tyco Electronics

M/A-COM

# Triple-Balanced Mixer

**MY50A/MY50AC**
V2

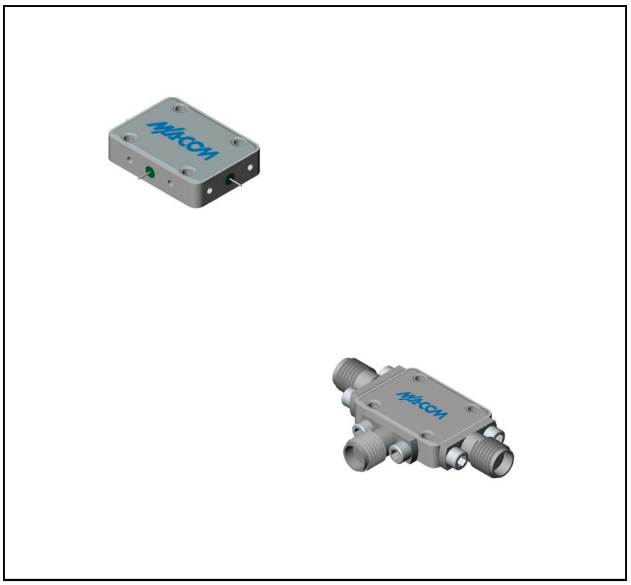
## Features

- LO 2 TO 26 GHz
- RF 2 TO 18 GHz
- IF 1 TO 12 GHz
- LO DRIVE +10 dBm (nominal)
- HIGH COMPRESSION POINT

## Description

MY50A 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 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.

## Product Image



## Ordering Information

| Part Number | Package |
|---|---|
| MY50A | Versapac |
| MY50AC | 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 = 2.5 to 18 GHz, fL = 2 to 18 GHz, fI = 1 to 10 GHz<br>fR = 2 to 18 GHz, fL = 2 to 26 GHz, fI = 1 to 12 GHz | dB<br>dB | 7.5<br>8.0 | 9.5<br>10.5 | 10.0<br>11.0 |
| Isolation, L to R (min) | fL = 2 to 3 GHz<br>fL = 3 to 26 GHz | dB<br>dB | 22<br>30 | 15<br>20 | |
| Isolation, L to I (min) | fL = 7 to 26 GHz<br>fL = 2 to 7 GHz | dB<br>dB | 30<br>22 | 20<br>15 | |
| 1 dB Conversion Comp. | fL = +10 dBm | dBm | +5 | | |
| Input IP3 | fR1 = 5 GHz at –6 dBm, fR2 = 5.01 GHz at –6 dBm, fL = 8 GHz at +10 dBm<br>fR1 = 15 GHz at –6 dBm, fR2 = 15.01 GHz at –6 dBm, fL =25 GHz at +10 dBm | dBm<br>dBm | +15<br>+12 | | |



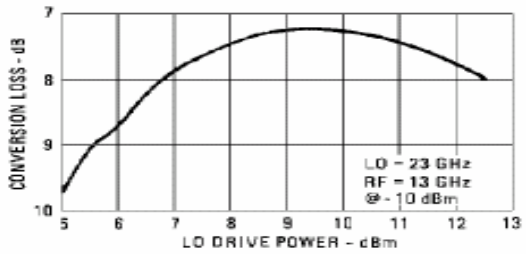



- **North America** Tel: 800.366.2266 / Fax: 978.366.2266
- **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
- **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298

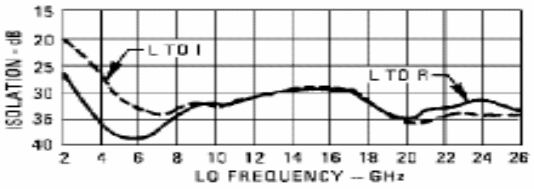
Visit www.macom.com for additional data sheets and product information.

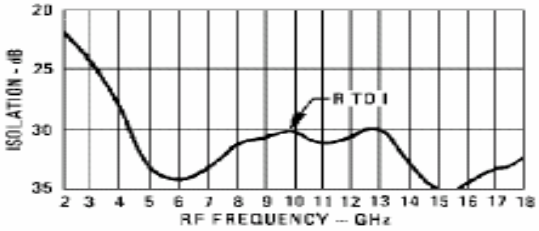
## Typical Performance Curves

### Drive Level

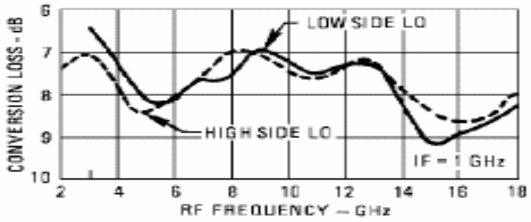


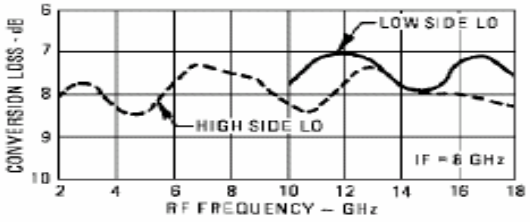

### Isolation vs. Frequency

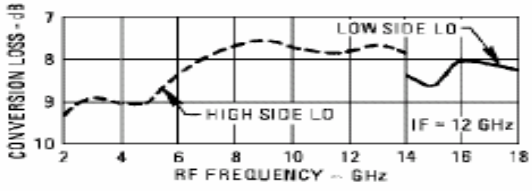


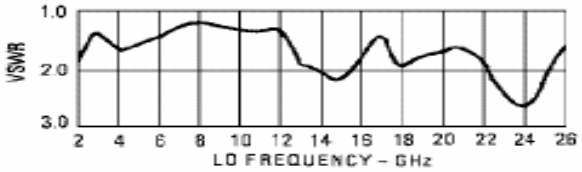

### Conversion Loss vs. Frequency LO @ +10 dBm



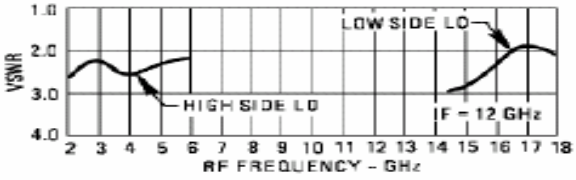




### L-Port VSWR




### R-Port VSWR









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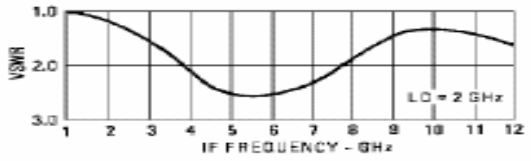
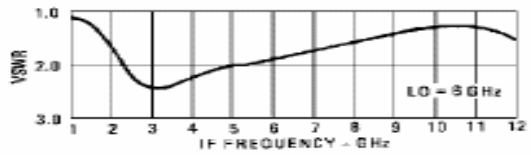
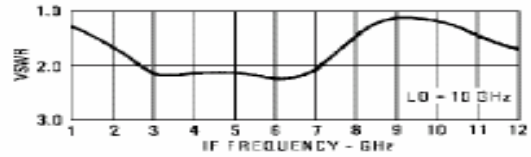
## Absolute Maximum Ratings

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

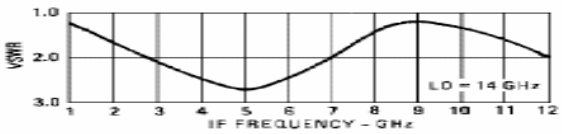
I-Port VSWR vs. Frequency, LO @ +10 dBm

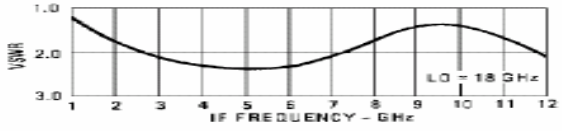


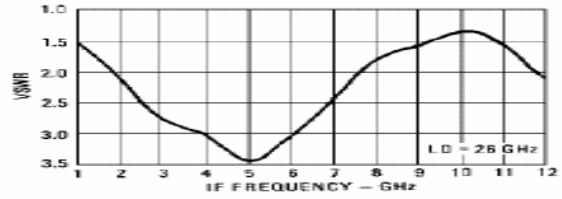



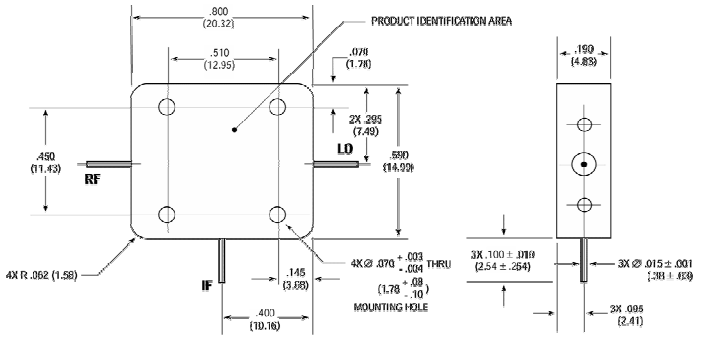

I-Port VSWR



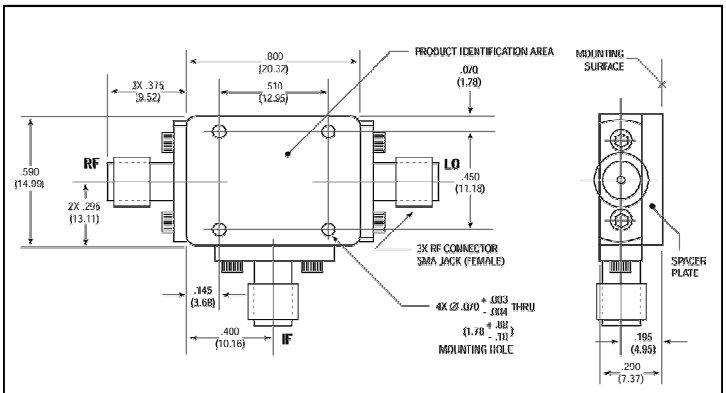




## Outline Drawing: Versapac *




Weight: 6 grams (0.21 oz.) max

## Outline Drawing: SMA Connectorized *




Weight: 12 grams (0.42 oz.) max

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



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