

Triple-Balanced Mixer

Rev. V3

Features

- LO 2 TO 24 GHz
- RF 2 TO 24 GHz
- IF 0.1 TO 5 GHz
- LO DRIVE: +10 dBm (NOMINAL)
- HIGH COMPRESSION POINT
- VERY WIDE BANDWIDTH

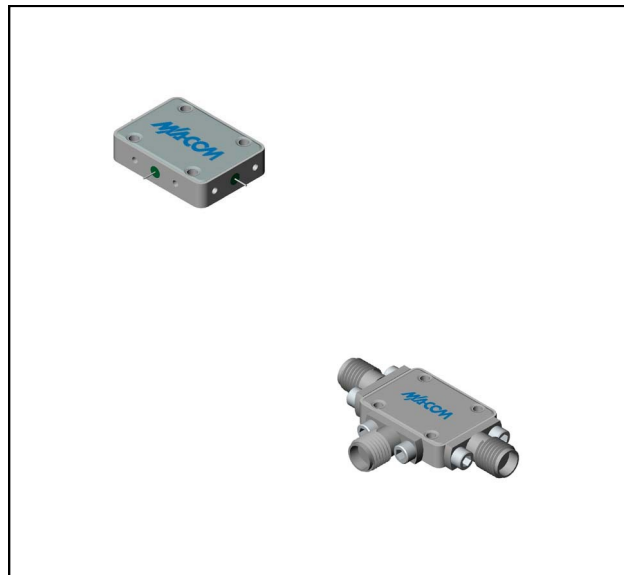
Description

MY52 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 |
|-------------|-------------------|
| MY52 | Versapac |
| MY52C | SMA Connectorized |

Product Image

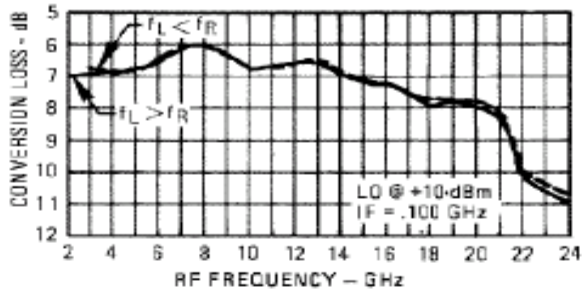


Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +10$ dBm (Downconverter Application only)

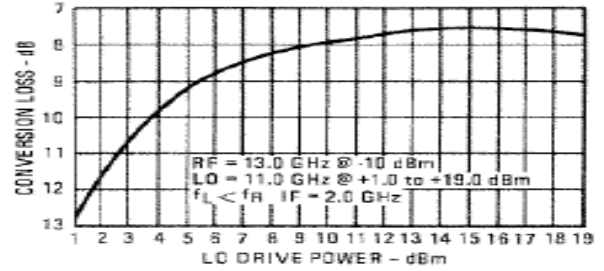
| Parameter | Test Conditions | Units | Typical | Guaranteed | |
|--|--|-------|---------|------------|---------------|
| | | | | +25°C | -54° to +85°C |
| SSB Conversion Loss (max) & SSB Noise Figure (max) | $f_R = 8$ to 18 GHz, $f_L = 8$ to 18 GHz, $f_I = 0.1$ to 4 GHz | dB | 7.5 | 9.5 | 10.0 |
| | $f_R = 2$ to 8 GHz, $f_L = 2$ to 8 GHz, $f_I = 1$ to 4 GHz | dB | 8.0 | 10.0 | 10.5 |
| | $f_R = 2$ to 18 GHz, $f_L = 2$ to 18 GHz, $f_I = 0.1$ to 5 GHz | dB | 8.5 | 10.5 | 11.0 |
| | $f_R = 18$ to 24 GHz, $f_L = 13$ to 24 GHz, $f_I = 0.1$ to 5 GHz | dB | 9.5 | 12.5 | 13.0 |
| Isolation, L to R (min) | $f_L = 2$ to 24 GHz | dB | 18 | 15 | 13 |
| | $f_L = 4$ to 19 GHz | dB | 25 | 20 | 18 |
| Isolation, L to I (min) | $f_L = 2$ to 20 GHz | dB | 30 | 22 | 20 |
| | $f_L = 20$ to 24 GHz | dB | 20 | 15 | 13 |
| 1 dB Conversion Comp. | $f_L = +10$ dBm | dBm | +5 | | |
| Input IP3 | $f_{R1} = 3.75$ GHz at -6 dBm, $f_{R2} = 3.76$ GHz at -6 dBm, $f_L = 4$ GHz at +10 dBm | dBm | +16 | | |
| | $f_{R1} = 13$ GHz at -6 dBm, $f_{R2} = 13.01$ GHz at -6 dBm, $f_L = 11$ GHz at +10 dBm | dBm | +16 | | |
| | $f_{R1} = 20$ GHz at -6 dBm, $f_{R2} = 20.01$ GHz at -6 dBm, $f_L = 24$ GHz at +10 dBm | dBm | +13 | | |

Typical Performance Curves

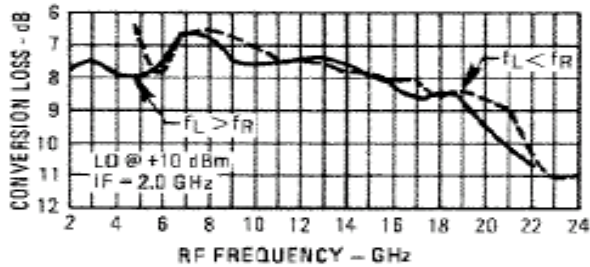
Conversion Loss vs. Frequency



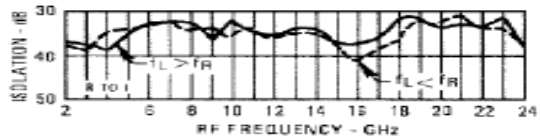
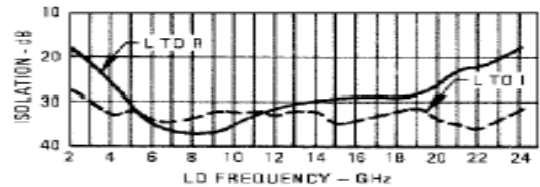
Drive Level



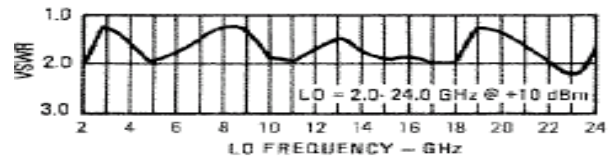
Conversion Loss vs. Frequency



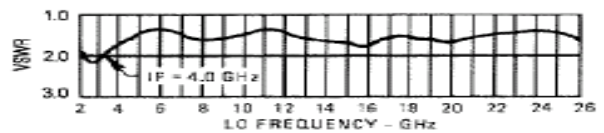
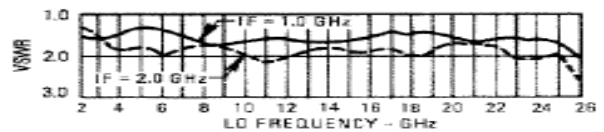
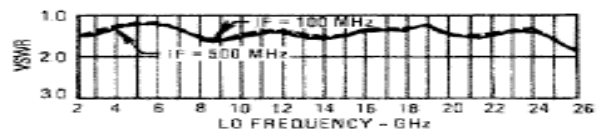
Isolation vs. Frequency



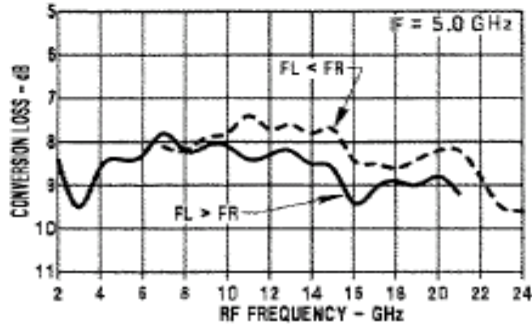
L-Port VSWR



I-Port VSWR



Conversion Loss vs. Frequency



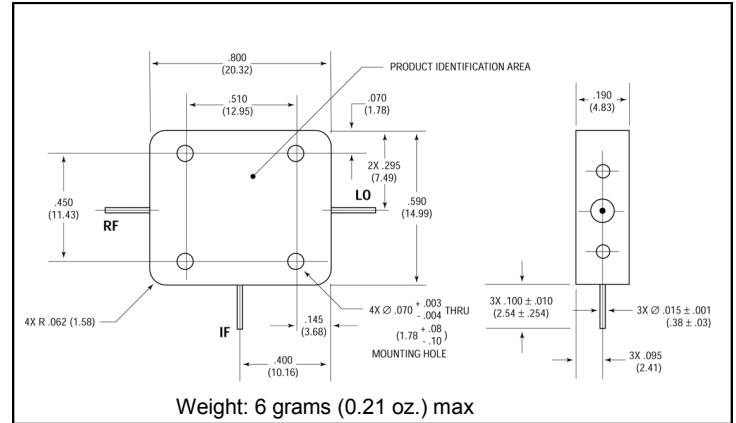
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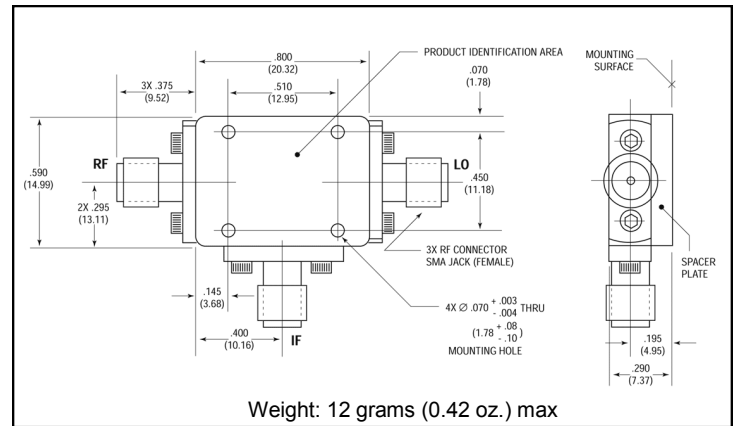
Absolute Maximum Ratings

| 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 +22 dBm max @ +100°C |
| Peak Input Current | mA DC |

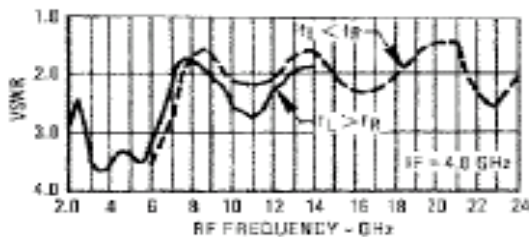
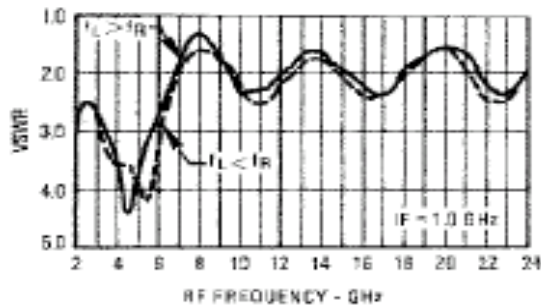
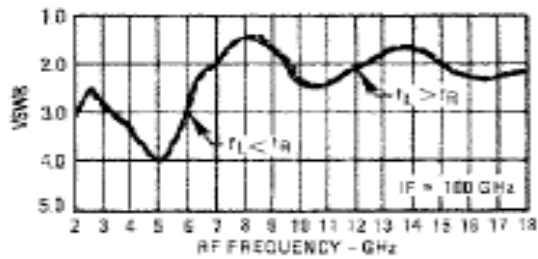
Outline Drawing: Versapac *



Outline Drawing: SMA Connectorized *



R-Port VSWR



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

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