

## Double-Balanced Mixer

Rev. V3

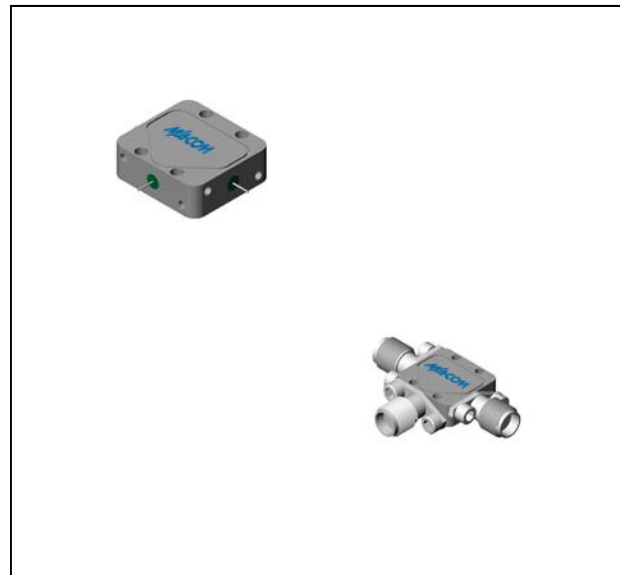
### Features

- LO 2.5 TO 7 GHz
- RF 2.5 TO 5.5 GHz
- IF 0 TO 1.5 GHz
- LO DRIVE +10 dBm (nominal)
- MINIATURE PACKAGE
- LOW NOISE FIGURE 6.0 dB (TYP.)
- AVAILABLE WITH FIELD REPLACEABLE CONNECTORS

### Description

The MZ6310 is a double balanced mixer, designed for use in military, commercial and test equipment applications. The design utilizes Schottky ring quad diodes and broadband soft dielectric and ferrite baluns to attain excellent performance. This mixer can also be used as a phase detector and/or bi-phase modulator since the IF port is DC coupled to the diodes. 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
MZ6310	Versapac
MZ6310C	SMA Connectorized

### Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +10$ 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 = 3 to 5.5 GHz, fL = 2.5 to 7 GHz, fI = 0 to 1.5 GHz fR = 2.5 to 3 GHz, fL = 2.5 to 4.5 GHz, fI = 0 to 1.5 GHz	dB dB	6.0 7.0	7.5 9.0	8.0 9.5
Isolation, L to R (min)	fL = 2.5 to 4 GHz fL = 4 to 7 GHz	dB dB	28 45	20 30	18 28
Isolation, L to I (min)	fL = 2.5 to 3.5 GHz fL = 3.5 to 4 GHz fL = 4 to 7 GHz	dB dB dB	18 22 35	12 18 22	10 16 20
1 dB Conversion Comp.	fL = +10 dBm	dBm	+3		
Input IP3	fR1 = 4 GHz at -10 dBm, fR2 = 4.01 GHz at -10 dBm, fL = 2.8 GHz at +10 dBm	dBm	+15		

# MZ6310 / MZ6310C

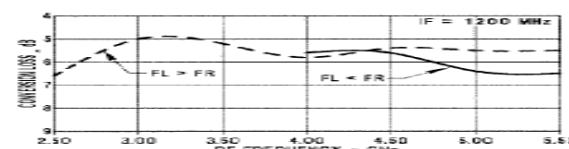
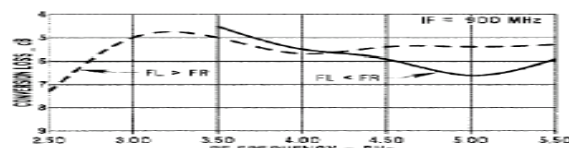
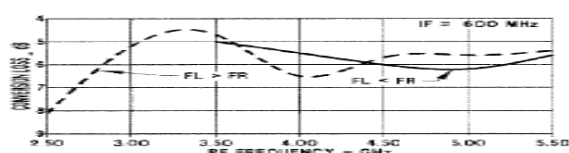
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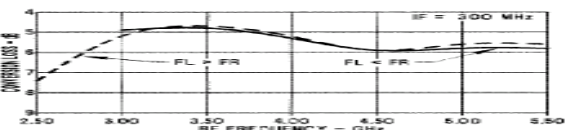
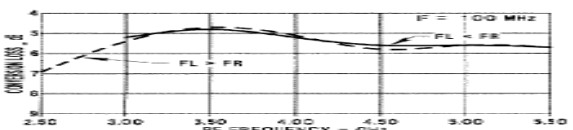
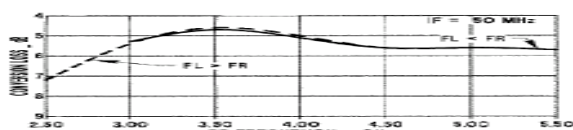
### Absolute Maximum Ratings

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	mA DC

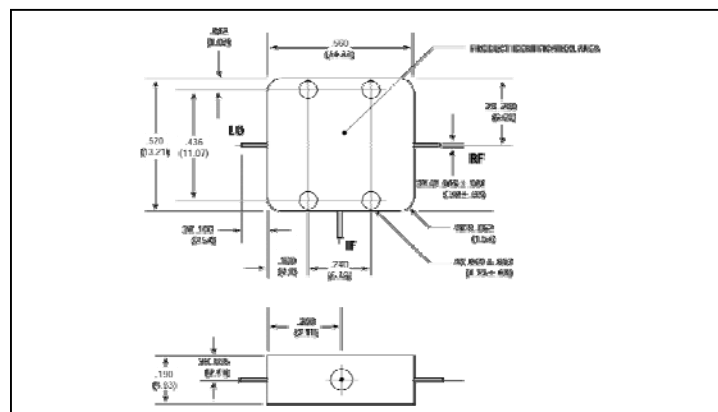
Conversion Loss vs. Frequency



Conversion Loss vs. Frequency

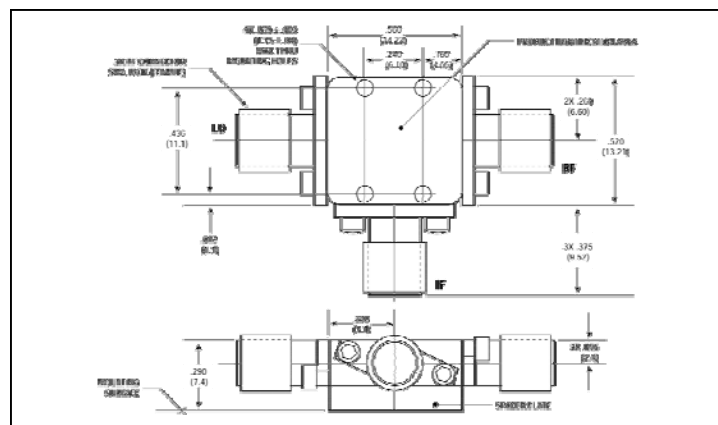


### Outline Drawing: Versapac \*



Weight: 4 grams (0.14 oz.) max

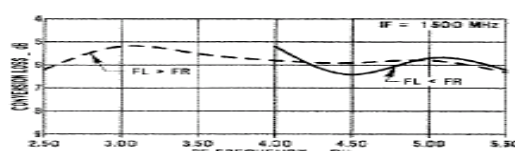
### Outline Drawing: SMA Connectorized \*



Weight: 13 grams (0.46 oz.) max

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

Conversion Loss vs. Frequency



Isolation vs. LO Frequency

