FD93 / FD93C

Frequency Doubler



Rev. V2

Features

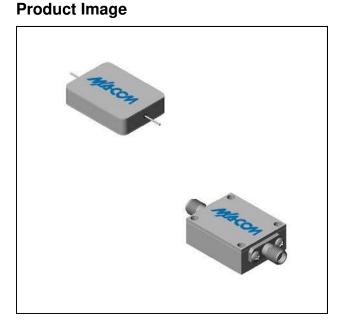
- INPUT: 2 TO 9 GHz
- OUTPUT: 4 TO 18 GHz
- INPUT DRIVE LEVEL: +12 dBm (NOMINAL)
- HERMETICALLY-SEALED PACKAGE

Description

The FD93 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
FD93	Versapac
FD93C	SMA Connectorized



Electrical Specifications: $Z_0 = 50\Omega$ $P_{in} = +12 \text{ dBm}$

Parameter	Test Conditions	Units	Typical	Guaranteed	
Farameter				+25ºC	-54º to +85ºC
SSB Conversion Loss (max)	f _{in} = 2 to 4 GHz f _{in} = 4 to 9 MHz	dB dB	10.0 12.0	13.0 14.0	13.5 14.5
Fundamental Suppression (min)	$f_{in} = 2$ to 9 GHz	dBc	25	18	16
Third Harmonic Suppression	f _{in} = 2 to 6 GHz	dBc	25	17	15
Input VSWR	f _{in} = 2 to 9 GHz		1.5:1		

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Commitment to produce in volume is not guaranteed.

- North America Tel: 800.366.2266 Europe Tel: +353.21.244.6400
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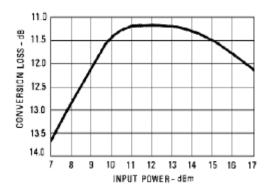
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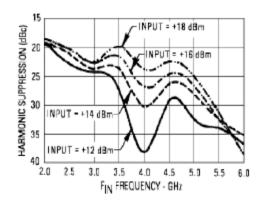
Rev. V2

Typical Performance Curves

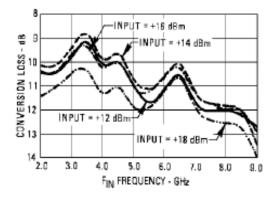
Conversion Loss vs. Input Power



Suppression vs. Input Frequency



Conversion Loss vs. Input Frequency

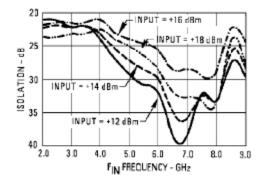


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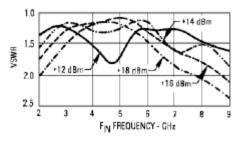
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Input/Output Isolation



VSWR vs. Frequency



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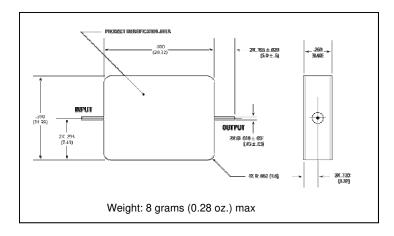
Frequency Doubler



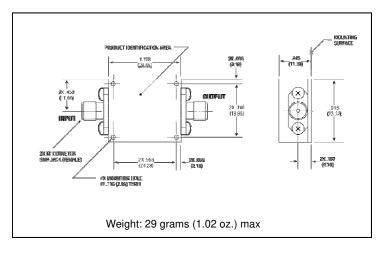
Absolute Maximum Ratings

Parameter	Absolute Maximum
Operating Temperature	-54ºC to +100ºC
Storage Temperature	-65ºC to +100ºC
Peak Input Power	+23 dBm max @ +25°C +20 dBm max @ +100°C

Outline Drawing: Versapac



Outline Drawing: SMA Connectorized *



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

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