tyco Electronics

M/A-COM

Triple-Balanced Mixer

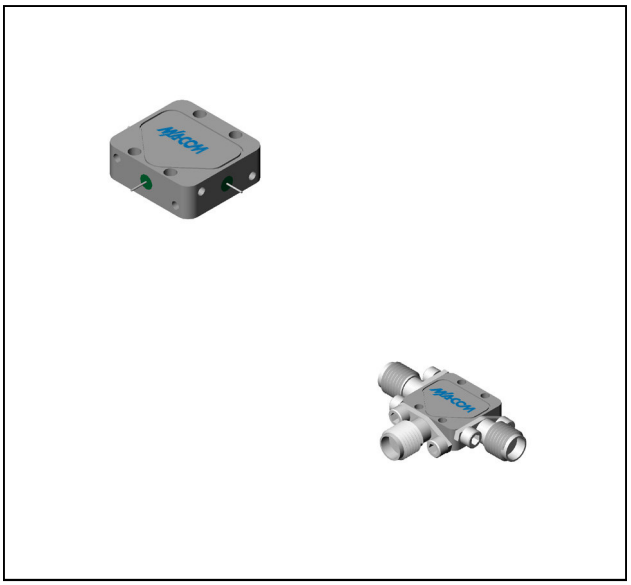
MZ5010/MZ5010C

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

Product Image



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

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 = 3 to 18 GHz, fL = 3.5 to 18 GHz, fI = 4 to 12 GHz fR = 2.5 to 26 GHz, fL = 2.5 to 24 GHz, fI=4 to12 GHz fR = 2 to 26 GHz, fL = 2 to 26 GHz, fI =1 to 15 GHz	dB dB dB	7.5 8.5 10.5	9.5 10.5 13.0	10.0 11.0 13.5
Isolation, L to R (min)	fL = 2 to 4 GHz fL = 4 to 26 GHz	dB dB	30 35	15 18	13 16
Isolation, L to I (min)	fL = 2 to 4 GHz fL = 4 to 26 GHz	dB dB	20 35	12 17	10 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 dBm	+16 +16		

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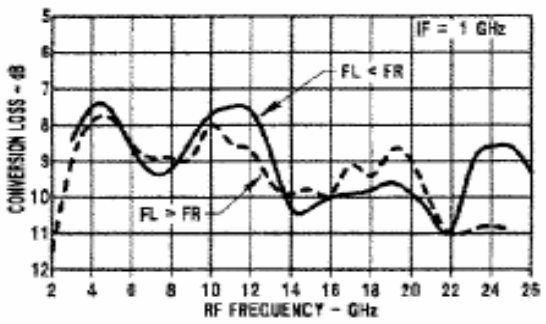
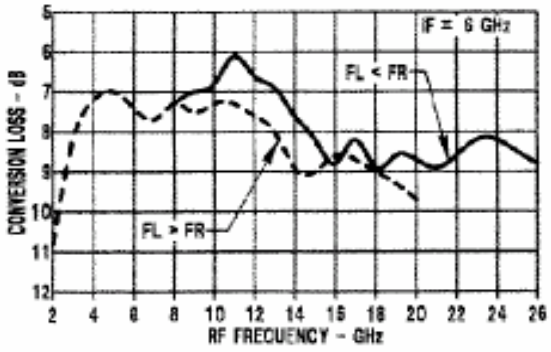
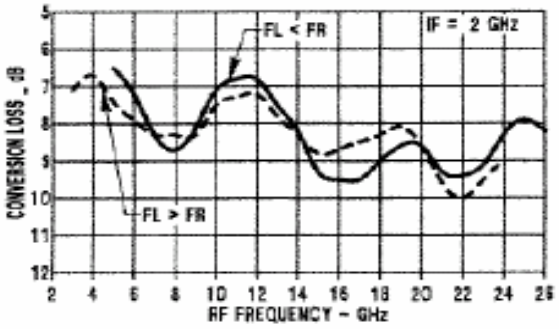
Typical Performance Curves

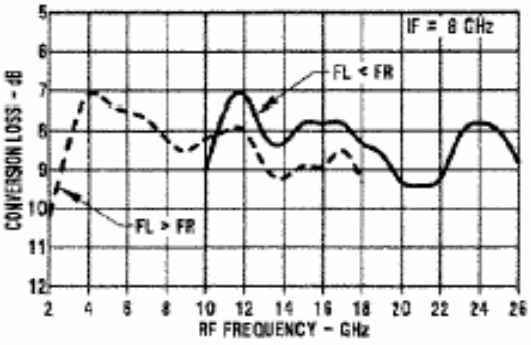
Conversion Loss vs. Frequency

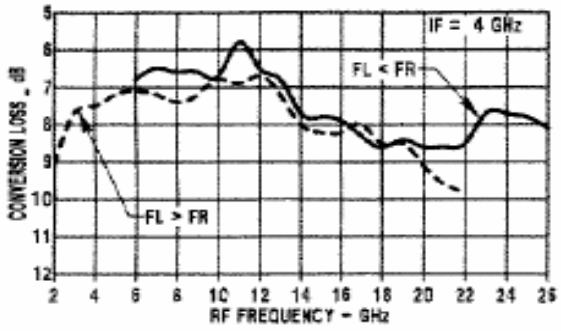


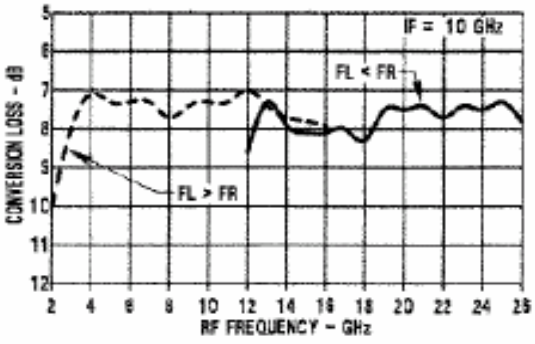
Conversion Loss vs. Frequency











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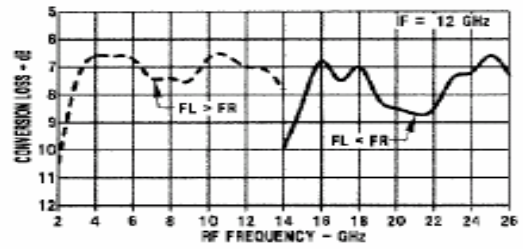
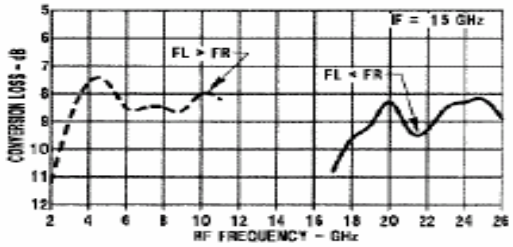
Absolute Maximum Ratings

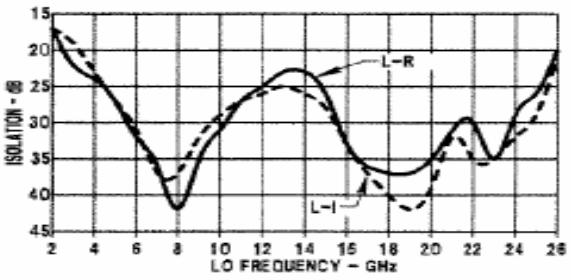
Parameter	Absolute Maximum
Operating Temperature	-54ºC to +100ºC
Storage Temperature	-65ºC to +100ºC
Peak Input Power	+26 dBm max @ +25ºC +22 dBm max @ +100ºC
Peak Input Current	mA DC

Conversion Loss vs. Frequency

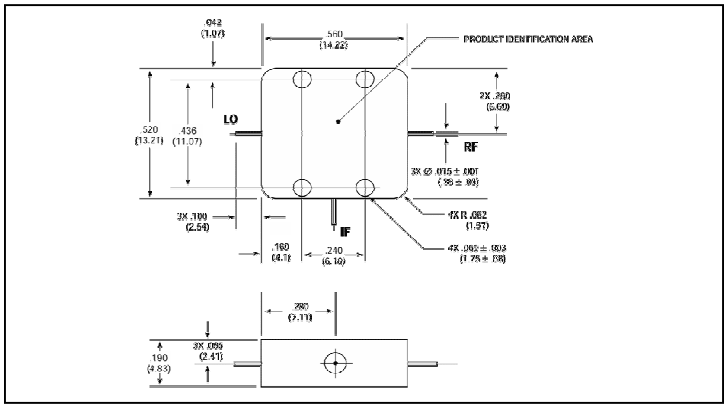




Isolation

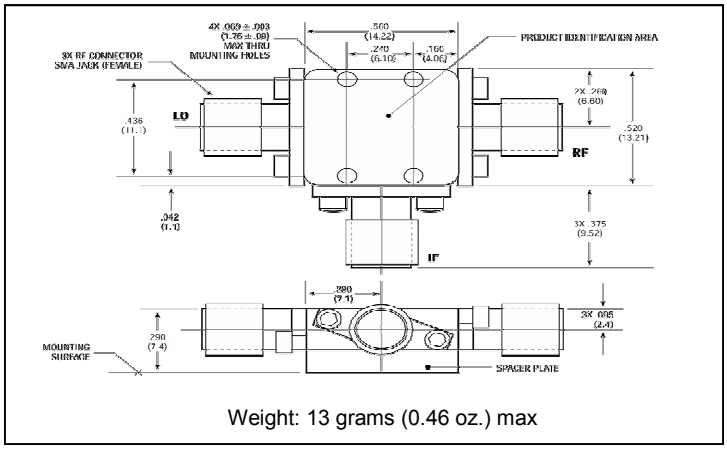


Outline Drawing: Versapac *



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.

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