# MZ7420 / MZ7420C

## **Double-Balanced Mixer**



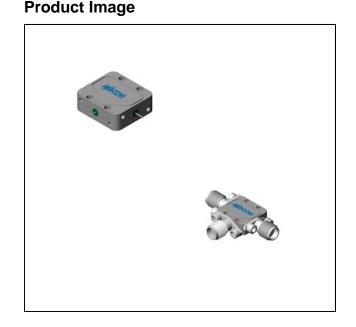
Rev. V3

#### Features

- LO 5 to 18 GHz
- RF 6 to 18 GHz
- IF DC to 3 GHz
- LO Drive +20 dBm (nominal)
- Wide Bandwidth
- High Intercept Point +21 dBm (typ)
- Available with Field Replaceable Connectors

## Description

The MZ7420 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.



### **Ordering Information**

Part Number	Package
MZ7420	Versapac
MZ7420C	SMA Connectorized

#### Electrical Specifications: $Z_0 = 50\Omega$ Lo = +20 dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
Falameter				+25⁰C	-54º to +85ºC
SSB Conversion Loss (max)	fR = 7 to 15 GHz, fL = 6 to 15 GHz, fI = 0.03 to 1 GHz fR = 6 to 16 GHz, fL = 5 to 18 GHz, fI = 0.03 to 2 GHz fR = 6 to 16 GHz, fL = 5 to 18 GHz, fI = 0.03 to 3 GHz fR = 16 to 18 GHz, fL = 13 to 18 GHz, fI = 0.03 to 3 GHz	dB	6.5 7.0 7.5 8.5	8.0 8.5 9.5 10.0	8.3 8.8 9.8 10.3
SSB Noise Figure (max)	Within 1 dB of conversion loss	dB			
Isolation, L to R (min)	fL = 5 to 15 GHz fL = 14 to 18 GHz	dB	35 30	23 18	22 17
Isolation, L to I (min)	fL = 5 to 9 GHz fL = 9 to 18 GHz	dB	27 35	17 23	16 22
1 dB Conversion Comp.	3 Conversion Comp. fL = +20 dBm		+15		
Input IP3	fR1 = 13 GHz at -6 dBm, fR2 = 13.01 GHz at -6 dBm, fL = 14 GHz at +20 dBm	dBm	+21		

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Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples indonest outer may be available Commitment to produce in volume is not outer the second structure of the second

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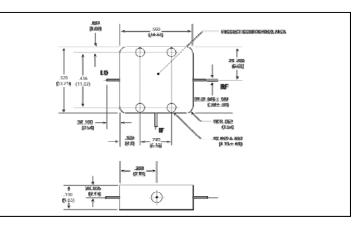
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### **Absolute Maximum Ratings**

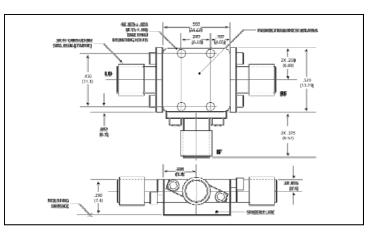
Parameter	Absolute Maximum
Operating Temperature	-54º C to +100ºC
Storage Temperature	-65°C to +100°C
Peak Input Power	+25 dBm max @ +25⁰C +21 dBm max @ +100⁰C
Peak Input Current	mA DC

## **Outline Drawing: Versapac**



Weight: 4 grams (0.14 oz.) max

### Outline Drawing: SMA Connectorized



Weight: 13 grams (0.46 oz.) max

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

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