

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

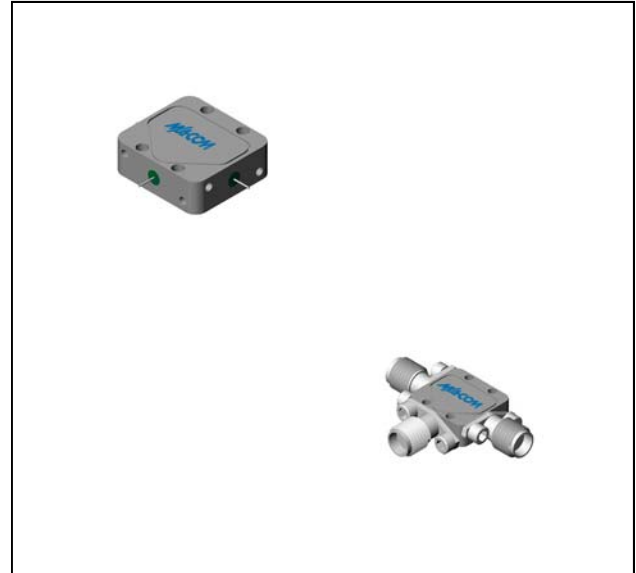
Description

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.

Ordering Information

Part Number	Package
MZ5010	Versapac
MZ5010C	SMA Connectorized

Product Image

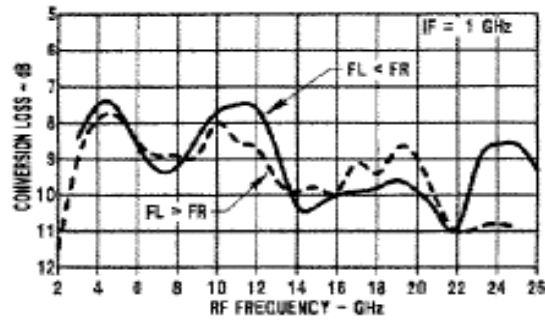


Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +10$ dBm (Downconverter application only)

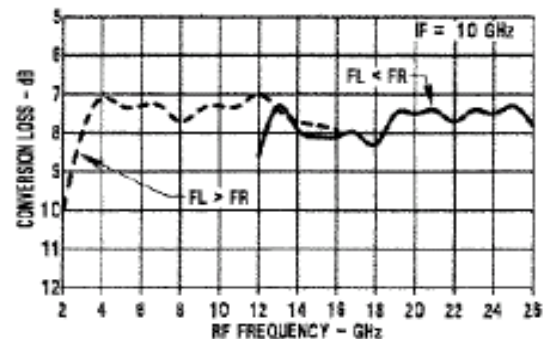
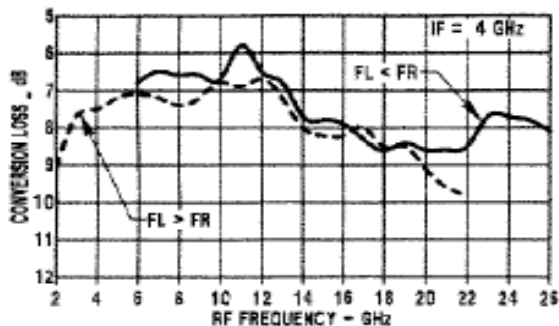
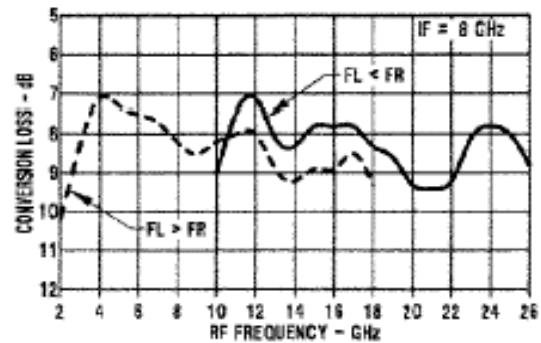
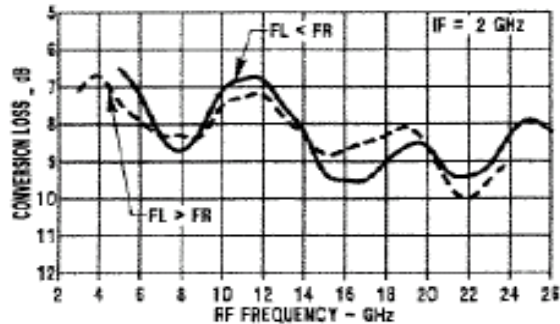
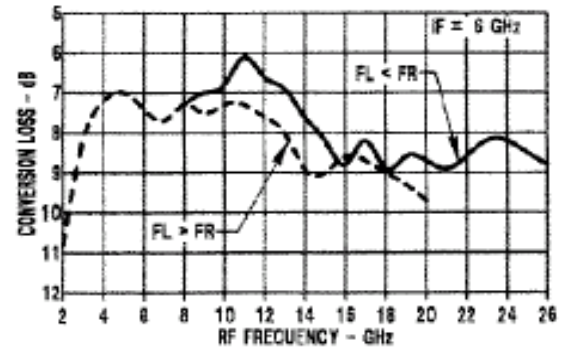
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 3 to 18 GHz, fL = 3.5 to 18 GHz, fl = 4 to 12 GHz fR = 2.5 to 26 GHz, fL = 2.5 to 24 GHz, fl=4 to 12 GHz fR = 2 to 26 GHz, fL = 2 to 26 GHz, fl =1 to 15 GHz	dB	7.5	9.5	10.0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

Typical Performance Curves

Conversion Loss vs. Frequency



Conversion Loss vs. Frequency



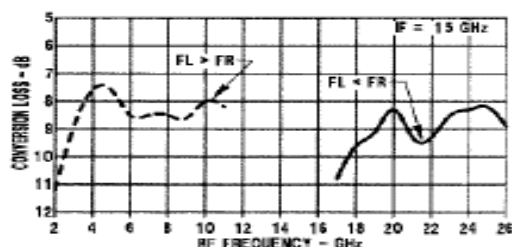
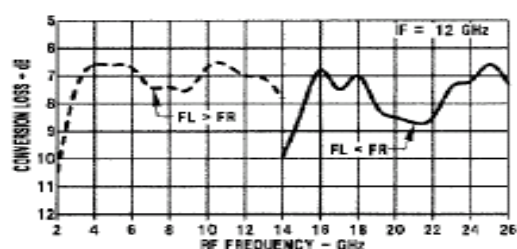
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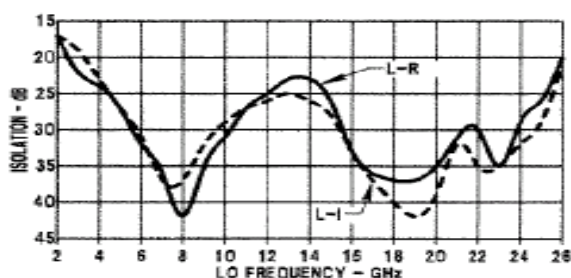
Absolute Maximum Ratings

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

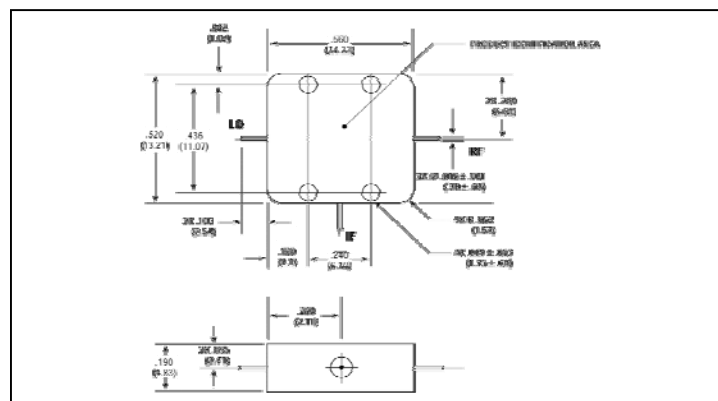
Conversion Loss vs. Frequency



Isolation

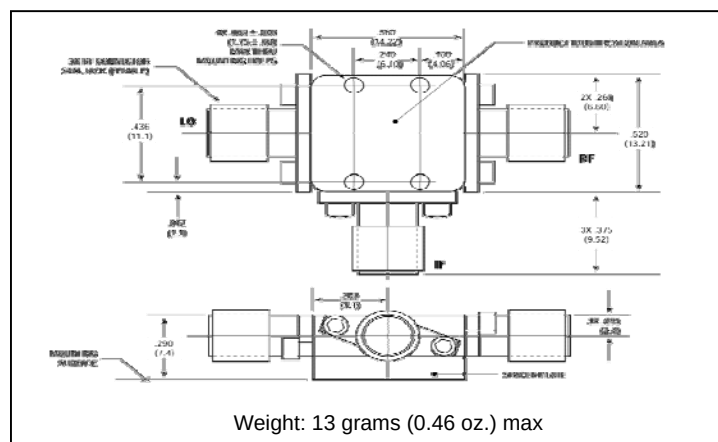


Outline Drawing: Versapac *



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.