

## 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

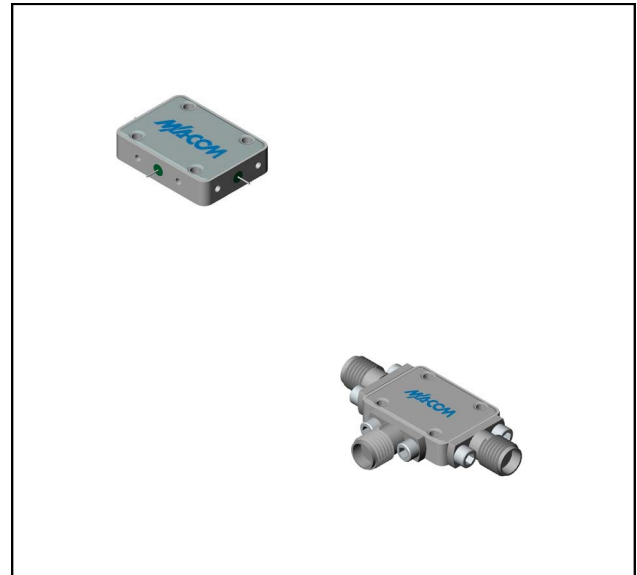
### Description

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

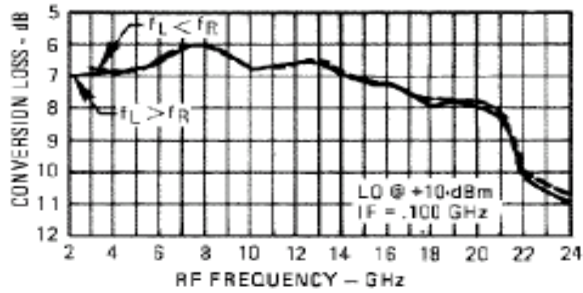


### Electrical Specifications: $Z_0 = 50\Omega$ $Lo = +10$ dBm (Downconverter Application only)

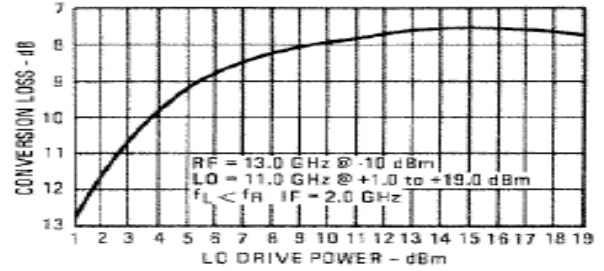
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	$f_R = 8$ to 18 GHz, $f_L = 8$ to 18 GHz, $f_I = 0.1$ to 4 GHz	dB	7.5	9.5	10.0
	$f_R = 2$ to 8 GHz, $f_L = 2$ to 8 GHz, $f_I = 1$ to 4 GHz	dB	8.0	10.0	10.5
	$f_R = 2$ to 18 GHz, $f_L = 2$ 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

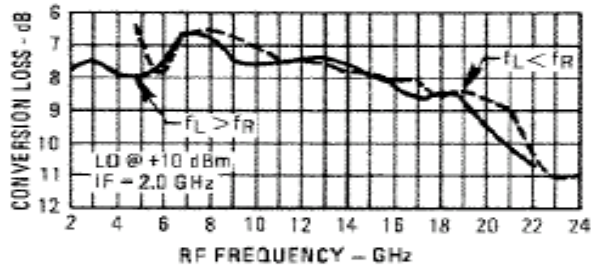
Conversion Loss vs. Frequency



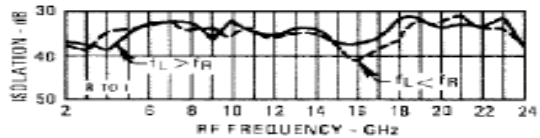
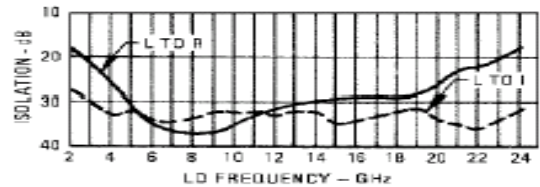
Drive Level



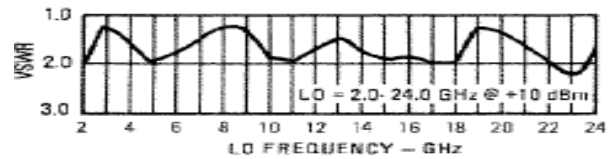
Conversion Loss vs. Frequency



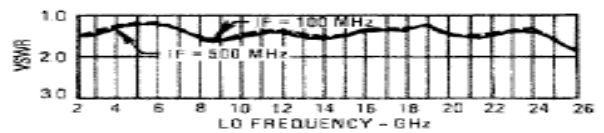
Isolation vs. Frequency



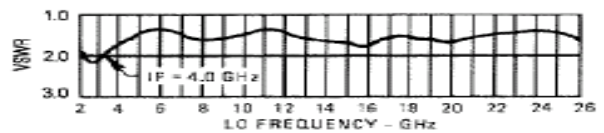
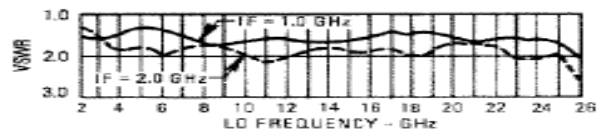
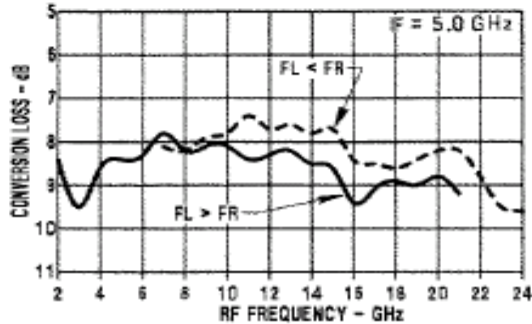
L-Port VSWR



I-Port VSWR



Conversion Loss vs. Frequency



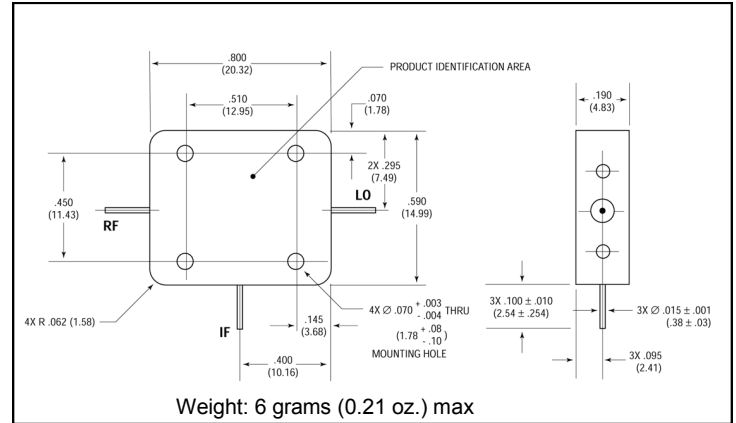
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Rev. V3

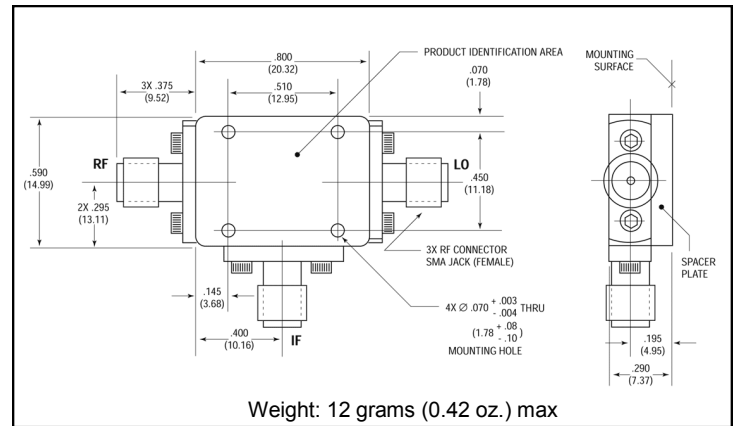
### Absolute Maximum Ratings

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

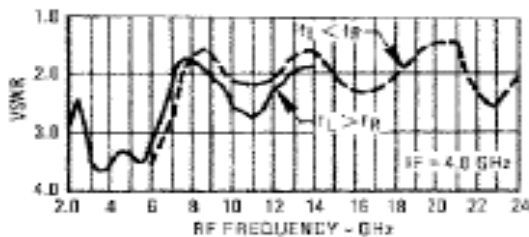
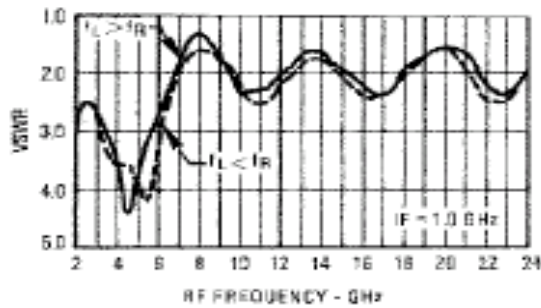
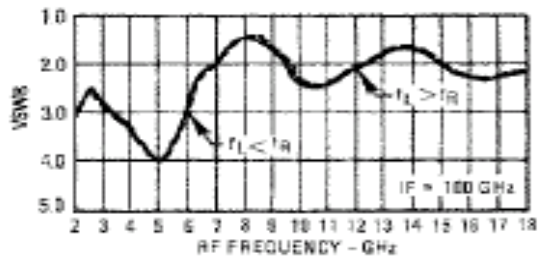
### Outline Drawing: Versapac \*



### Outline Drawing: SMA Connectorized \*



R-Port VSWR



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