# MY76H / MY76HC

## **Double-Balanced Mixer**



Rev. V4

#### Features

- LO 2.5 to 10.5 GHz
- RF 4.5 to 8.5 GHz
- IF DC to 2.0 GHz
- LO Drive +20 dBm (nominal)
- High Intercept Point +24 dBm (typ)

### Description

The MY76H 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
MY76H	Versapac
MY76HC	SMA Connectorized

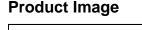
## Electrical Specifications: $Z_0 = 50\Omega$ Lo =+20 dBm (Downconverter application only)

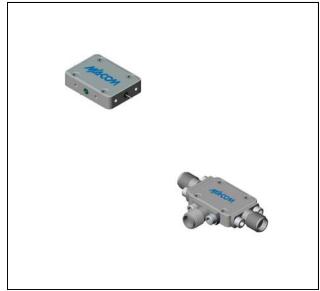
Parameter	Test Conditions	Units	Typical	Guaranteed	
Falameter	Test Conditions			+25⁰C	-54º to +85ºC
SSB Conversion Loss (max)	fR = 4.5 to 8 GHz, fL = 2.5 to 10 GHz, fI = 0.03 to 2 GHz fR = 8 to 8.5 GHz, fL = 6.5 to 10.0 GHz, fI = 0.03 to 1.5 GHz fR = 8 to 8.5 GHz, fL = 6 to 10.5 GHz, fI = 0.03 to 2 GHz	dB	5.5 6.5 8.0	7.0 8.0 9.5	7.3 8.3 9.8
SSB Noise Figure (max)	Within 1 dB of conversion loss	dB			
Isolation, L to R (min)	fL = 2.5 to 10.5 GHz	dB	35	22	21
Isolation, L to I (min)	fL = 6.5 to 10.5 GHz fL = 2.5 to 6.5 GHz	dB	30 22	20 15	19 14
1 dB Conversion Comp.	fL = +20 dBm	dBm	+15		
Input IP3	fR1 = 6.12 GHz at 0 dBm, fR2 = 6.18 GHz at 0 dBm, fL = 7.2 GHz at +20 dBm	dBm	+24		

- ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology
- North America Tel: 800.366.2266 Europe Tel: +353.21.244.6400
- India Tel: +91.80.4155721
  China Tel: +86.21.2407.1588
  Visit www.macomtech.com for additional data sheets and product information.

**PRELIMINARY:** Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.





## MY76H / MY76HC

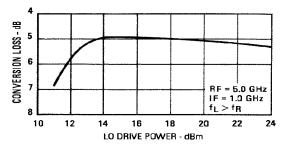
## **Double-Balanced Mixer**



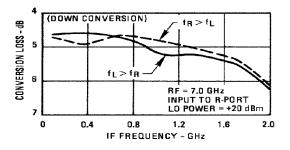
Rev. V4

#### **Typical Performance Curves**

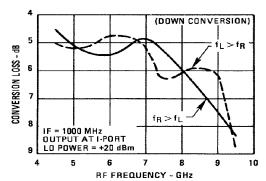
#### Conversion Loss vs. LO Drive Power

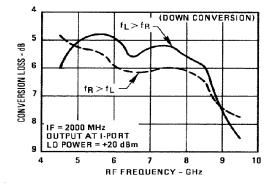


Conversion Loss



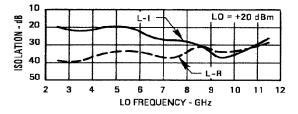
Conversion Loss





3 (UP CONVERSION CONVERSION LOSS - dB SATELLITE UP-LINK BAND) 4 fL> fR 5 IF = 1000 MHz INPUT TO I-PORT LO POWER = +20 dBm fR> 6 5.9 6.0 6.3 6.1 6.2 6.4 OUTPUT FREQUENCY - GHz





2

- ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. **PRELIMINARY:** Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.
- North America Tel: 800.366.2266
  Europe Tel: +353.21.244.6400
  India Tel: +91.80.4155721
  China Tel: +86.21.2407.1588
- Visit www.macomtech.com for additional data sheets and product information.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.

# MY76H / MY76HC



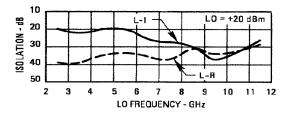
## **Double-Balanced Mixer**

Rev. V4

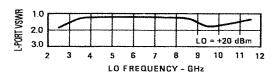
### **Absolute Maximum Ratings**

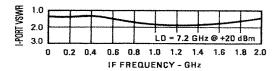
Parameter	Absolute Maximum			
Operating Temperature	-54⁰C to +100⁰C			
Storage Temperature	-65°C to +100°C			
Peak Input Power	+25 dBm max @ +25⁰C +20 dBm max @ +100⁰C			
Peak Input Current	100 mA DC			

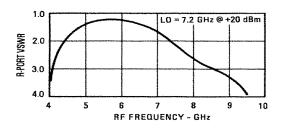
#### Isolation



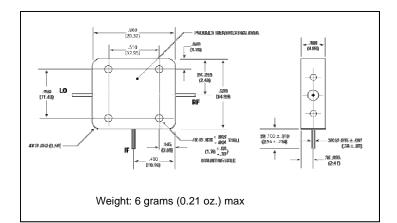




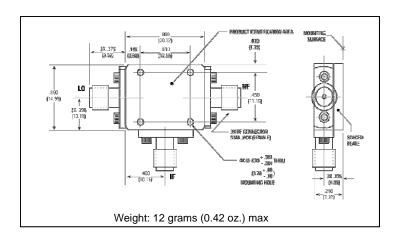




## Outline Drawing: Versapac



### **Outline Drawing: SMA Connectorized**



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

ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed. PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available.

Commitment to produce in volume is not guaranteed.

- North America Tel: 800.366.2266
  Europe Tel: +353.21.244.6400
  India Tel: +91.80.4155721
  China Tel: +86.21.2407.1588
- Visit www.macomtech.com for additional data sheets and product information.

M/A-COM Technology Solutions Inc. and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.