# MY51 / MY51C

#### **Triple-Balanced Mixer**



Rev. V3

#### Features

- LO 2.0 TO 24 GHz
- RF 2.0 TO 24 GHz
- IF 1.0 TO 15 GHz
- LO DRIVE: +10 dBm (NOMINAL)
- HIGH COMPRESSION POINT

#### Description

MY51 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.



Part Number	Package	
MY51	Versapac	
MY51C	SMA Connectorized	

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

Deremeter	Test Conditions	Units	Typical	Guaranteed	
Farameter	Parameter Test Conditions Units			+25ºC	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Fig- ure (max)	fR = 2.5 to 18 GHz, $fL = 2$ to 18 GHz, $fI = 2$ to 10 GHz fR = 2 to 18 GHz, $fL = 2$ to 24 GHz, $fI = 1$ to 12 GHz fR = 2 to 24 GHz, $fL = 2$ to 24 GHz, $fI = 1$ to 15 GHz	dB dB dB	7.5 8.0 9.0	9.5 10.5 11.5	10.0 11.0 12.0
Isolation, L to R (min)	fL = 2 to 3 GHz fL = 3 to 24 GHz	dB dB	20 30	15 20	13 18
Isolation, L to I (min)	fL = 2 to 7 GHz fL = 7 to 24 GHz	dB dB	22 30	15 20	13 18
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 fR1 = 16 GHz at -6 dBm, fR2 = 16.01 GHz at -6 dBm, fL =18 GHz at +10 dBm	dBm dBm	+15 +15		

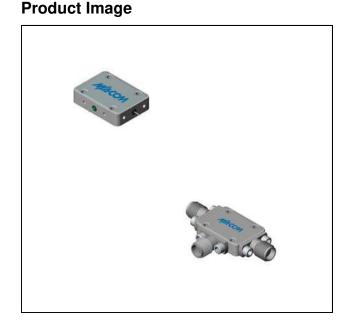
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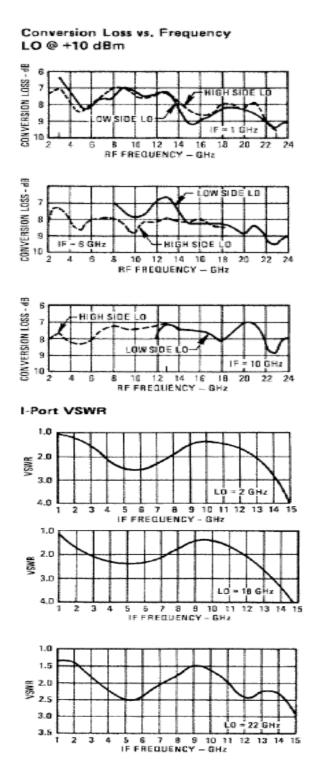
# MY51 / MY51C

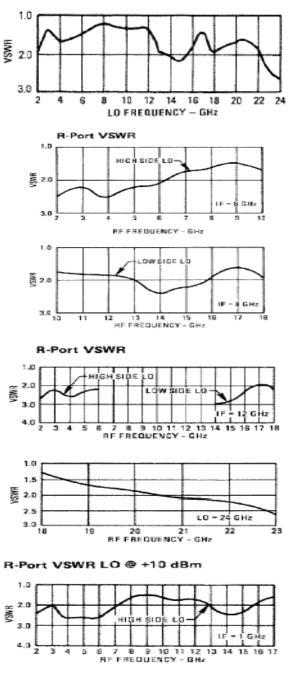
#### **Triple-Balanced Mixer**



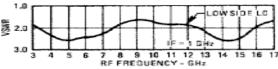
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### **Typical Performance Curves**





L-Port VSWR



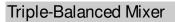
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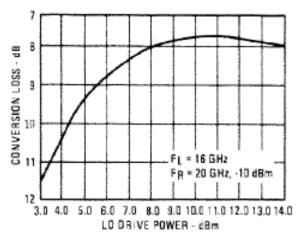


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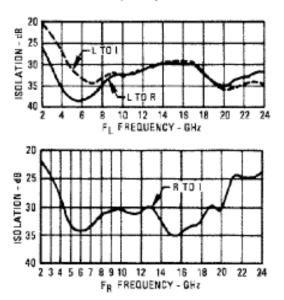
# **Absolute Maximum Ratings**

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

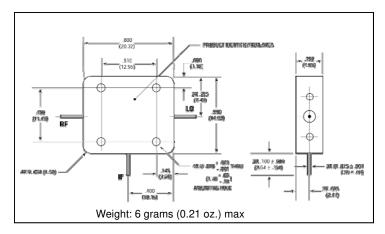
Drive Level



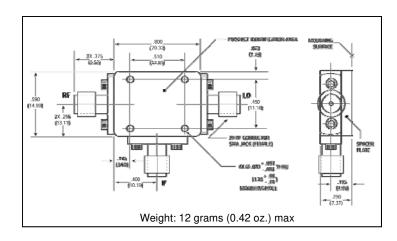
#### Isolation vs. Frequency



# Outline Drawing: Versapac \*



# Outline Drawing: SMA Connectorized



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

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