

## Triple-Balanced Mixer

Rev. V3

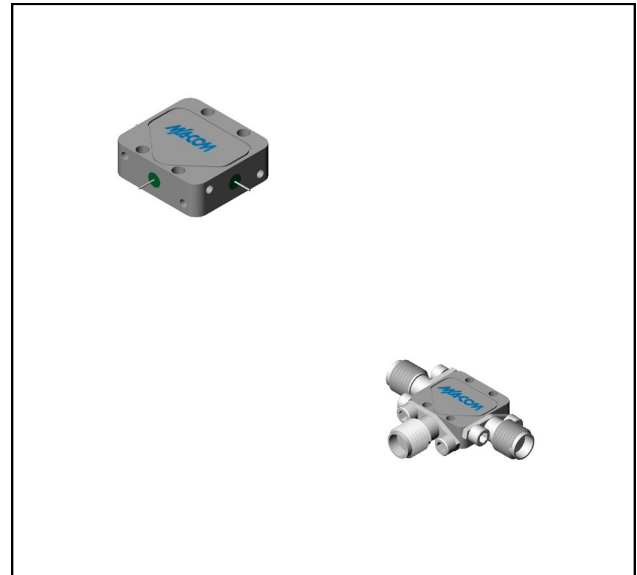
### Features

- LO 2 TO 26 GHz
- RF 2 TO 26 GHz
- IF 1 TO 15 GHz
- LO DRIVE +10 dBm (nominal)
- MINIATURE PACKAGE
- VERY WIDE BANDWIDTH
- AVAILABLE WITH FIELD REPLACEABLE CONNECTORS

### Description

The MZ5010 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
MZ5010	Versapac
MZ5010C	SMA Connectorized

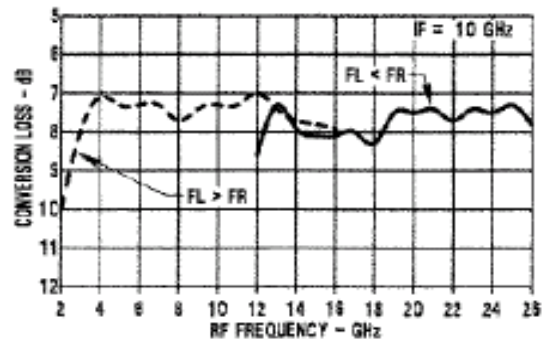
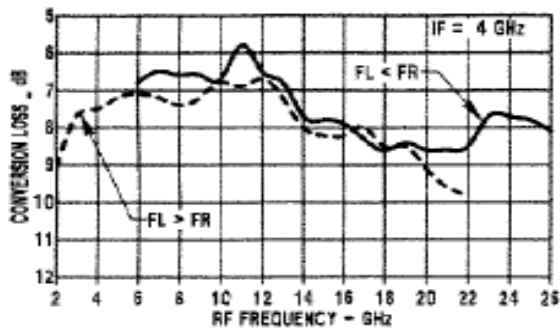
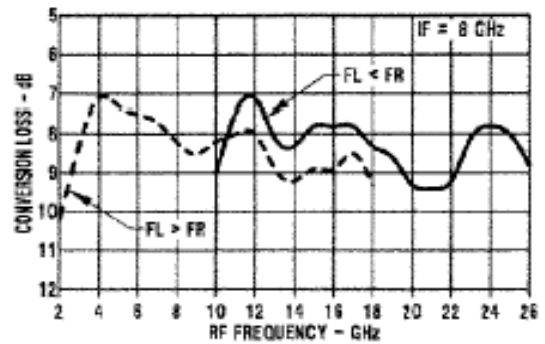
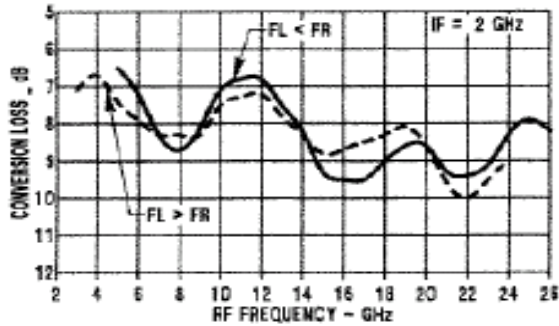
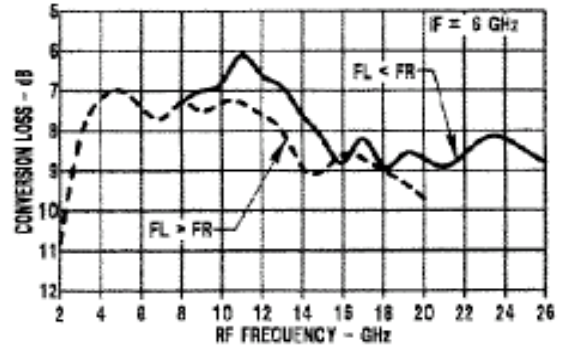
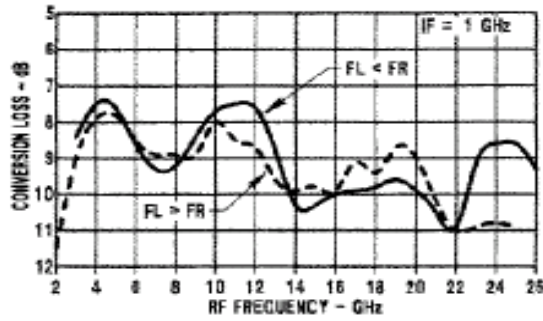
### Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +10$ dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 3 to 18 GHz, fL = 3.5 to 18 GHz, fl = 4 to 12 GHz	dB	7.5	9.5	10.0
	fR = 2.5 to 26 GHz, fL = 2.5 to 24 GHz, fl=4 to 12 GHz	dB	8.5	10.5	11.0
	fR = 2 to 26 GHz, fL = 2 to 26 GHz, fl =1 to 15 GHz	dB	10.5	13.0	13.5
Isolation, L to R (min)	fL = 2 to 4 GHz	dB	30	15	13
	fL = 4 to 26 GHz	dB	35	18	16
Isolation, L to I (min)	fL = 2 to 4 GHz	dB	20	12	10
	fL = 4 to 26 GHz	dB	35	17	15
1 dB Conversion Comp.	fL = +10 dBm	dBm	+5		
Input IP3	fR1 = 18 GHz at -10 dBm, fR2 = 18.01 GHz at -10 dBm, fL = 14 GHz at +10 dBm	dBm	+16		
	fR1 = 5 GHz at -5 dBm, fR2 = 5.01 GHz at -5 dBm, fL = 7 GHz at +10 dBm	dBm	+16		

### Typical Performance Curves

### Conversion Loss vs. Frequency

Conversion Loss vs. Frequency



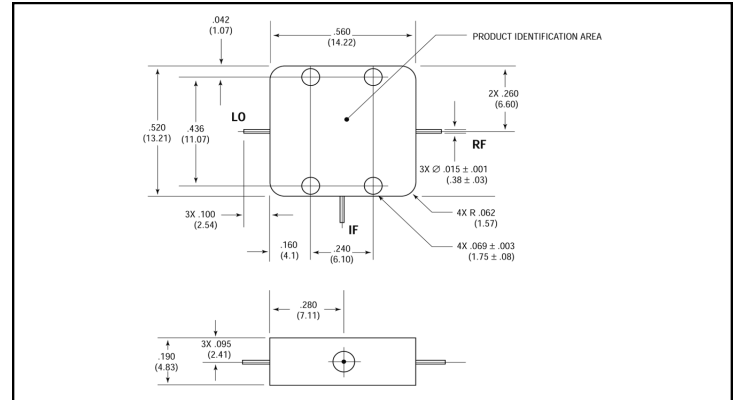
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### Absolute Maximum Ratings

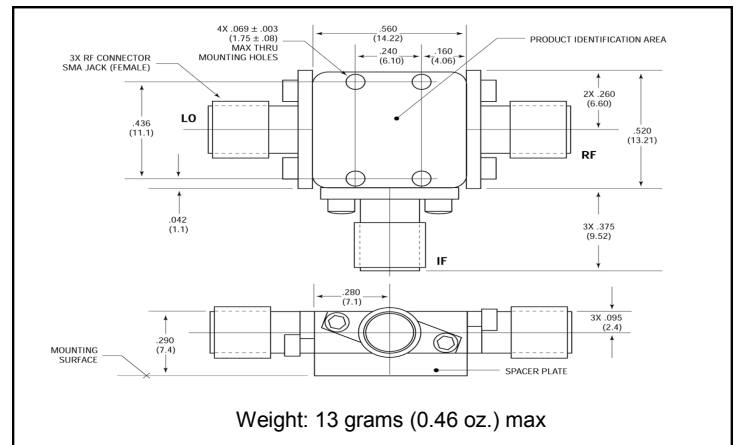
Parameter	Absolute Maximum
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C
Peak Input Power	+26 dBm max @ +25°C +22 dBm max @ +100°C
Peak Input Current	mA DC

### Outline Drawing: Versapac \*



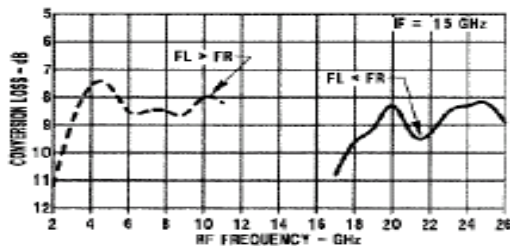
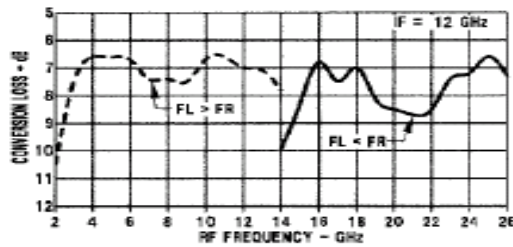
Weight: 4 grams (0.14 oz.) max

### Outline Drawing: SMA Connectorized \*

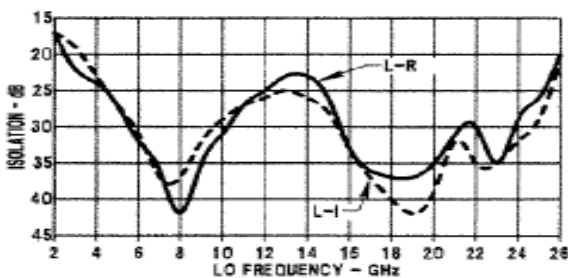


Weight: 13 grams (0.46 oz.) max

### Conversion Loss vs. Frequency



### Isolation



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

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