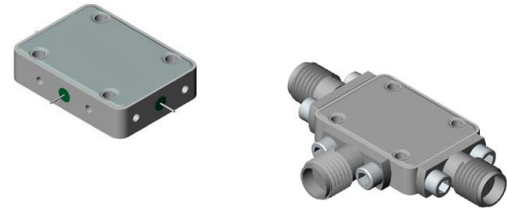


Features

- LO: 2 to 26 GHz
- RF: 2 to 26 GHz
- IF: 1 to 15 GHz
- LO Drive +10 dBm (nominal)
- High Compression Point
- Very Wide Bandwidth



Applications

- Aerospace & Defense
- ISM

Description

MY50 is a triple balanced mixer, that 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.

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, fl = 2 to 10 GHz | dB | 7.5 | 9.5 | 10.0 |
| | fR = 2.0 to 18 GHz, fL = 2 to 26 GHz, fl = 2 to 12 GHz | | 8.0 | 10.5 | |
| | fR = 2.0 to 26 GHz, fL = 2 to 26 GHz, fl = 1 to 15 GHz | | 9.0 | 11.5 | |
| SSB Noise Figure (max.) | — | dB | ±1 dB of conversion loss | | |
| Isolation, L to R (min.) | fL = 2 to 3 GHz | dB | 30 | 15 | 13 |
| | fL = 3 to 26 GHz | | 22 | 20 | 18 |
| Isolation, L to I (min.) | fL = 2 to 7 GHz | dB | 30 | 15 | 13 |
| | fL = 7 to 26 GHz | | 22 | 20 | 20 |
| 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 | dBm | 15 | — | — |
| | fR1 = 25 GHz at -6 dBm, fR2 = 25.01 GHz at -6 dBm, fL = 15 GHz at +10 dBm | | 15 | — | — |

Ordering Information

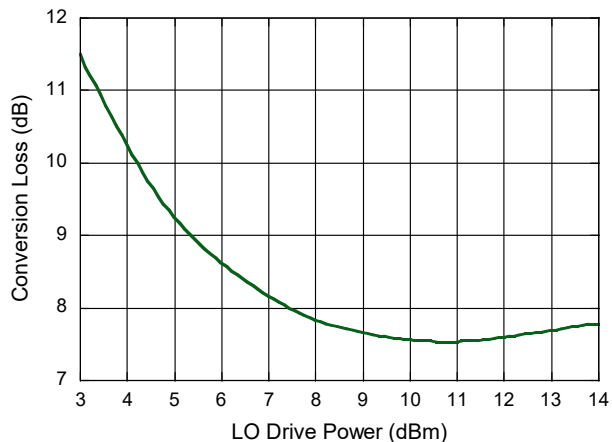
| Part Number | Package |
|-------------|-------------------|
| MY50 | Versapac |
| MY50C | SMA Connectorized |

Absolute Maximum Ratings

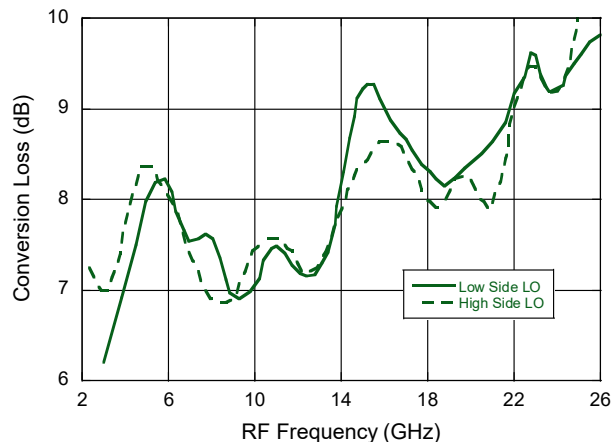
| Parameter | Absolute Maximum |
|-----------------------|-----------------------------------|
| Peak Input Power | 26 dBm @ +25°C 22 dBm @ +100°C |
| Peak Input Current | 100 mA DC |
| Operating Temperature | -54°C to +100°C |
| Storage Temperature | -65°C to +100°C |

Typical Performance Curves

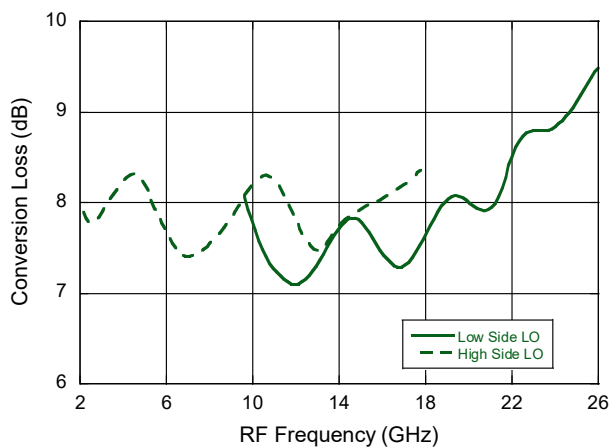
Conversion Loss vs. Low Drive Level
 FL = 16 GHz, FR = 20 GHz @ -10 dBm



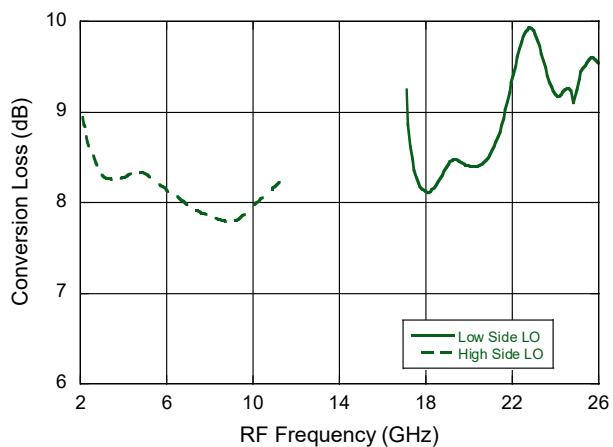
Conversion Loss vs. Frequency
 IF = 1 GHz



Conversion Loss vs. Frequency
 IF = 8 GHz

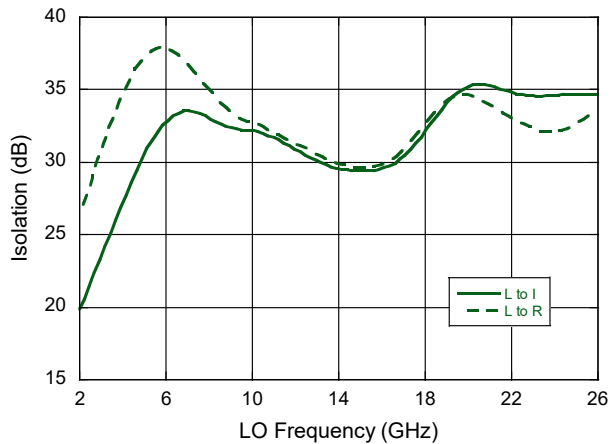


Conversion Loss vs. Frequency
 IF = 15 GHz

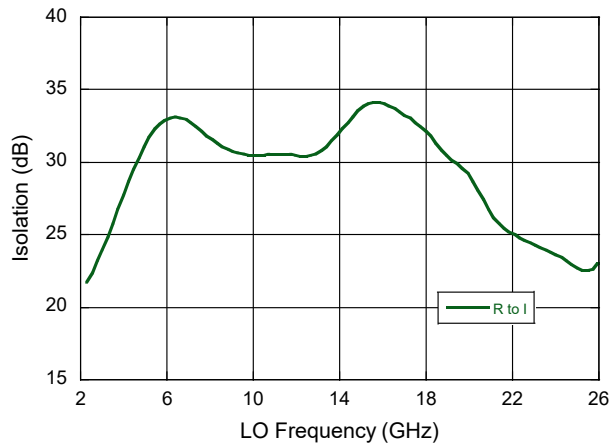


Typical Performance Curves

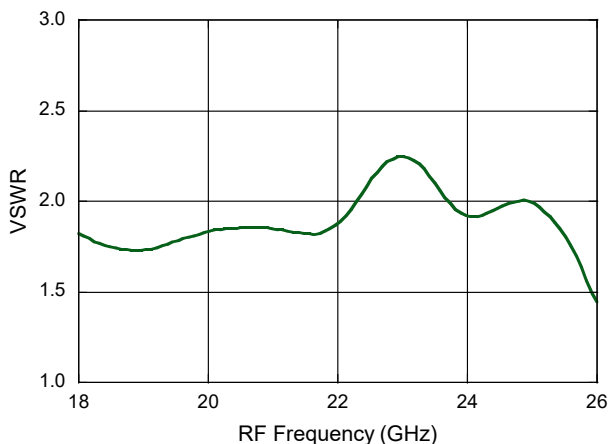
Isolation vs. LO Frequency



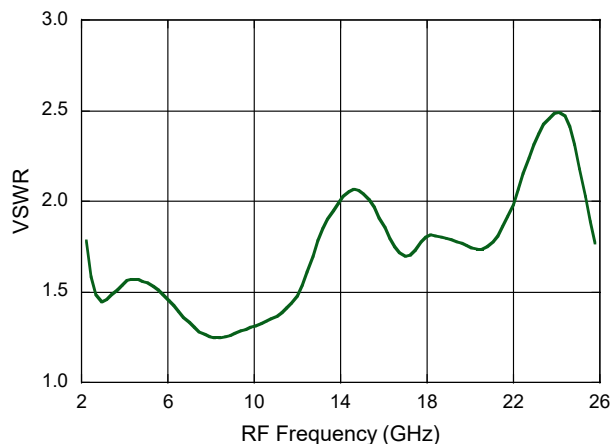
Isolation vs. RF Frequency



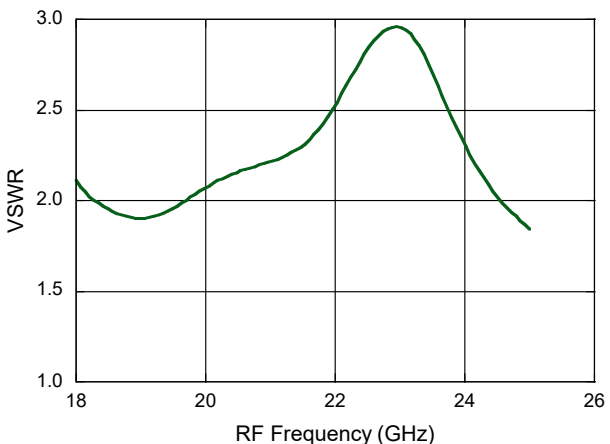
VSWR (R-Port)
RF = 18.26 GHz @ -8 dBm
LO = 16.00 GHz @ +10 dBm



VSWR (L-Port)

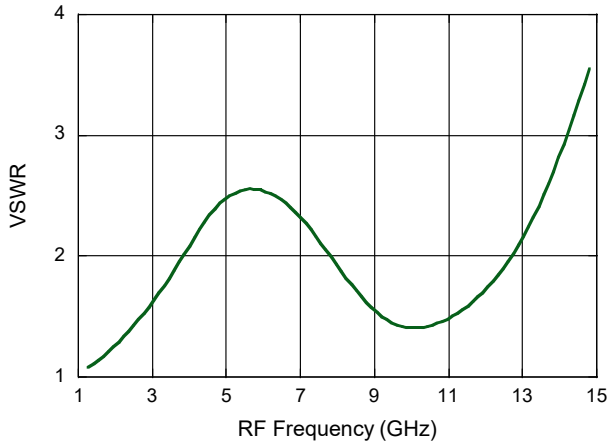


VSWR (R-Port)
LO = 26 GHz

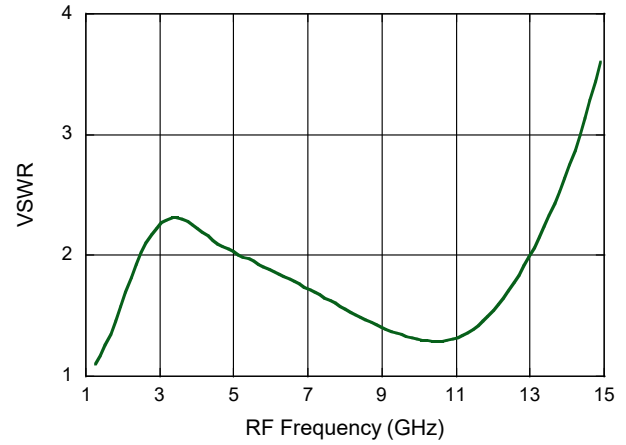


Typical Performance Curves

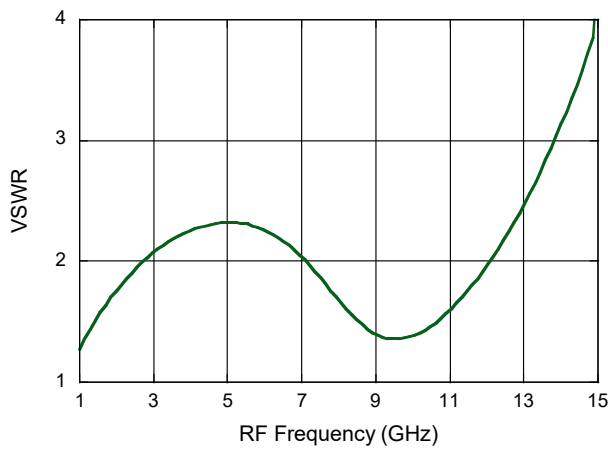
VSWR (I-Port)
LO = 2 GHz



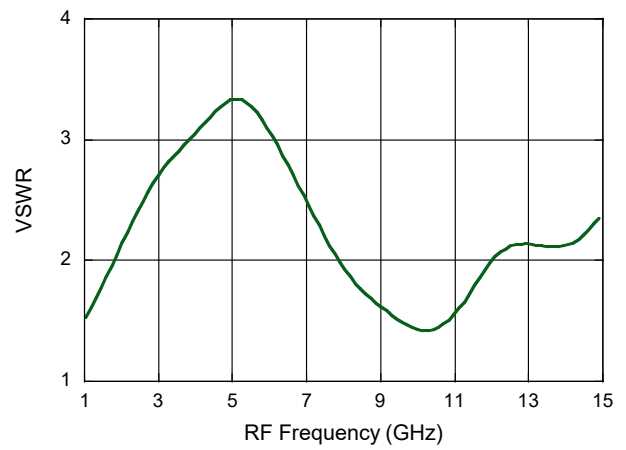
VSWR (I-Port)
LO = 6 GHz



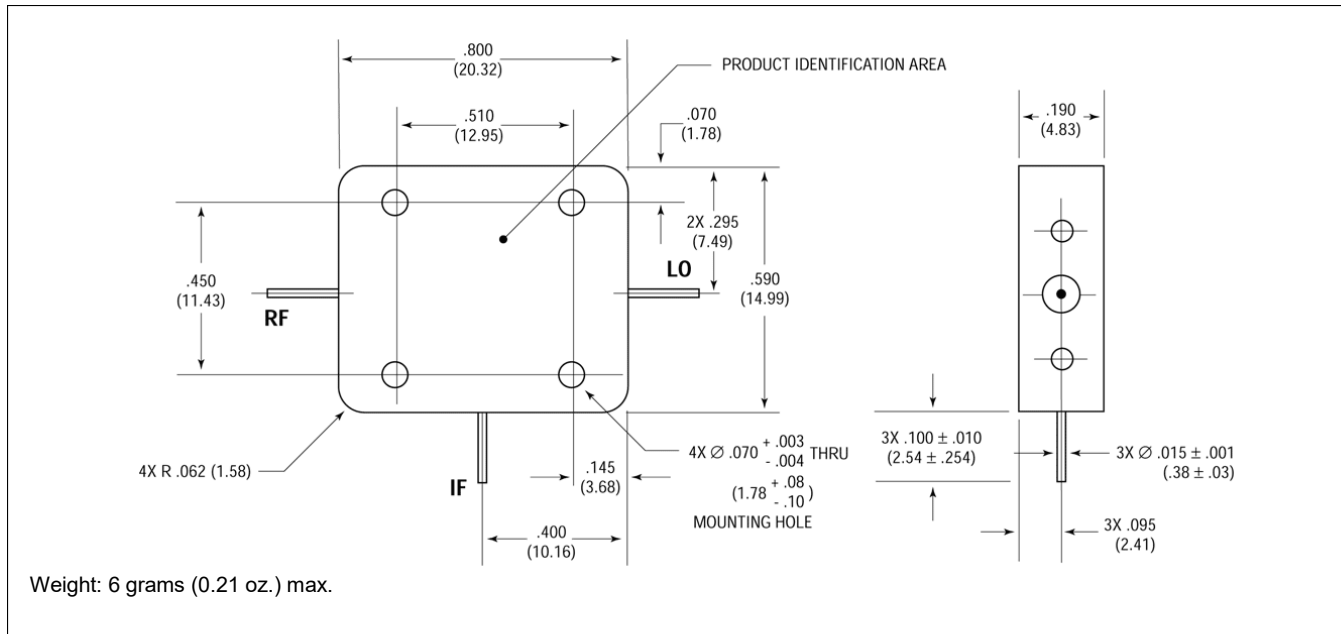
VSWR (I-Port)
LO = 18 GHz



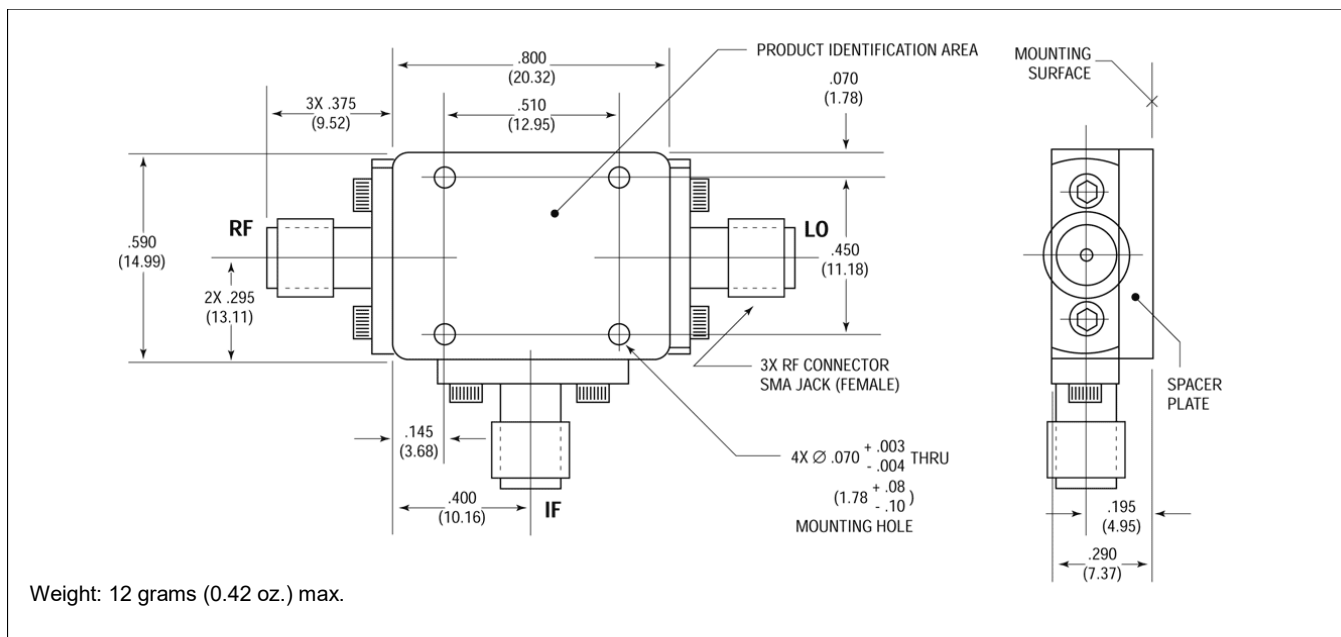
VSWR (I-Port)
LO = 26 GHz



Outline Drawing: Versapac*



Outline Drawing: SMA Connectorized*



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

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