FD93H / FD93HC

Frequency Doubler



Rev. V4

Features

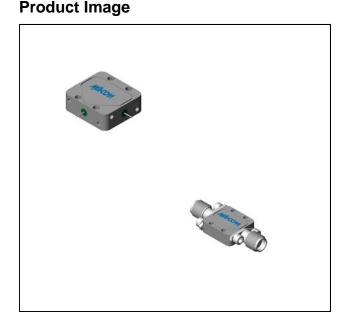
- INPUT: 2 TO 9 GHz
- OUTPUT: 4 TO 18 GHz
- INPUT DRIVE LEVEL: +19 dBm (NOMINAL)
- HERMETICALLY-SEALED PACKAGE

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



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

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

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. PRET IMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. PRET IMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. Visit www.macomtech.com for additional data sheets and product information.

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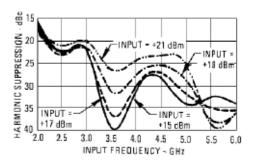
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Typical Performance Curves

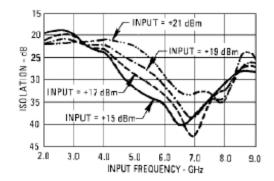
Conversion Loss Vs. LO Drive Power



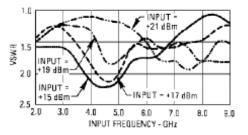
Suppression vs. Input Frequency



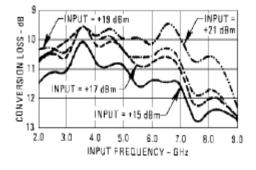
Isolation vs. Frequency



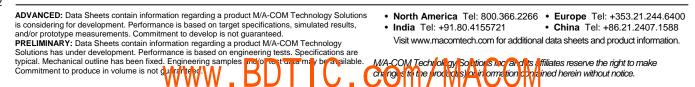
VSWR vs. Frequency



Conversion Loss vs. Input Frequency



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FD93H / FD93HC

Frequency Doubler

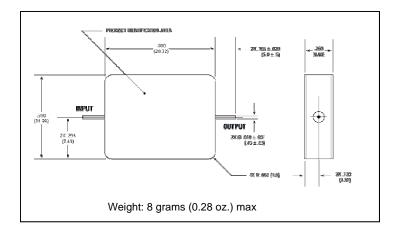


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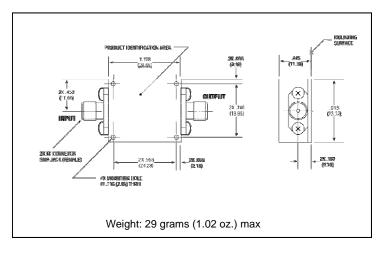
Absolute Maximum Ratings

Parameter	Absolute Maximum
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C
Peak Input Power	+26 dBm max @ +25⁰C +23 dBm max @ +100⁰C

Outline Drawing: Versapac



Outline Drawing: SMA Connectorized *



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

