MZ9310 / MZ9310C

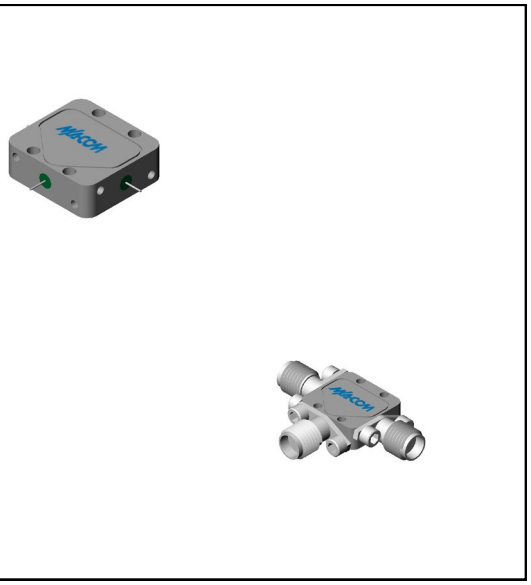
Triple-Balanced Mixer

Rev. V3

Features

- LO 2 TO 18 GHz
- RF 2 TO 18 GHz
- IF 0.03 TO 5 GHz
- LO DRIVE: +10 dBm (NOMINAL)
- MINIATURE PACKAGE
- WIDE BANDWIDTH
- AVAILABLE WITH FIELD REPLACEABLE CONNECTORS

Product Image



Description

The MZ9310 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.

Ordering Information

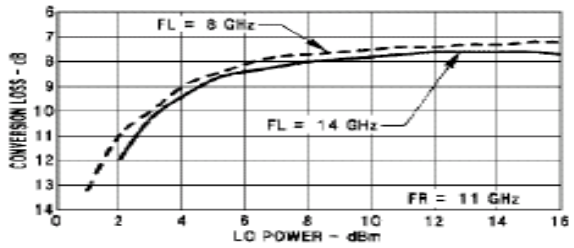
Part Number	Package
MZ9310	Versapac
MZ9310C	SMA Connectorized

Electrical Specifications: $Z_0 = 50\Omega$ Lo = +10 dBm (Downconverter application only)

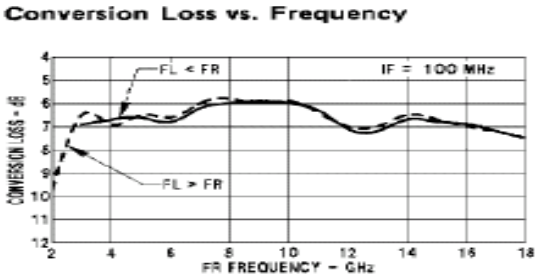
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25ºC	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 4 to 18 GHz, fL = 4 to 18 GHz, fI = 0.03 to 1 GHz fR = 3 to 18 GHz, fL = 3 to 18 GHz, fI = 0.03 to 2 GHz fR = 3 to 18 GHz, fL = 3 to 18 GHz, fI = 0.03 to 3 GHz fR = 2 to 18 GHz, fL = 2 to 18 GHz, fI = 0.03 to 5 GHz	dB dB dB dB	7.0 7.5 7.5 8.0	8.5 9.0 9.0 10.5	9.0 9.5 9.5 11.0
Isolation, L to R (min)	fL = 2 to 4 GHz fL = 4 to 18 GHz	dB dB	20 25	12 16	10 14
Isolation, L to I (min)	fL = 2 to 18 GHz	dB	30	16	14
1 dB Conversion Comp.	fL = +10 dBm	dBm	+6		
Input IP3	fR1 = 3 GHz at –10 dBm, fR2 = 3.01 GHz at –10 dBm, fL = 5 GHz at +10 dBm fR1 = 17.99 GHz at –10 dBm, fR2 = 18 GHz at –10 dBm, fL = 14 GHz at +10 dBm	dBm dBm	+16 +13		

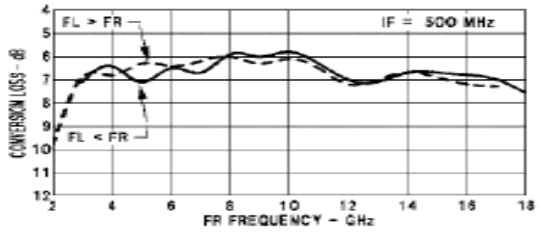
Typical Performance Curves

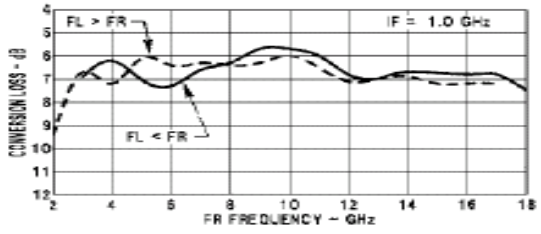
Conversion Loss vs. LO Power



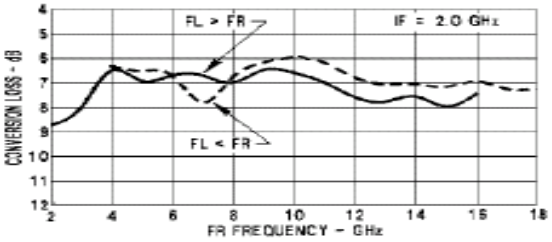
Conversion Loss vs. Frequency

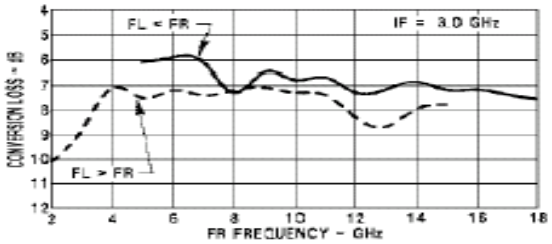


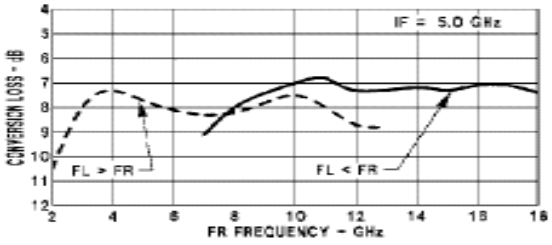




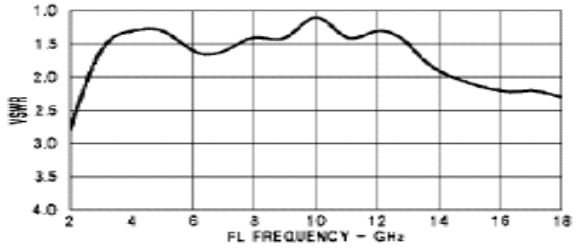
Conversion Loss vs. Frequency







L-Port VSWR vs. Frequency



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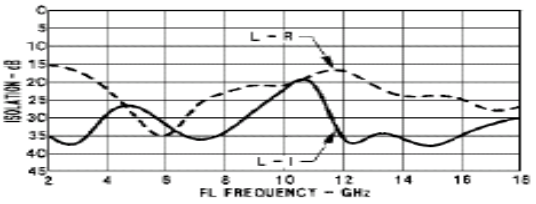
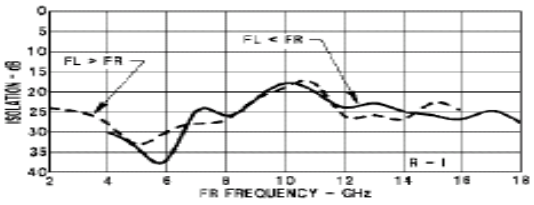
Absolute Maximum Ratings

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

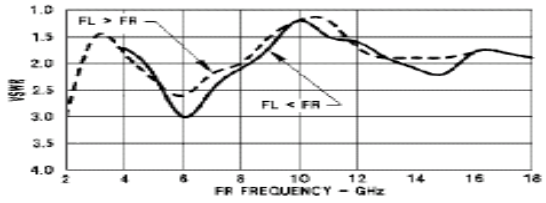
Isolation vs. Frequency



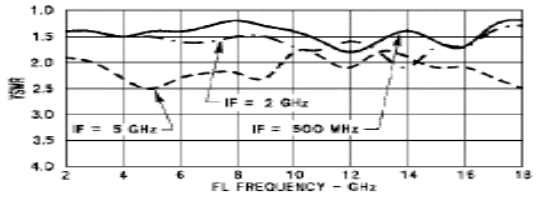
Isolation vs. Frequency



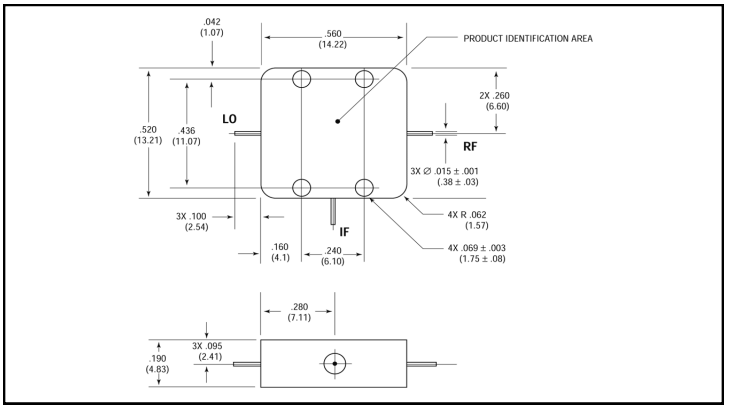
R-Port VSWR vs. Frequency



I-Port VSWR vs. Frequency

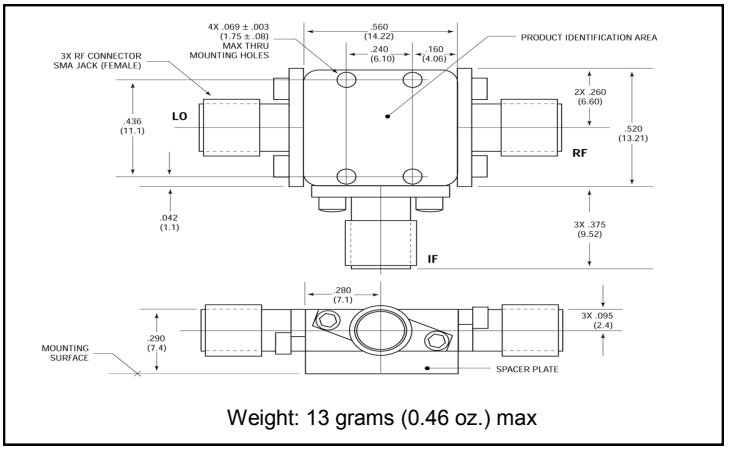


Outline Drawing: Versapac *



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.