tyco Electronics

MACOM

Frequency Doubler

FDZ5013/FDZ5013C

V2

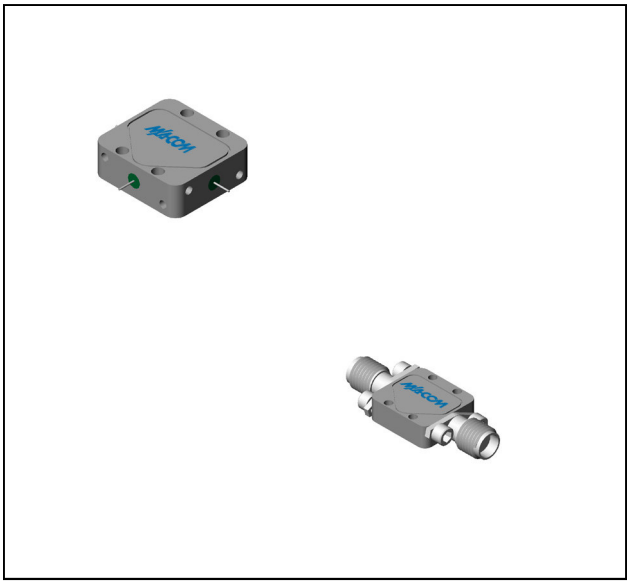
Features

- 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: $Z_0 = 50\Omega$ $P_{in} = +13$ 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		

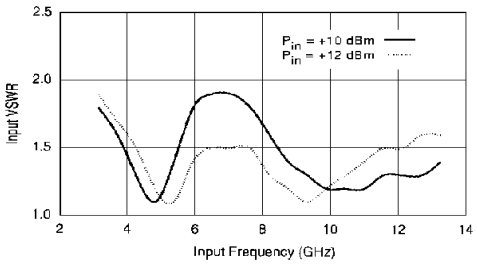
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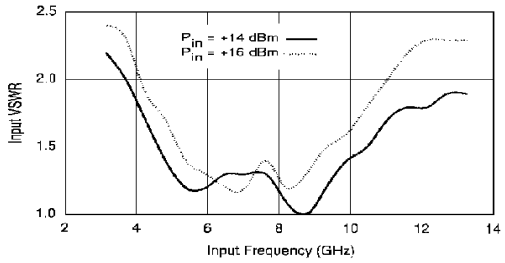
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Typical Performance Curves

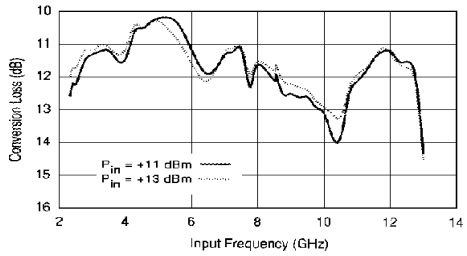
VSWR vs. Frequency



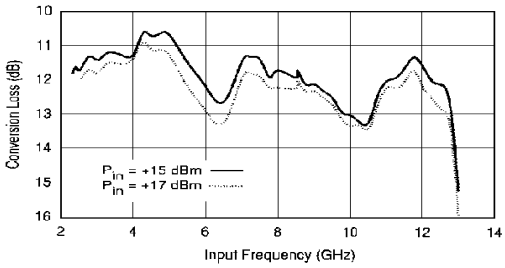
VSWR vs. Frequency



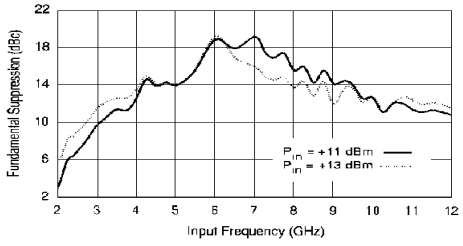
Conversion Loss vs. Frequency



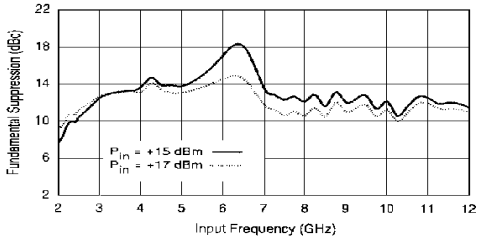
Conversion Loss vs. Frequency



Fundamental Suppression vs. Frequency



Fundamental Suppression vs. Frequency



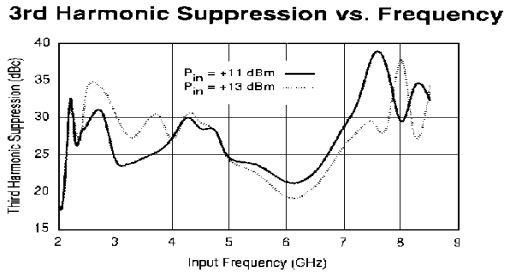
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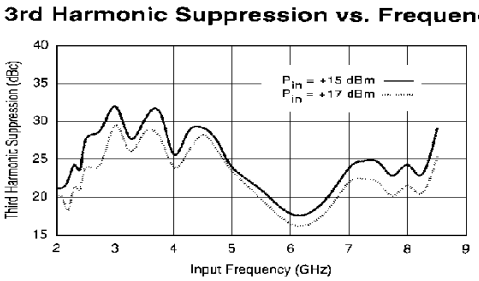
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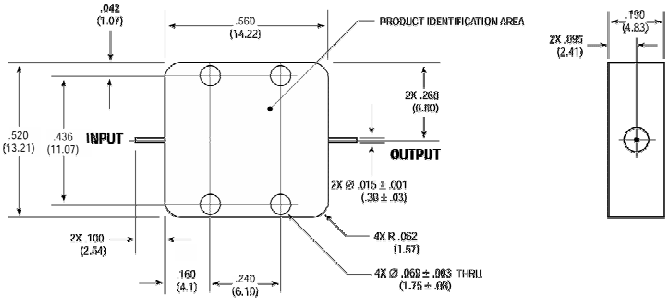
Absolute Maximum Ratings

Parameter	Absolute Maximum
Operating Temperature	-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



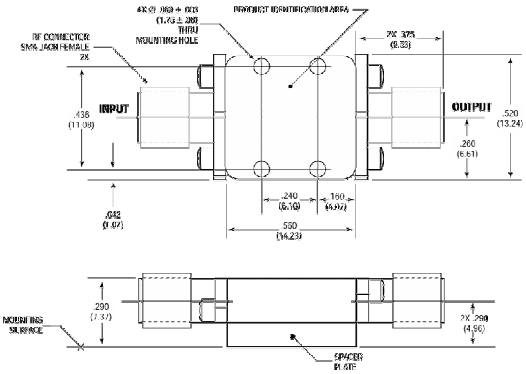


Outline Drawing: Versapac *



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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