

# Triple-Balanced Mixer

**MY50/MY50C**

V2

## Features

- LO 2.0 to 26 GHz
- RF 2.0 to 26 GHz
- IF 1.0 to 15 GHz
- LO Drive +10 dBm (nominal)
- High Compression Point
- Very Wide Bandwidth

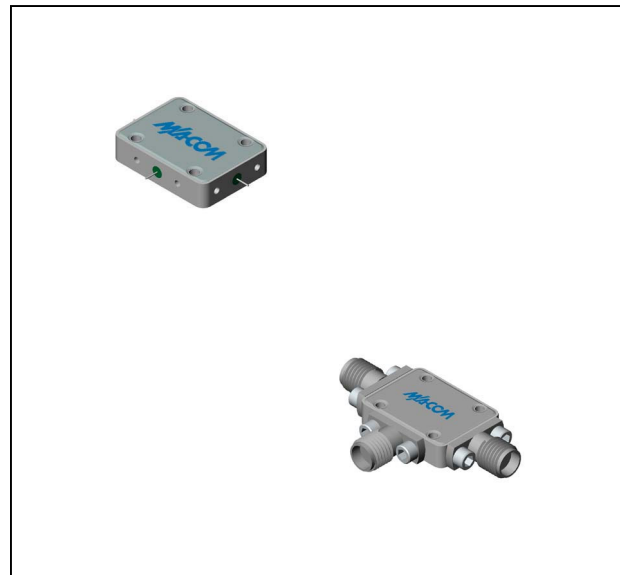
## Description

MY50 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.

## Ordering Information

| Part Number | Package           |
|-------------|-------------------|
| MY50        | Versapac          |
| MY50C       | SMA Connectorized |

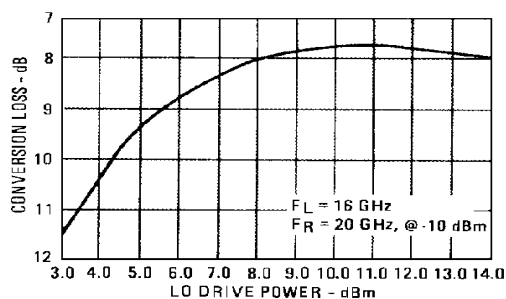
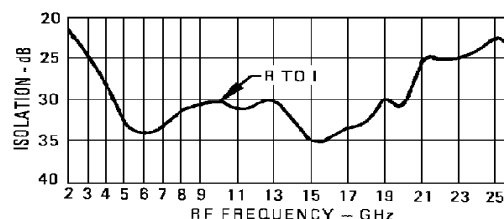
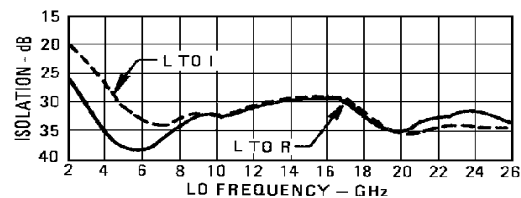
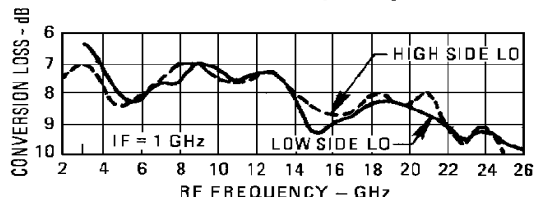
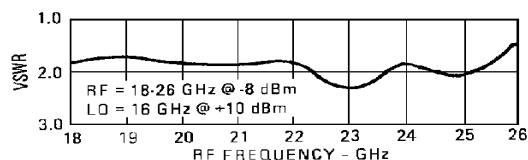
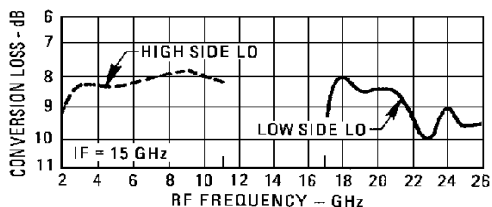
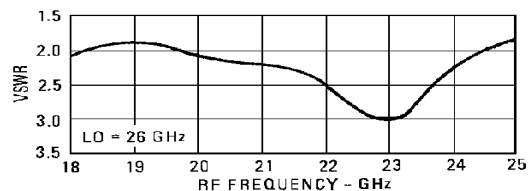
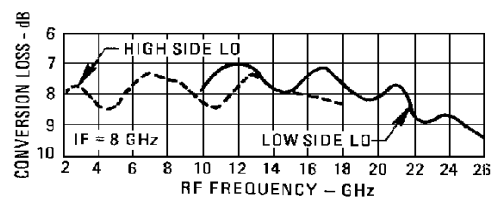
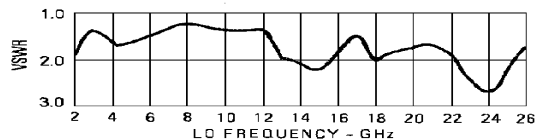
## Product Image



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

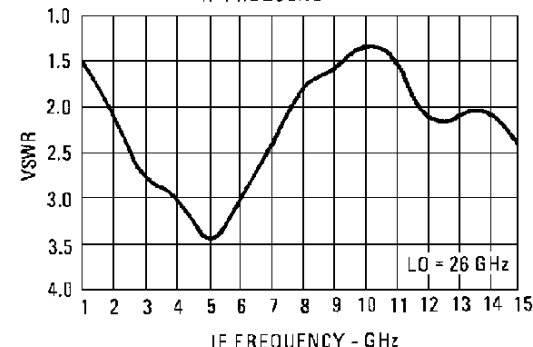
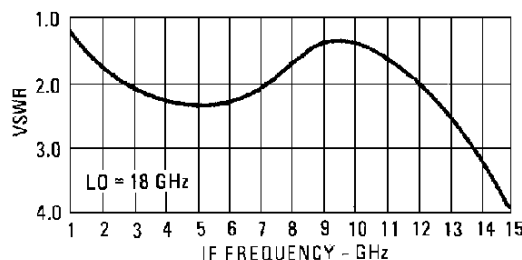
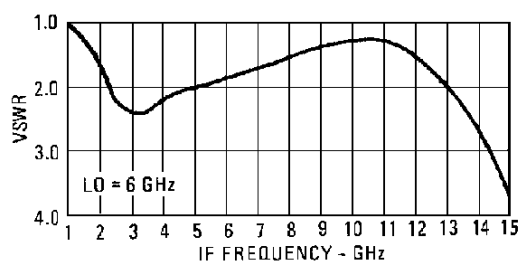
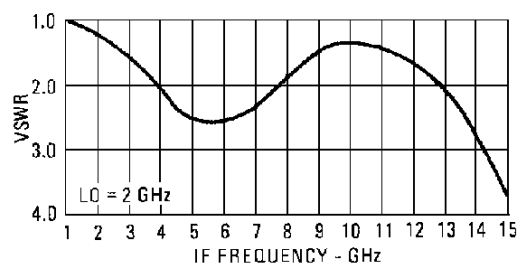
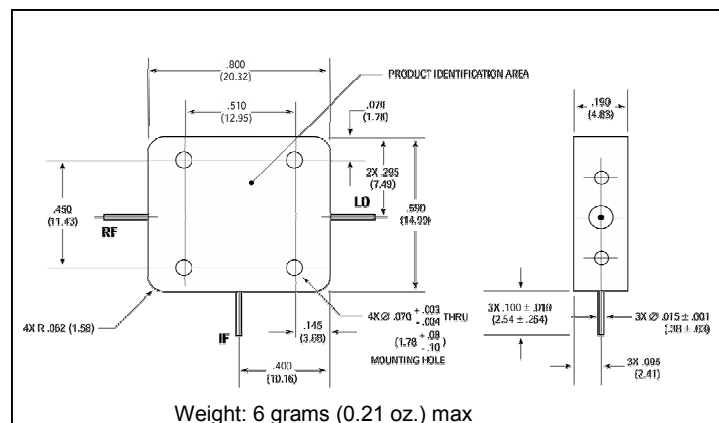
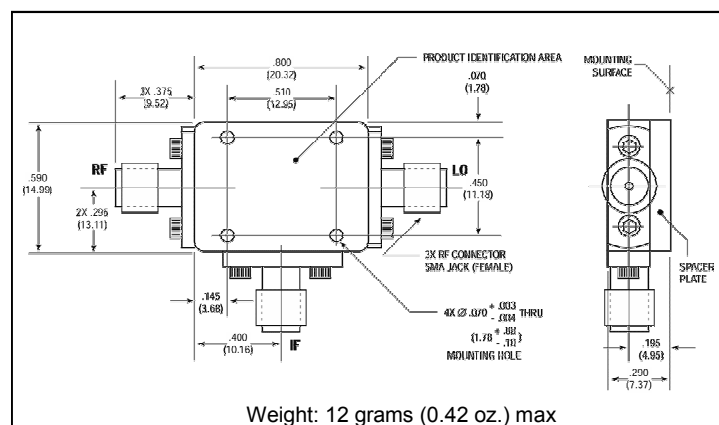
| Parameter                 | Test Conditions                                                                                                                                                        | Units | Typical           | Guaranteed          |                      |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------|---------------------|----------------------|
|                           |                                                                                                                                                                        |       |                   | +25°C               | -54° to +85°C        |
| SSB Conversion Loss (max) | fR = 2.5 to 18 GHz, fL = 2 to 18 GHz, fI = 2 to 10 GHz<br>fR = 2 to 18 GHz, fL = 2 to 26 GHz, fI = 2 to 12 GHz<br>fR = 2 to 26 GHz, fL = 2 to 26 GHz, fI = 1 to 15 GHz | dB    | 7.5<br>8.0<br>9.0 | 9.5<br>10.5<br>11.5 | 10.0<br>11.0<br>12.0 |
| SSB Noise Figure (max)    | Within 1 db of conversion loss                                                                                                                                         | dB    | —                 | —                   | —                    |
| Isolation, L to R (min)   | fL = 2 to 3 GHz<br>fL = 3 to 26 GHz                                                                                                                                    | dB    | 30<br>22          | 20<br>15            | 18<br>13             |
| Isolation, L to I (min)   | fL = 2 to 7 GHz<br>fL = 7 to 26 GHz                                                                                                                                    | dB    | 30<br>22          | 20<br>15            | 18<br>13             |
| 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 = 25 GHz at -6 dBm, fR2 = 25.01 GHz at -6 dBm, fL = 15 GHz at +10 dBm                    | dBm   | +15<br>+15        |                     |                      |

## Typical Performance Curves

**Conversion Loss vs. LO Drive Level**

**Isolation vs. Frequency**

**Conversion Loss vs. Frequency**

**R-Port VSWR**

**Conversion Loss vs. Frequency**

**L-Port VSWR**


**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<br>+22 dBm max @ +100°C |
| Peak Input Current    | 100 mA DC                                   |

**I-Port VSWR**

**Outline Drawing: Versapac \***

**Outline Drawing: SMA Connectorized \***


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