# MZ8810 / MZ8810C

## **Triple-Balanced Mixer**

Rev. V3

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#### Features

- LO 2 TO 18 GHz
- RF 2 TO 18 GHz
- IF 1 TO 8 GHz
- LO DRIVE: +10 dBm (NOMINAL)
- MINIATURE PACKAGE
- WIDE BANDWIDTH
- AVAILABLE WITH FIELD REPLACEABLE CONNECTORS

#### Description

The MZ8810 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.

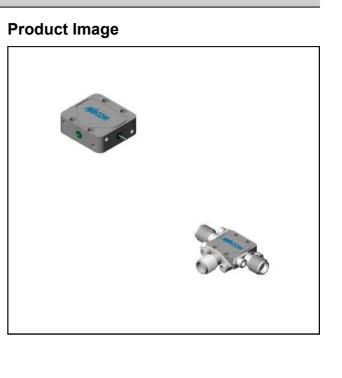
#### **Ordering Information**

Part Number	Package
MZ8810	Versapac
MZ8810C	SMA Connectorized

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

Paramotor	Parameter Test Conditions U		Typical	Guaranteed	
Falameter				+25°C	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 3 to 10 GHz, fL = 2 to 15 GHz, fl = 1 to 5 GHz fR = 2 to 18 GHz, fL = 2 to 18 GHz, fl = 1 to 18 GHz	dB dB	7.5	9.0 11.0	9.5 11.5
Isolation, L to R (min)	fL = 2 to 18 GHz	dB	25	15	13
Isolation, L to I (min)	fL = 2 to 18 GHz	dB	28	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	+15 +13		

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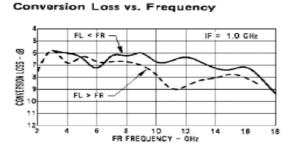


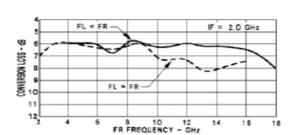
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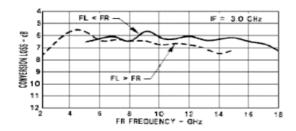
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## **Triple-Balanced Mixer**

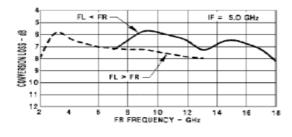
#### **Typical Performance Curves**





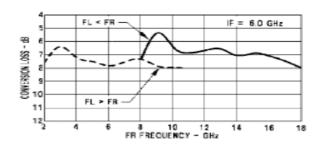


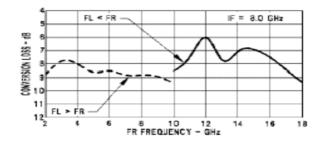
Conversion Loss vs. Frequency



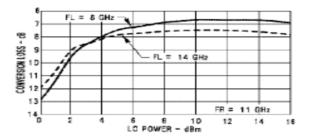
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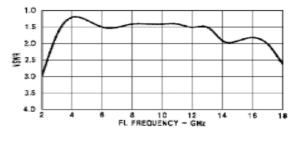




Conversion Loss vs. LO Power



L-Port VSWR vs. Frequency



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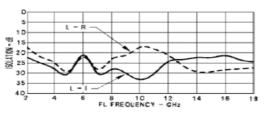
## **Triple-Balanced Mixer**

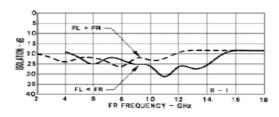
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#### **Absolute Maximum Ratings**

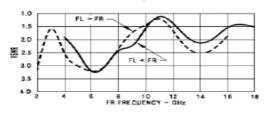
Parameter	Absolute Maximum	
Operating Temperature	-54°C to +100°C	
Storage Temperature	-65°C to +100°C	
Peak Input Power	+26 dBm max @ +25°C +23 dBm max @ +100°C	
Peak Input Current	mA DC	

#### Isolation vs. Frequency

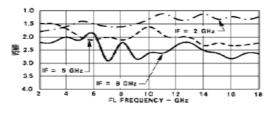




#### R-Port VSWR vs. Frequency



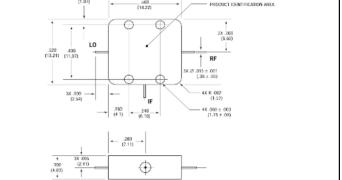
I-Port VSWR vs. Frequency





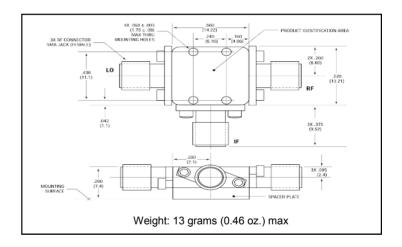
(1.52) (1.52) (1.422)

**Outline Drawing: Versapac** 



Weight: 4 grams (0.14 oz.) max

#### Outline Drawing: SMA Connectorized \*



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

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