

### 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

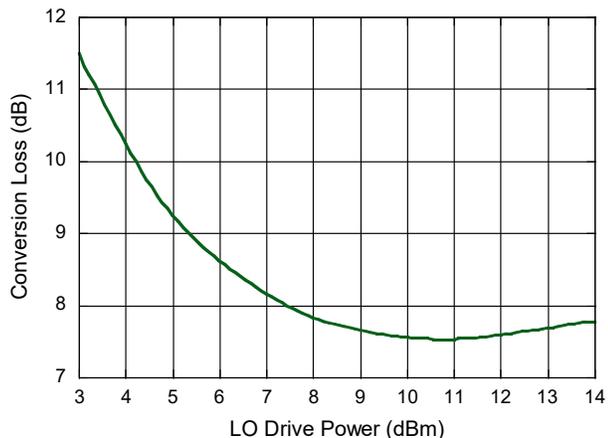
Part Number	Package
MY50	Versapac
MY50C	SMA Connectorized

### Absolute Maximum Ratings

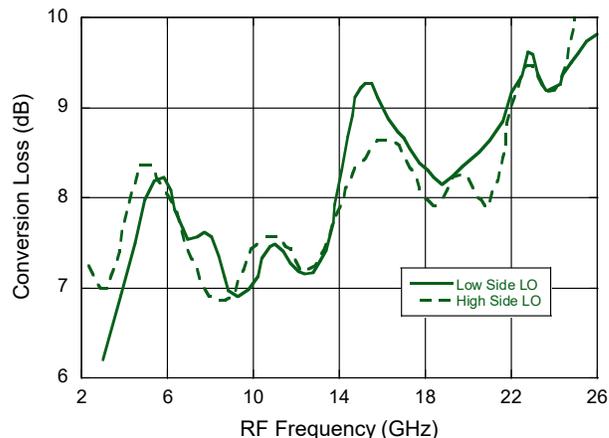
Parameter	Absolute Maximum
Peak Input Power	26 dBm @ +25°C 22 dBm @ +100°C
Peak Input Current	100 mA DC
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C

## Typical Performance Curves

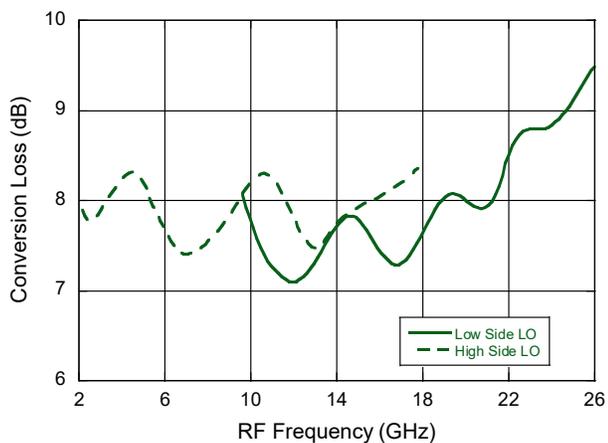
**Conversion Loss vs. Low Drive Level**  
 FL = 16 GHz, FR = 20 GHz @ -10 dBm



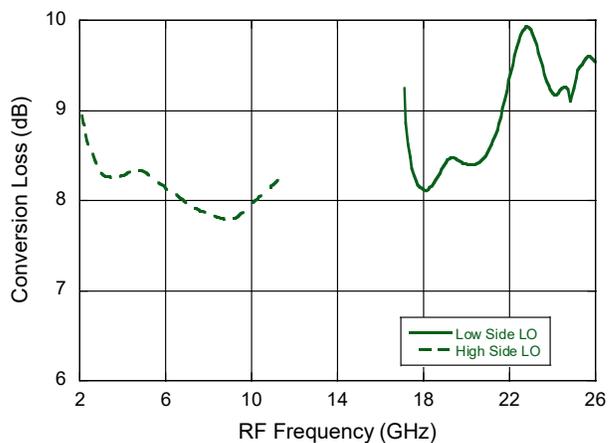
**Conversion Loss vs. Frequency**  
 IF = 1 GHz



**Conversion Loss vs. Frequency**  
 IF = 8 GHz

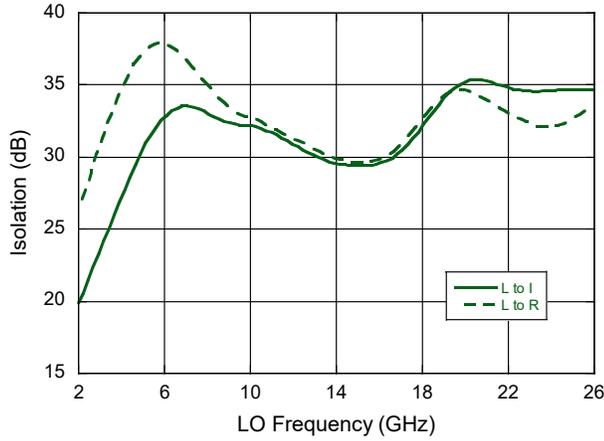


**Conversion Loss vs. Frequency**  
 IF = 15 GHz

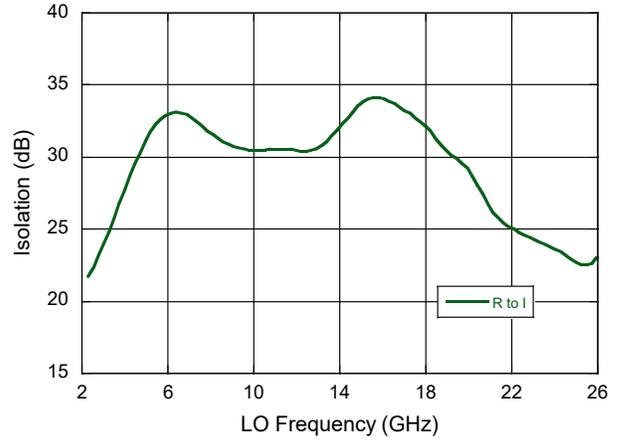


## Typical Performance Curves

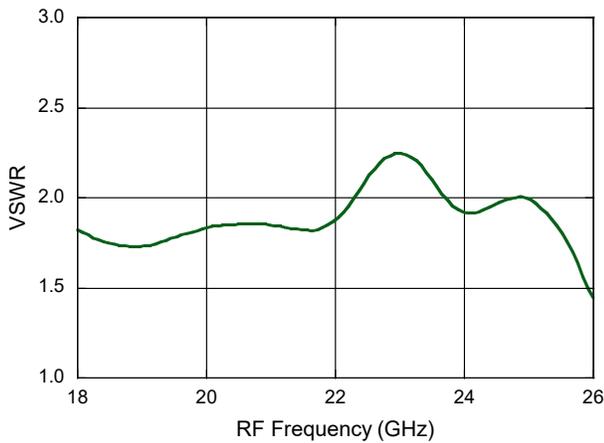
**Isolation vs. LO Frequency**



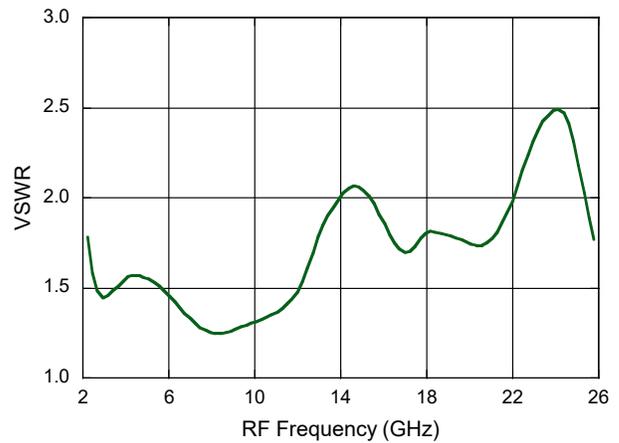
**Isolation vs. RF Frequency**



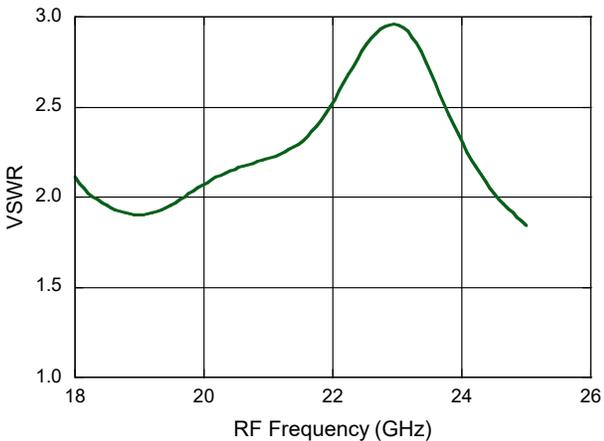
**VSWR (R-Port)**  
 RF = 18.26 GHz @ -8 dBm  
 LO = 16.00 GHz @ +10 dBm



**VSWR (L-Port)**

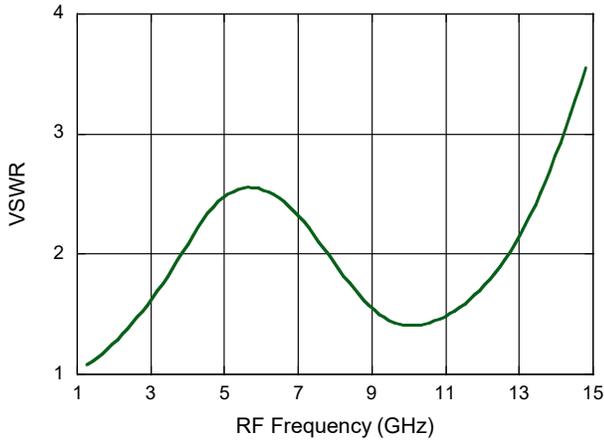


**VSWR (R-Port)**  
 LO = 26 GHz

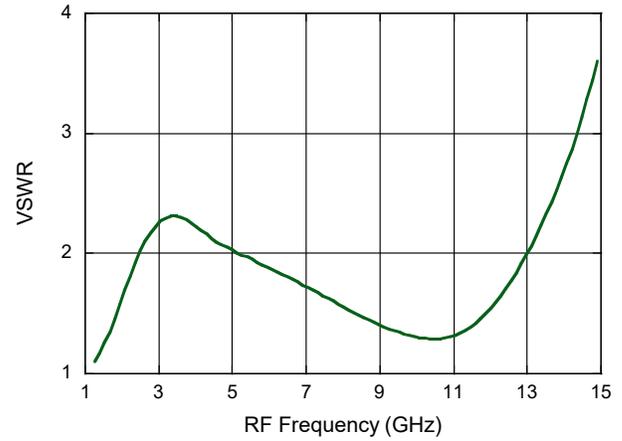


## Typical Performance Curves

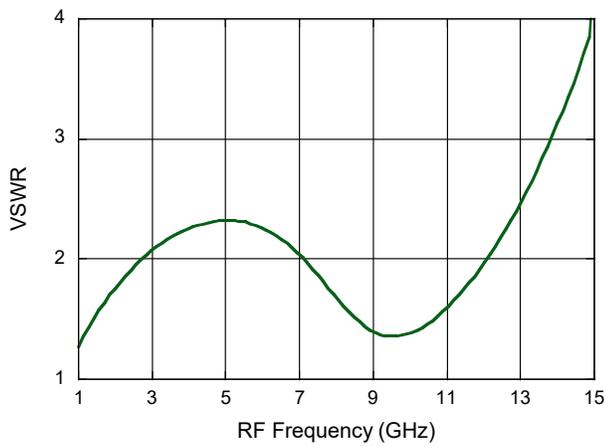
**VSWR (I-Port)**  
**LO = 2 GHz**



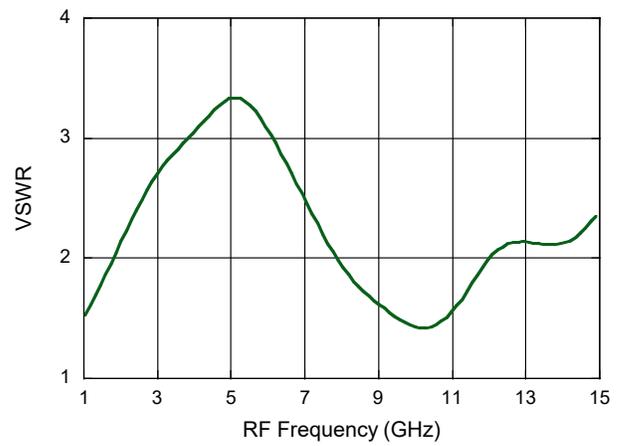
**VSWR (I-Port)**  
**LO = 6 GHz**



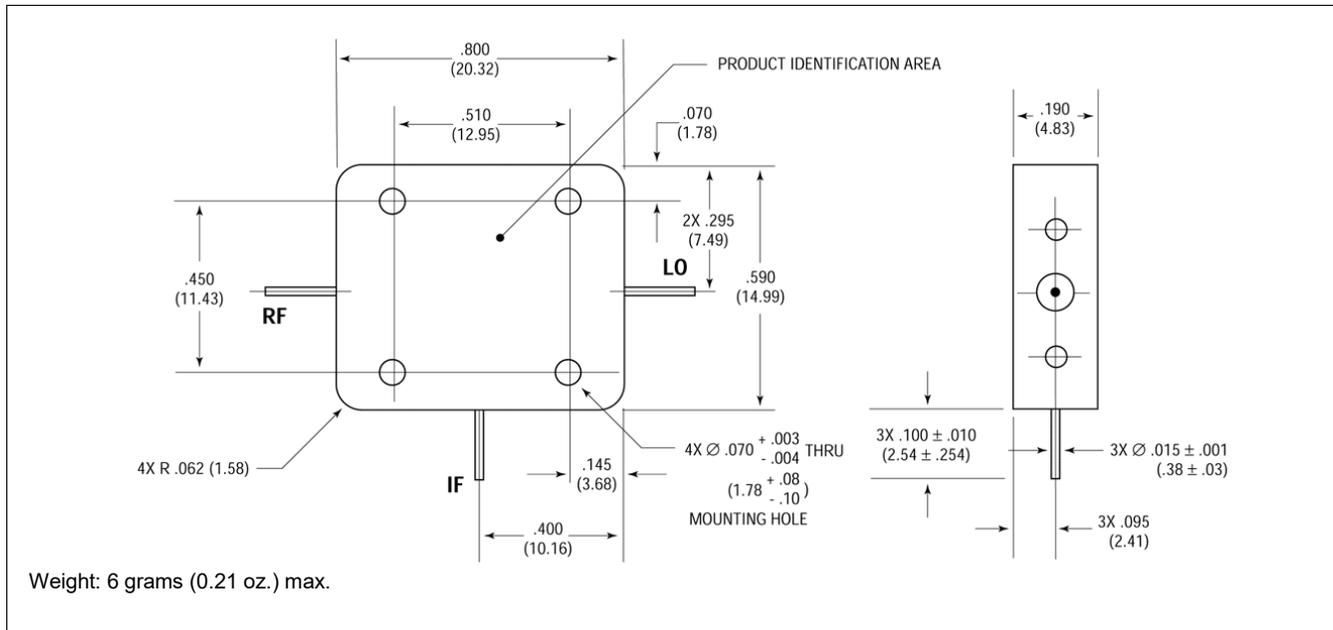
**VSWR (I-Port)**  
**LO = 18 GHz**



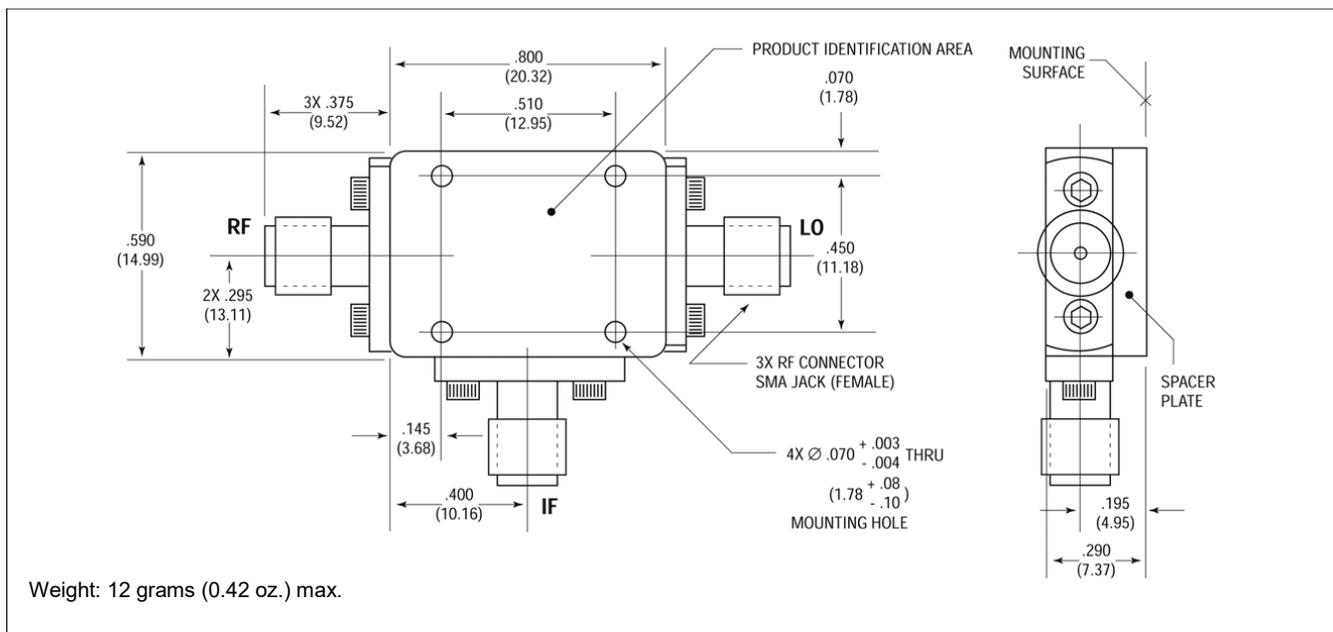
**VSWR (I-Port)**  
**LO = 26 GHz**



### Outline Drawing: Versapac\*



### Outline Drawing: SMA Connectorized\*



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

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