Frequency Doubler

FD25H/FD25HC/SFD25H

V2

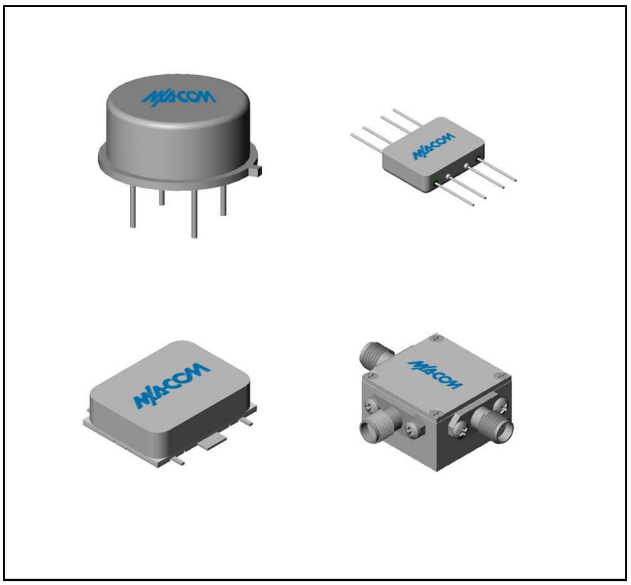
Features

- IINPUT: 5 TO 2400 MHz
- OUTPUT: 10 TO 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.

Product Image



Ordering Information

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

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

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

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

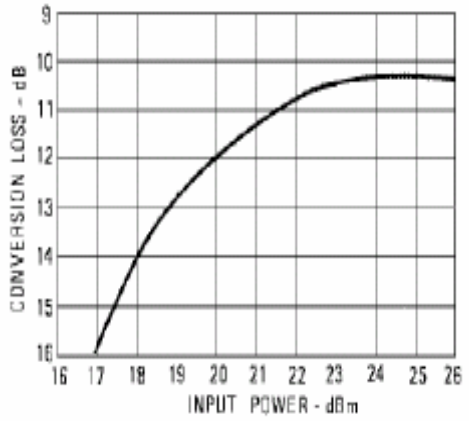
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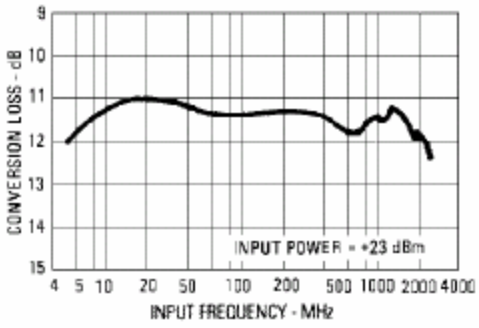
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Typical Performance Curves

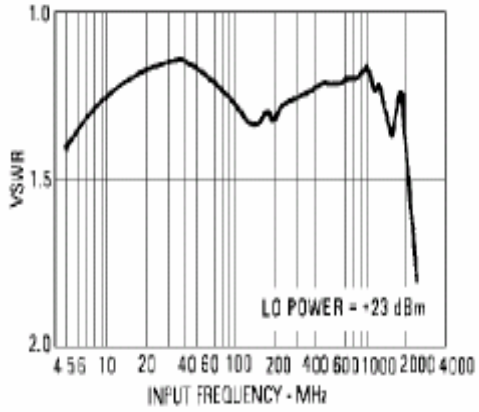
Conversion Loss vs. Input Power



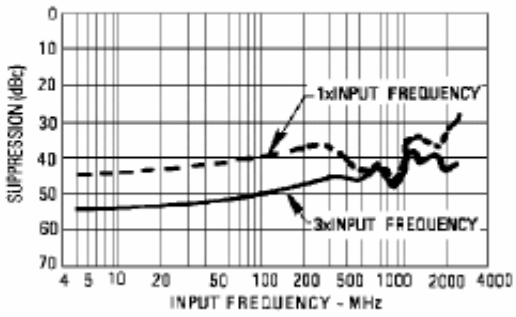
Conversion Loss vs. Input Frequency



VSWR vs. Frequency



Harmonic Suppression vs. Input Frequency



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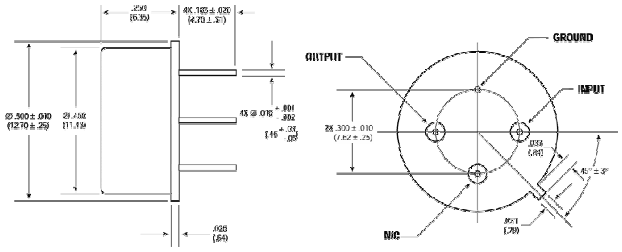
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Absolute Maximum Ratings

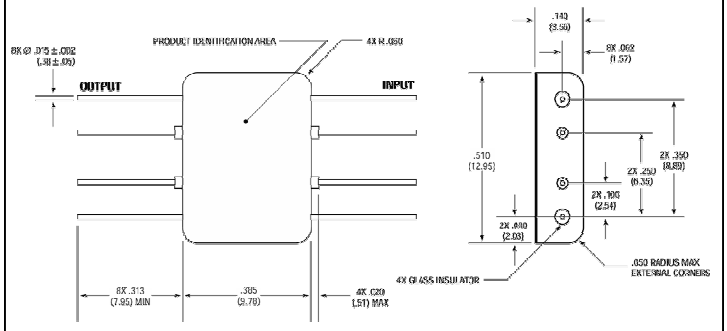
Parameter	Absolute Maximum
Operating Temperature	-54ºC to +100ºC
Storage Temperature	-65ºC to +100ºC
Peak Input Power	+27.6 dBm max @ +25ºC +25 dBm max @ +100ºC

Outline Drawing: TO-8 *



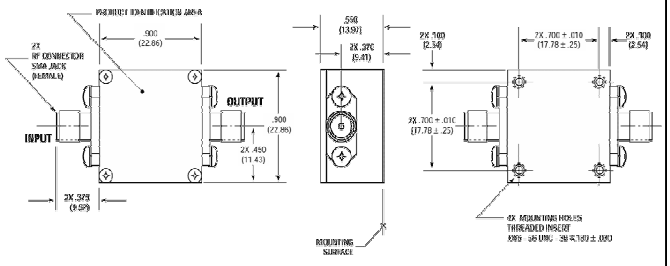
Weight: 2 grams (0.07 oz.) max

Outline Drawing: Flatpack *



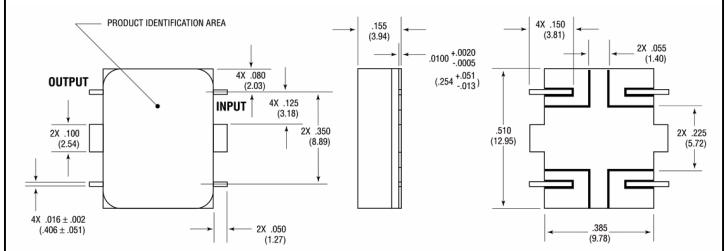
Weight: 1 gram (0.04 oz.) max

Outline Drawing: SMA Connectorized *



Weight: 21 grams (0.74 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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