

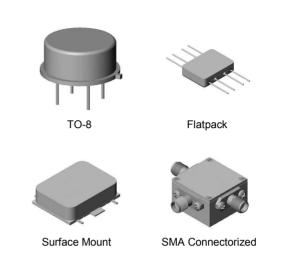
#### **Frequency Doubler**

#### Features

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

#### 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: $Z_0 = 50 \Omega$ , $P_{IN} = 23 \text{ dBm}$

Parameter	Test Conditions Input Frequency (MHz)	Units	Typical	Guaranteed	
			+25°C	+25°C	-54°C - +85°C <sup>1</sup>
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 0°C to +50°C.

#### **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 @ +25⁰C 25.0 dBm @ +100⁰C		
Peak Input Current	50 mA DC		
Operating Temperature	-54°C to +100°C		
Storage Temperature	-65°C to +100°C		

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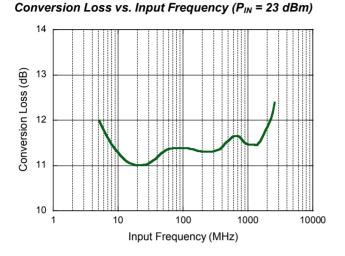




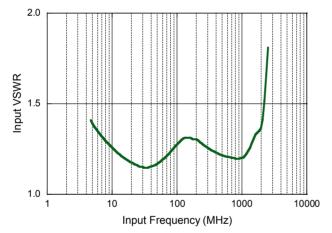
## **Frequency Doubler**

Rev. V4

#### **Typical Performance Curves**

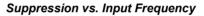


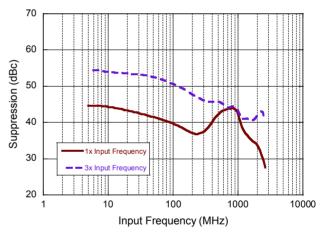
Input VSWR vs. Input Frequency (P<sub>IN</sub> = 23 dBm)



16 15 14 13 12 14 13 12 14 10 16 18 20 22 24 26 Input Power (dBm)

#### Conversion Loss vs. Input Power



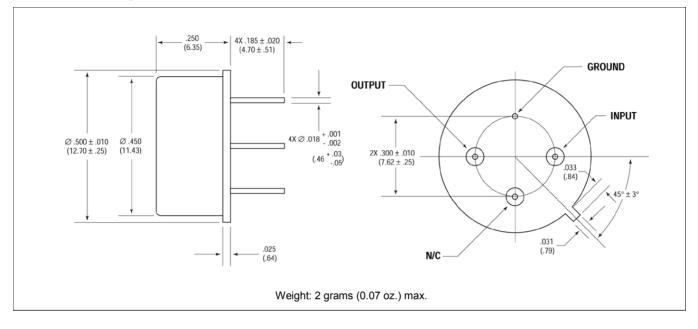




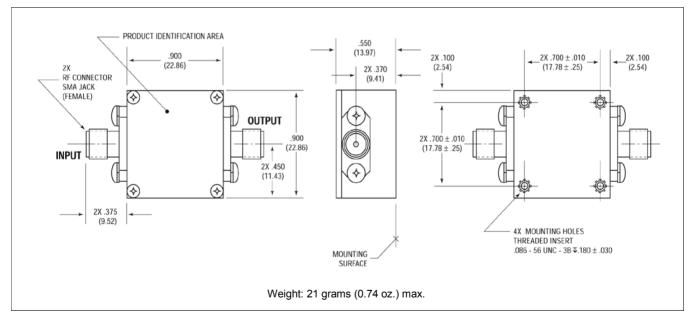
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#### **Outline Drawing\*: TO-8**



## **Outline Drawing\*: SMA Connectorized**



- \* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.
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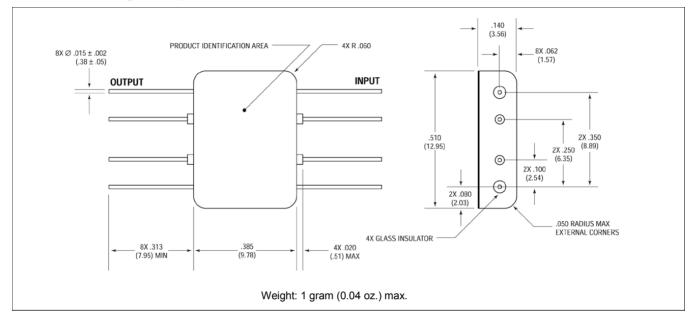
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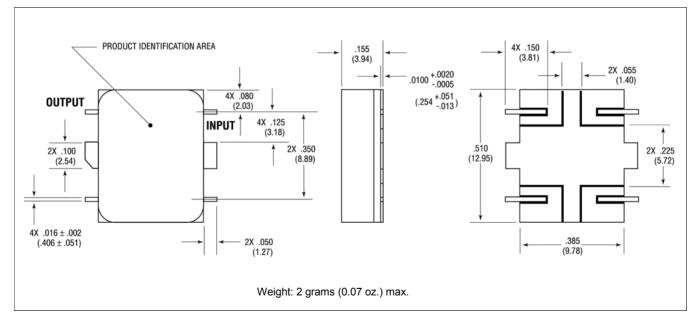
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#### **Outline Drawing\*: Flatpack**



#### **Outline Drawing\*: Surface Mount**



- \* Dimensions are inches (millimeters) ±0.015 (0.38) unless otherwise specified.
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#### **Frequency Doubler**

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