

## Frequency Doubler

Rev. V3

### Features

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

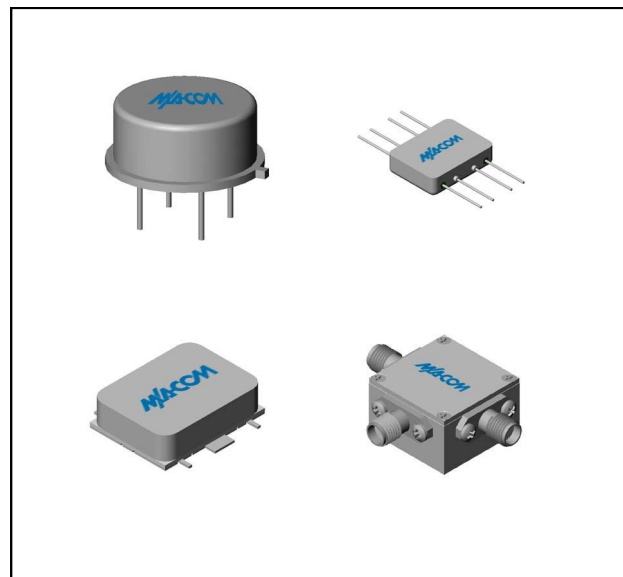
### Description

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.

### Ordering Information

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

### Product Image



### Electrical Specifications: $Z_0 = 50\Omega$ $P_{in} = +23$ dBm

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C*
SSB Conversion Loss (max)	$f_{in} = 5 - 2400$ MHz	dB	12.0	13.5	13.8
Fundamental Suppression (min)	$f_{in} = 5 - 1000$ MHz $f_{in} = 1000 - 2000$ MHz $f_{in} = 2000 - 2400$ MHz	dBc	35 25 20	25 20 16	24 19 15
Third Harmonic Suppression	$f_{in} = 5 - 500$ MHz $f_{in} = 500 - 2400$ MHz	dBc	40 35	30 25	29 24
Input VSWR	$f_{in} = 5 - 2400$ MHz	dB	1.5:1	—	—

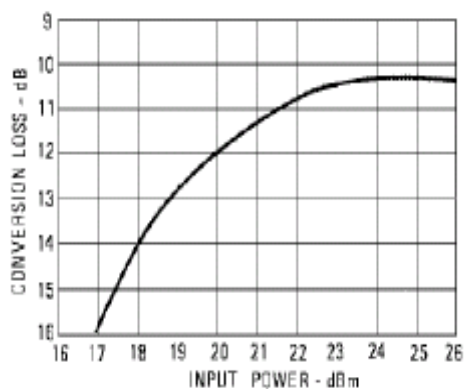
\* The FD25HC specification limits apply at 0°C to +50°C.

### Absolute Maximum Ratings

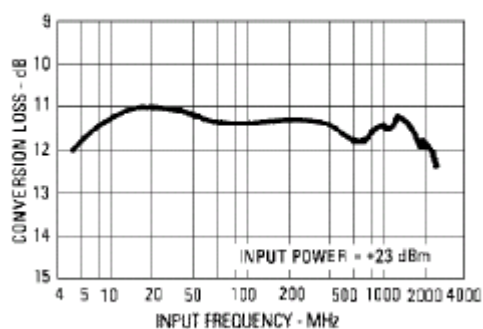
Parameter	Absolute Maximum
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C
Peak Input Power	+27.6 dBm max @ +25°C +25.0 dBm max @ +100°C

### Typical Performance Curves

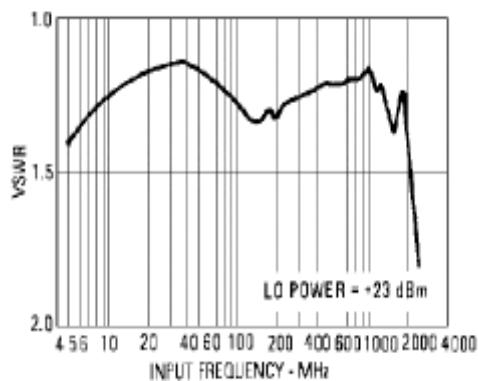
Conversion Loss vs. Input Power



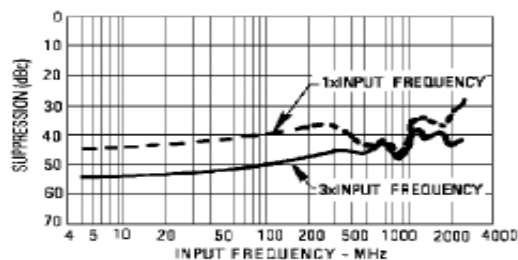
Conversion Loss vs. Input Frequency



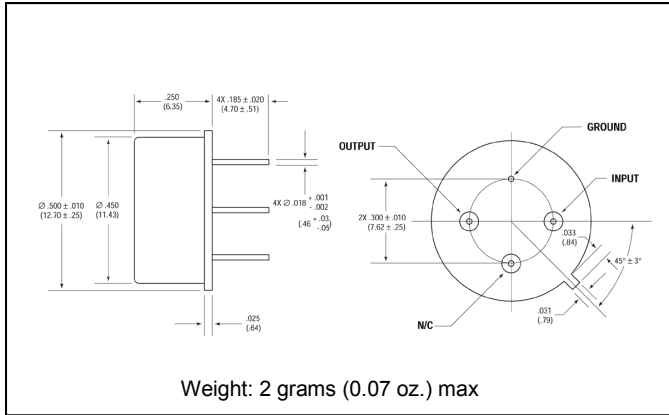
VSWR vs. Frequency



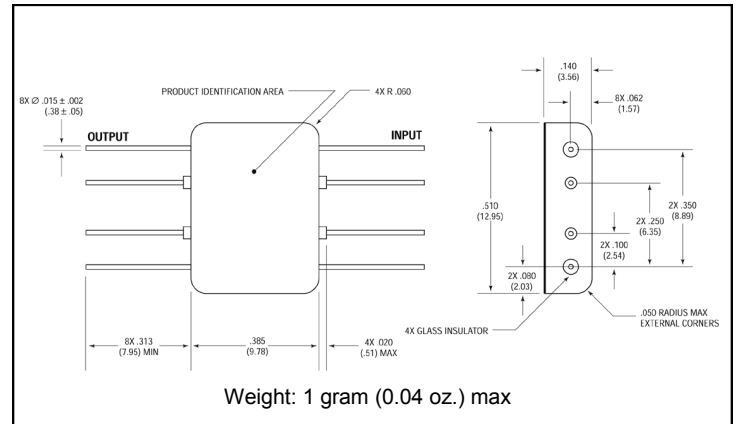
Harmonic Suppression vs. Input Frequency



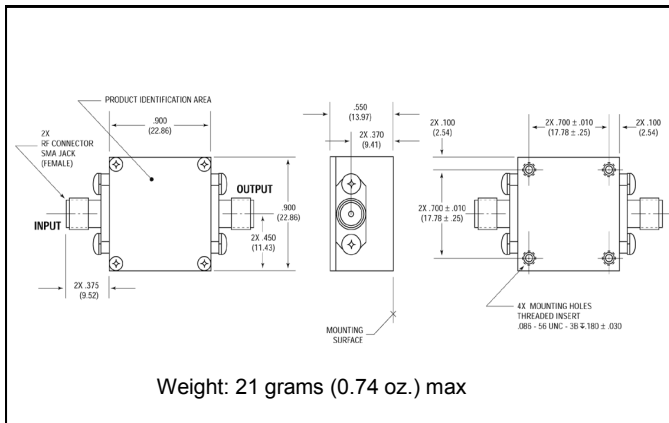
### Outline Drawing: TO-8 \*



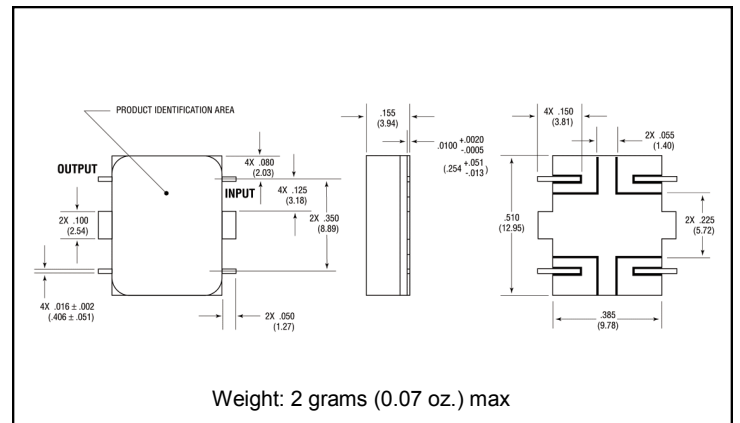
### Outline Drawing: Flatpack \*



### Outline Drawing: SMA Connectorized \*



### Outline Drawing: Surface Mount \*



\* Dimensions are inches (millimeters)  $\pm 0.015$  (0.38) unless otherwise specified.

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