FDZ5013 / FDZ5013C

Frequency Doubler

Rev. V2

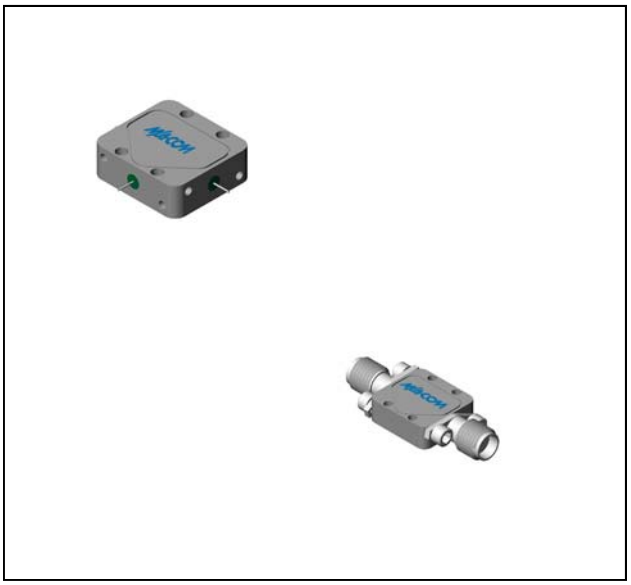
Features

- Input 3 to 12 GHz
- Output 6 to 24 GHz
- Input Drive Level +13 dBm (nominal)
- Hermetically-Sealed Package

Description

The FDZ5013 is a passive bridge diode frequency doubler, designed for use in military, commercial and test equipment applications. The design utilizes Schottky bridge quad diodes and broadband soft dielectric and/or ferrite baluns to attain excellent performance. The use of high temperature solder assembly processes used internally makes it ideal for use in manual and semi-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
FDZ5013	Versapac
FDZ5013C	SMA Connectorized

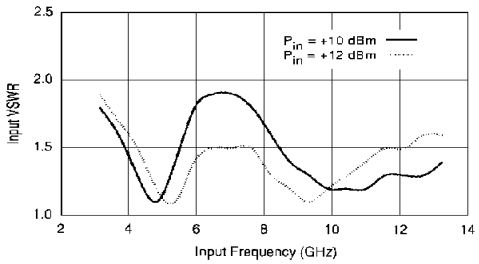
lectrical Specifications: Z_0 = 50Ω P_{in} = +13 dBm

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25ºC	-54º to +85ºC
SSB Conversion Loss (max)	f_{in} = 3 to 12 GHz	dB	12	14.5	15
Fundamental Suppression (min)	f_{in} = 5 to 8 GHz f_{in} = 3 to 9 GHz f_{in} = 3 to 12 GHz	dBc	15.0 13.0 11.0	11.0 9.5 8.0	9.0 7.5 6.0
Third Harmonic Suppression	f_{in} = 3.0 to 5.0 GHz f_{in} = 5.0 to 8.5 GHz	dBc	25 22	20 17	18 15
Input VSWR	f_{in} = 5 to 10 GHz f_{in} = 3 to 12 GHz		1.7:1 2.0:1		

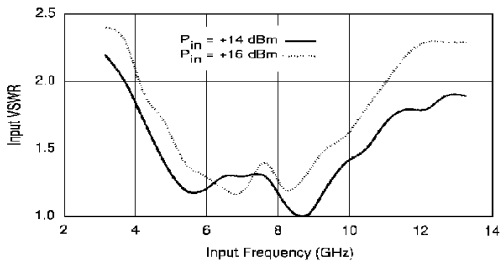
• **North America** Tel: 800.366.2266 • **Europe** Tel: +353.21.244.6400
• **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
Visit www.macomtech.com for additional data sheets and product information.

Typical Performance Curves

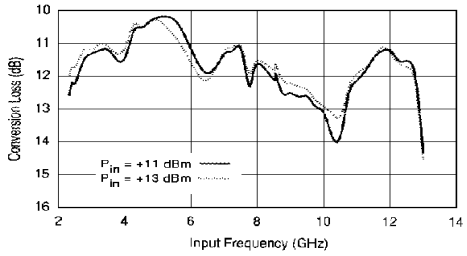
VSWR vs. Frequency



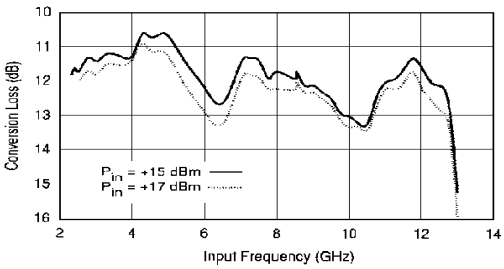
VSWR vs. Frequency



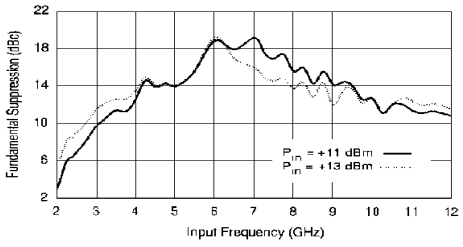
Conversion Loss vs. Frequency



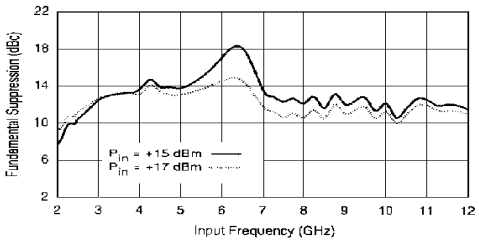
Conversion Loss vs. Frequency



Fundamental Suppression vs. Frequency



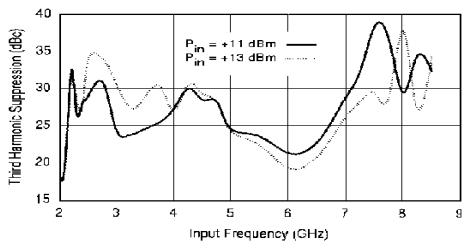
Fundamental Suppression vs. Frequency



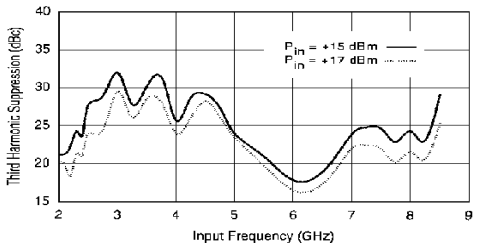
Absolute Maximum Ratings

Parameter	Absolute Maximum
Operating Temperature	-54ºC to +100ºC
Storage Temperature	-65ºC to +100ºC
Peak Input Power	+23 dBm max @ +25ºC +20 dBm max @ +100ºC
Peak Input Current	50 mA DC

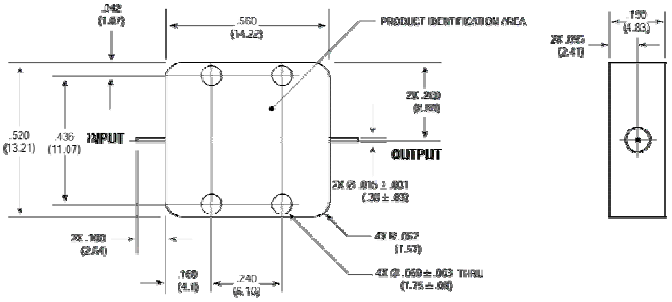
3rd Harmonic Suppression vs. Frequency



3rd Harmonic Suppression vs. Frequency

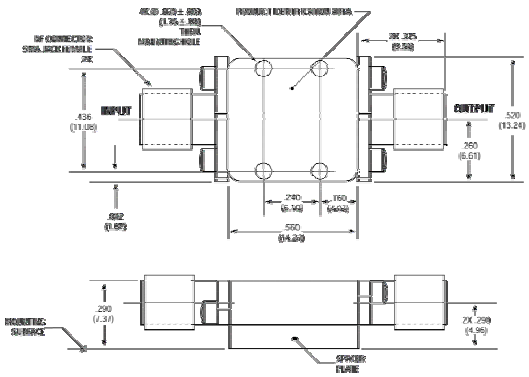


Outline Drawing: Versapac *



Weight: 4 grams (0.14 oz.) max

Outline Drawing: SMA Connectorized *



Weight: 13 grams (0.46 oz.) max

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

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