# MY63H / MY63HC

# **Double-Balanced Mixer**



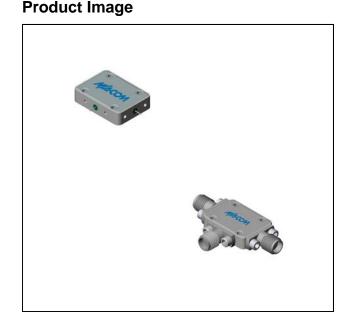
Rev. V1

### Features

- LO 2.5 to 7.5 GHz
- RF 2.5 to 6.5 GHz
- IF DC to 1.5 GHz
- LO Drive +20 dBm (nominal)
- High Intercept Point +22 dBm (typ)
- •

### Description

The MY63H 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	
MY63H	Versapac	
MY63HC	SMA Connectorized	

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

Parameter	Test Conditions	Units	Typical	Guaranteed	
Farameter	Test Conditions			+25⁰C	-54º to +85ºC
SSB Conversion Loss (max)	fR = 3.0 to 5.0 GHz, fL = 3.0 to 5.5 GHz, fI = 0.03 to 0.5 GHz fR = 2.5 to 6.5 GHz, fL = 2.5 to 7.5 GHz, fI = 0.03 to 1.5 GHz	dB	5.8 6.0	6.5 7.5	6.8 7.8
SSB Noise Figure (max)	Within 1 db of conversion loss	dB			
Isolation, L to R (min)	fL = 2.5 to 6.5 GHz fL = 6.5 to 7.5 GHz	dB	42 32	30 26	29 25
Isolation, L to I (min)	fL = 3.0 to 5.5 GHz fL = 5.5 to 7.5 GHz fL = 2.5 to 3.0 GHz	dB	24 18 21	19 13 17	18 12 16
1 dB Conversion Comp.	fL = +20 dBm	dBm	+14		
Input IP3	fR1 = 4.00 GHz at 0 dBm, fR2 = 3.99 GHz at 0 dBm, fL = 5.0 GHz at = +20 dBm	dBm	+22		

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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 or to are may be available Commitment to produce in volume is not outparanteed.

st user may be available. MA-COM Technology Solutions more and its effiliates reserve the right to make Changes to the product is journormation contained herein without notice.

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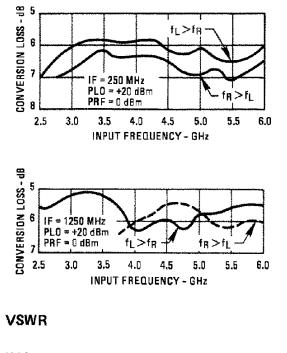


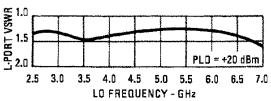
Rev. V1

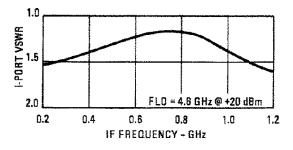
6,0

## **Typical Performance Curves**

#### **Conversion Loss**







#### **ISOLATION - dB** L-R 30 40 PL0 = +20 dBm 50 2.5 3.0 3.5 4.5 5.0 5.5 6.0 6.5 7.0 7.5 4.0 LO FREQUENCY - GHz 80 - NOITAJOSI 80 - NOITAJOSI 40 **H**-1 PRF = 0 dBm2.5 3.0 3.5 4.0 5.0 4.5 5.5 **RF FREQUENCY - GHz** 1.0 1.5 UMSA LHOd-H IF = 500 MHz 3,0 fL>fR PL0 = +20 dBm3.5 2.5 3.0 3.5 4.0 4.5 5.5 6.0 5.0

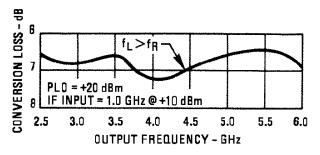
Isolation

L-I

10

20

## **Conversion Loss (Upconversion)**



RF FREQUENCY - GHz

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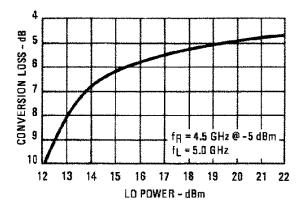
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## **Absolute Maximum Ratings**

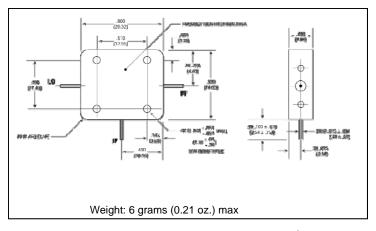
Parameter	Absolute Maximum		
Operating Temperature	-54ºC to +100ºC		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+24.7 dBm max @ +25°C +20.9 dBm max @ +100°C		
Peak Input Current	100 mA DC		

### **Drive Level**

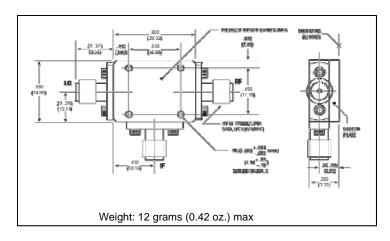


*Drive Level:* The maximum recommended drive level is +23 dBm.

## Outline Drawing: Versapac



# Outline Drawing: SMA Connectorized \*



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

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