

## Triple-Balanced Mixer

Rev. V3

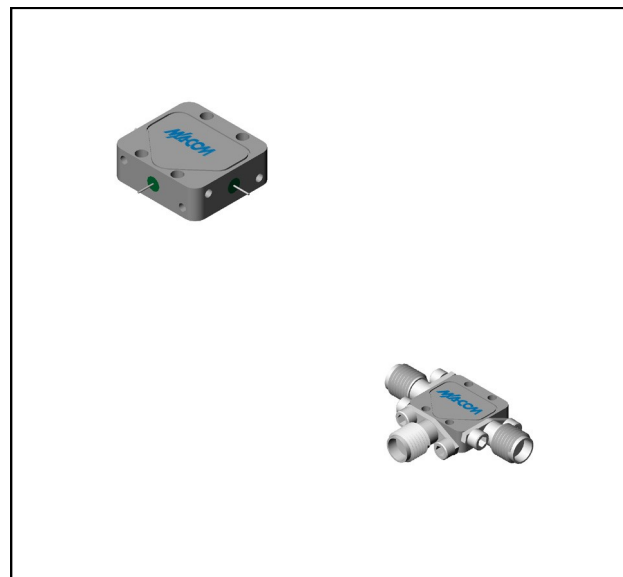
### Features

- LO 2 TO 18 GHz
- RF 2 TO 18 GHz
- IF 0.03 TO 5 GHz
- LO DRIVE: +13 dBm (NOMINAL)
- MINIATURE PACKAGE
- WIDE BANDWIDTH
- AVAILABLE WITH FIELD REPLACEABLE CONNECTORS

### Description

The MZ9313 is a triple balanced mixer, designed for use in military, commercial and test equipment applications. The design utilizes Schottky ring quad diodes and broadband soft dielectric baluns to attain excellent performance. The use of high temperature solder and welded assembly processes used internally makes it ideal for use in manual, semi-automated assembly. Environmental screening available to MIL-STD-883, MIL-STD-202 or MIL-DTL-28837, consult factory.

### Product Image



### Ordering Information

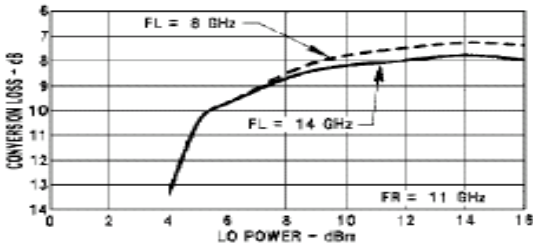
Part Number	Package
MZ9313	Versapac
MZ9313C	SMA Connectorized

### Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +13$ dBm (Downconverter application only)

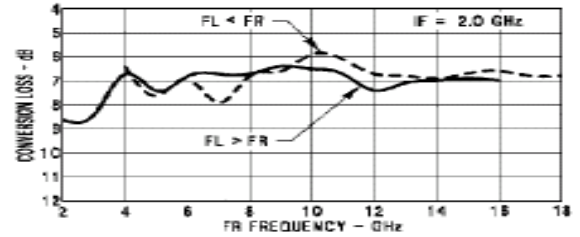
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 4 to 18 GHz, fL = 2 to 18 GHz, fI = 0.03 to 3 GHz fR = 2 to 18 GHz, fL = 2 to 18 GHz, fI = 0.03 to 5 GHz	dB dB	6.5	9.0	9.5
			7.5	10.5	11.0
Isolation, L to R (min)	fL = 2 to 4 GHz fL = 4 to 18 GHz	dB dB	17	12	10
			30	15	13
Isolation, L to I (min)	fL = 2 to 18 GHz	dB	30	17	15
1 dB Conversion Comp.	fL = +13 dBm	dBm	+8		
Input IP3	fR1 = 3 GHz at -10 dBm, fR2 = 3.01 GHz at -10 dBm, fL = 5 GHz at +13 dBm fR1 = 17.99 GHz at -10 dBm, fR2 = 18 GHz at -10 dBm, fL = 14 GHz at +13 dBm	dBm dBm	+19		
			+15		

### Typical Performance Curves

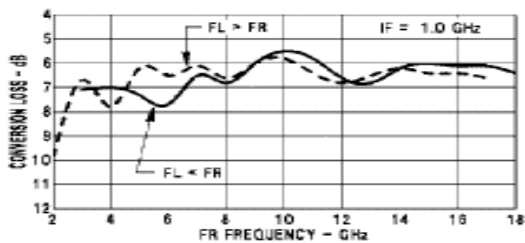
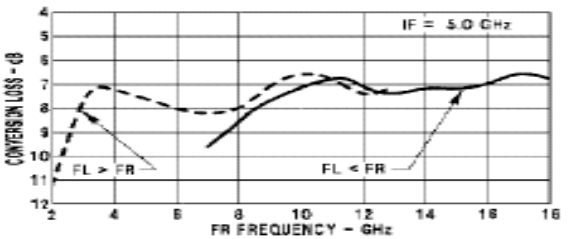
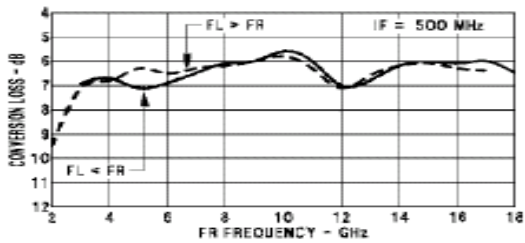
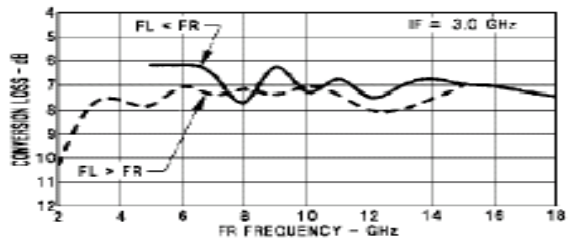
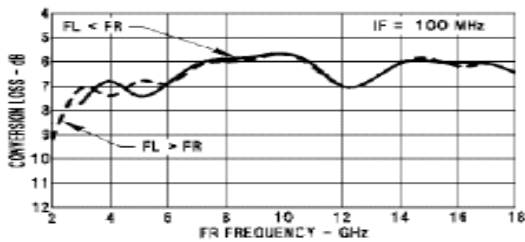
Conversion vs. LO Power



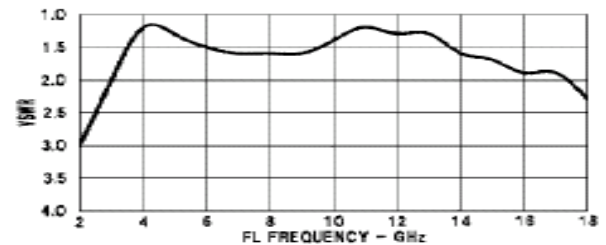
Conversion vs. Frequency



Conversion vs. Frequency



L-Port VSWR vs. Frequency



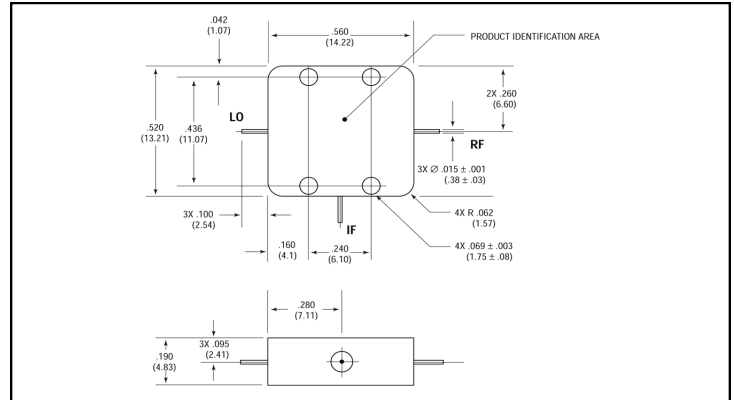
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### Absolute Maximum Ratings

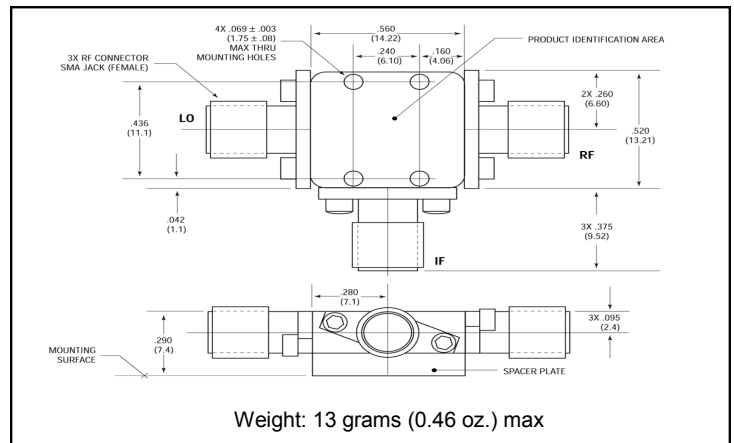
Parameter	Absolute Maximum
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C
Peak Input Power	+26 dBm max @ +25°C +23 dBm max @ +100°C
Peak Input Current	mA DC

### Outline Drawing: Versapac \*



Weight: 4 grams (0.14 oz.) max

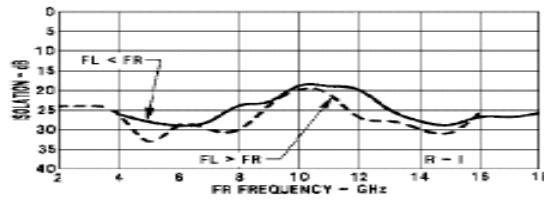
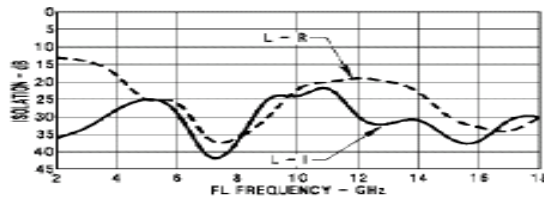
### Outline Drawing: SMA Connectorized \*



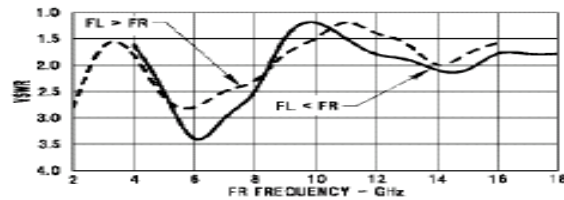
Weight: 13 grams (0.46 oz.) max

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

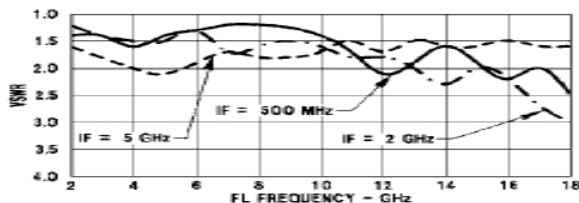
Isolation vs. Frequency



R-Port VSWR vs. Frequency



I-Port VSWR vs. Frequency



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