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

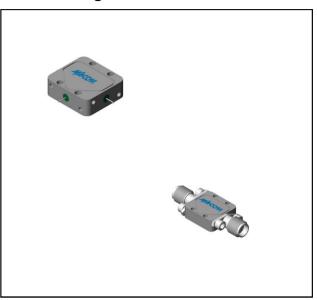
Description

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.

Ordering Information

Part Number	Package
FDZ5013	Versapac
FDZ5013C	SMA Connectorized

Product Image



lectrical Specifications: $Z_0 = 50\Omega$ $P_{in} = +13$ dBm

B	Test Conditions	Units	Typical	Guaranteed	
Parameter				+25°C	-54° to +85°C
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		

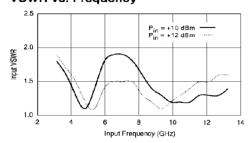


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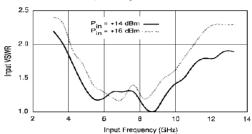
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Typical Performance Curves

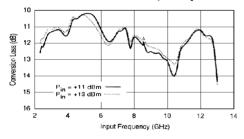
VSWR vs. Frequency



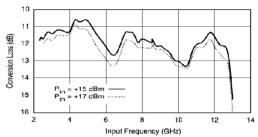
VSWR vs. Frequency



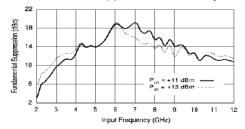
Conversion Loss vs. Frequency



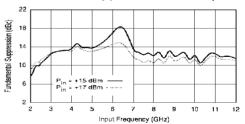
Conversion Loss vs. Frequency



Fundamental Suppression vs. Frequency



Fundamental Suppression vs. Frequency



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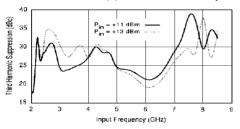
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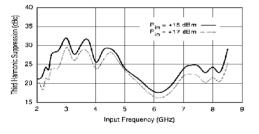
Absolute Maximum Ratings

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

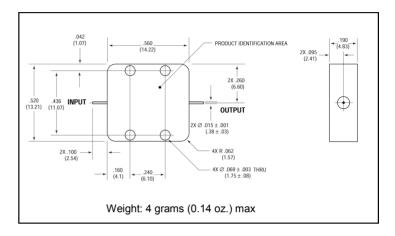
3rd Harmonic Suppression vs. Frequency



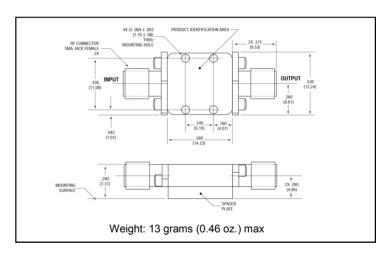
3rd Harmonic Suppression vs. Frequency



Outline Drawing: Versapac *



Outline Drawing: SMA Connectorized *



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

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