

Frequency Doubler

FD93H/FD93HC

V3

Features

- INPUT: 2 TO 9 GHz
- OUTPUT: 4 TO 18 GHz
- INPUT DRIVE LEVEL: +19 dBm (NOMINAL)
- HERMETICALLY-SEALED PACKAGE

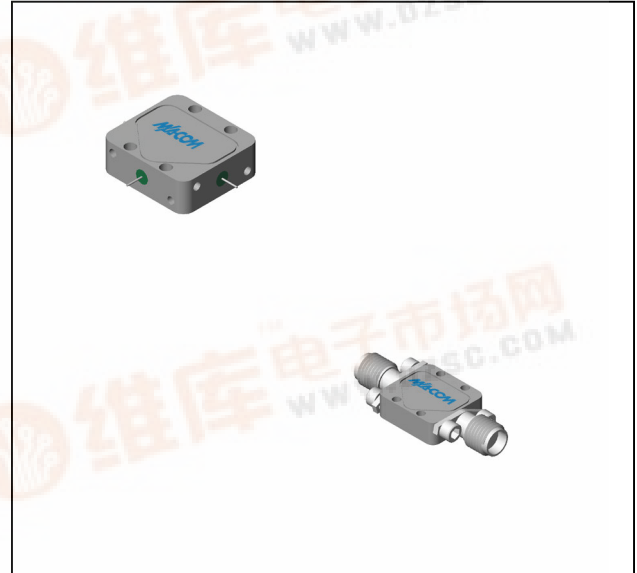
Description

The FD93H 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
FD93H	Versapac
FD93HC	SMA Connectorized

Product Image

Electrical Specifications: $Z_0 = 50\Omega$ $P_{in} = +19 \text{ dBm}$

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max)	$f_{in} = 2 \text{ to } 4 \text{ GHz}$	dB	10.0	13.0	13.3
	$f_{in} = 4 \text{ to } 9 \text{ GHz}$	dB	12.0	14.0	14.3
Fundamental Suppression (min)	$f_{in} = 2 \text{ to } 9 \text{ GHz}$	dBc	25	18	17
Third Harmonic Suppression	$f_{in} = 2 \text{ to } 6 \text{ GHz}$	dBc	25	16	15
Input VSWR	$f_{in} = 2 \text{ to } 9 \text{ GHz}$		1.5:1		

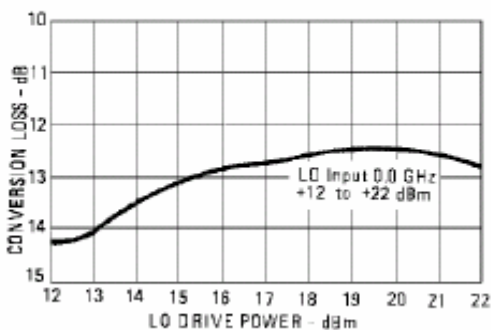
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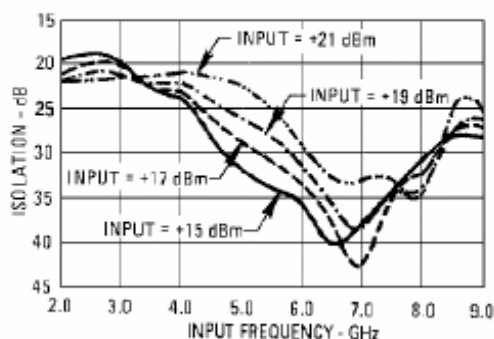
V3

Typical Performance Curves

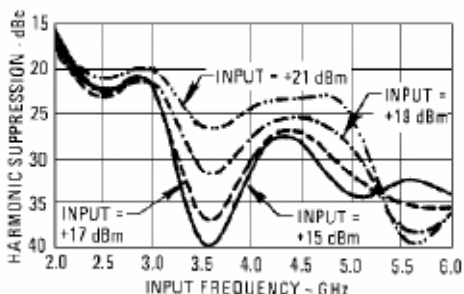
Conversion Loss Vs. LO Drive Power



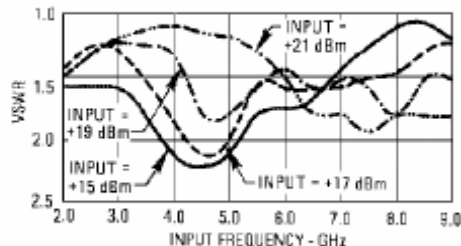
Isolation vs. Frequency



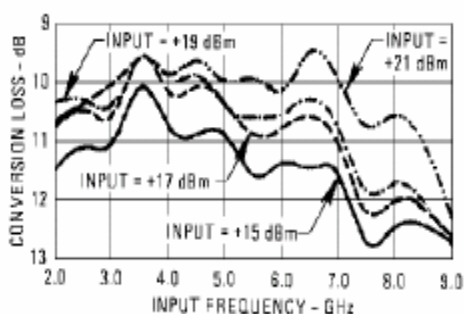
Suppression vs. Input Frequency



VSWR vs. Frequency



Conversion Loss vs. Input Frequency



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Absolute Maximum Ratings

Parameter	Absolute Maximum
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C
Peak Input Power	+26 dBm max @ +25°C +23 dBm max @ +100°C

Technical drawing of a rectangular component with dimensions and labels:

- Overall width: .560 (14.22)
- Overall height: .520 (13.21)
- Top edge feature: .042 (1.07)
- Left edge feature: .436 (11.07)
- Input label: INPUT
- Output label: OUTPUT
- Product identification area: PRODUCT IDENTIFICATION AREA
- Top edge feature: 2K .263 (6.80)
- Bottom edge feature: 2K Ø .015 ± .001 (.38 ± .03)
- Bottom edge feature: 4X R .062 (1.57)
- Bottom edge feature: 4X Ø .065 ± .003 THRU (1.75 ± .08)
- Bottom edge feature: 160 (4.1)
- Bottom edge feature: 240 (6.10)
- Right edge feature: 2K .095 (2.4)
- Right edge feature: .790 (4.83)

Weight: 4 grams (0.14 oz.) max

[illegible]

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