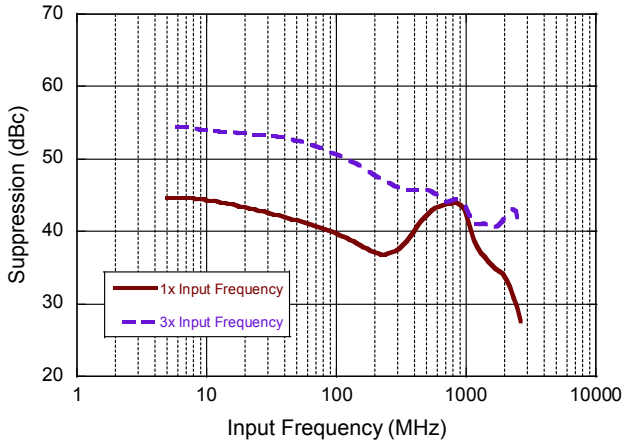
Conversion Loss vs. Input Power



Input VSWR vs. Input Frequency (P_{IN} = 23 dBm)



Suppression vs. Input Frequency



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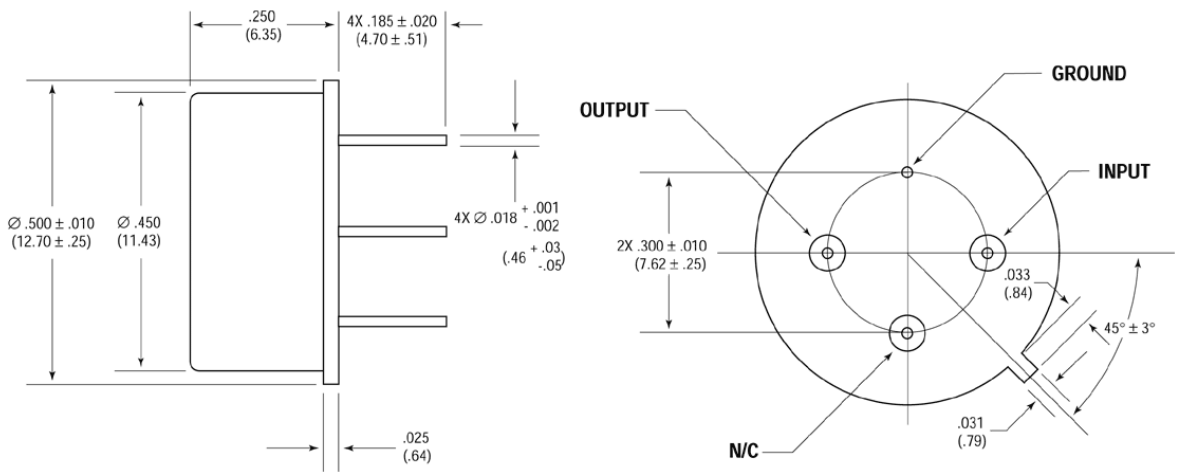
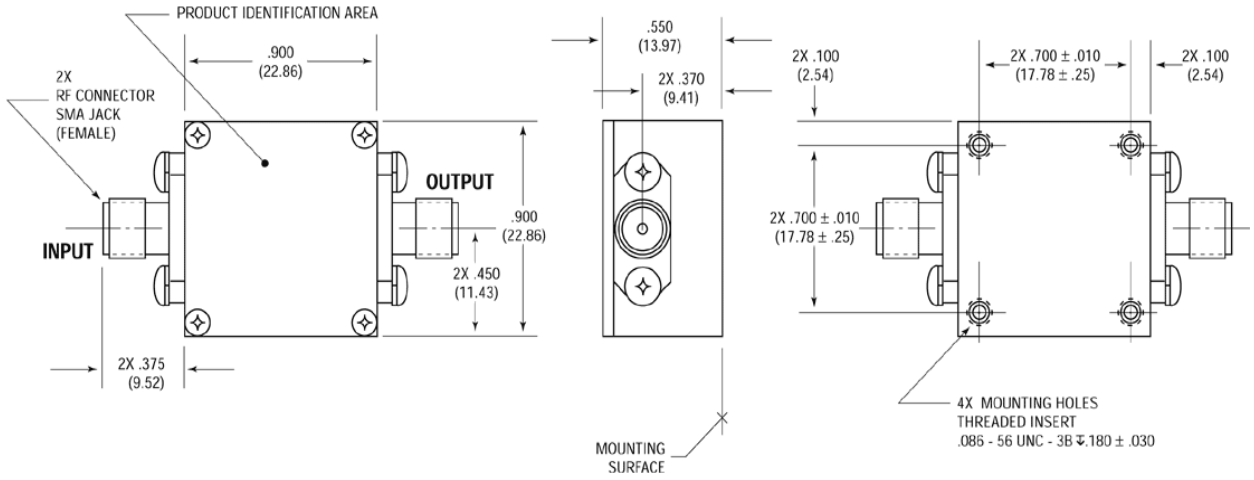
Outline Drawing*: TO-8



Weight: 2 grams (0.07 oz.) max.

Outline Drawing*: SMA Connectorized



Weight: 21 grams (0.74 oz.) max.

∗ Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.

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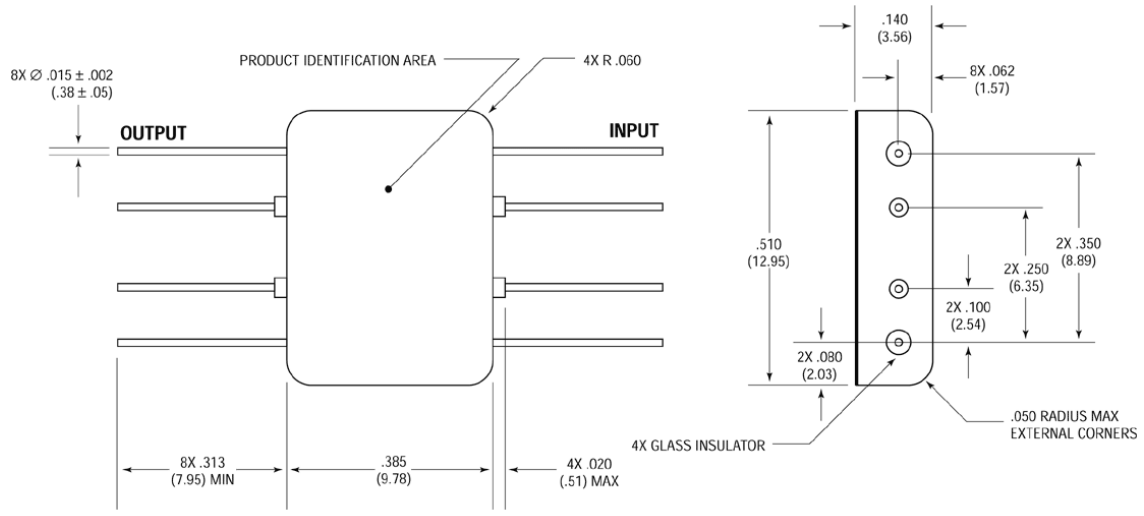
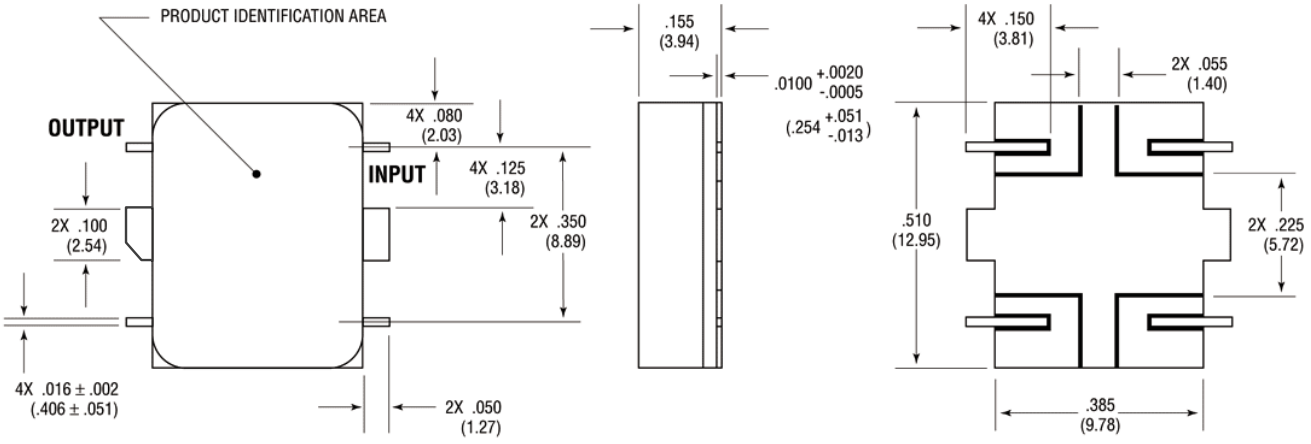
Outline Drawing*: Flatpack



Weight: 1 gram (0.04 oz.) max.

Outline Drawing*: Surface Mount



Weight: 2 grams (0.07 oz.) max.

∗ Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.

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