# MY50A / MY50AC



# **Triple-Balanced Mixer**

Rev. V2

#### **Features**

- LO 2 TO 26 GHz
- RF 2 TO 18 GHz
- IF 1 TO 12 GHz
- LO DRIVE +10 dBm (nominal)
- HIGH COMPRESSION POINT

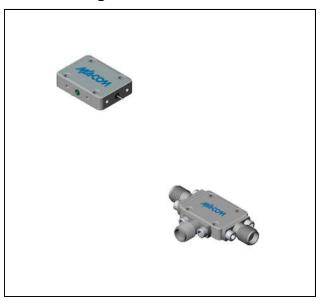
### **Description**

MY50A 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		
MY50A	Versapac		
MY50AC	SMA Connectorized		

# Product Image



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

Doromotor	Test Conditions	Units	Typical	Guaranteed	
Parameter				+25°C	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Fig- ure (max)	fR = 2.5 to 18 GHz, fL = 2 to 18 GHz, fI = 1 to 10 GHz fR = 2 to 18 GHz, fL = 2 to 26 GHz, fI = 1 to 12 GHz	dB dB	7.5 8.0	9.5 10.5	10.0 11.0
Isolation, L to R (min)	fL = 2 to 3 GHz fL = 3 to 26 GHz	dB dB	22 30	15 20	
Isolation, L to I (min)	fL = 7 to 26 GHz fL = 2 to 7 GHz	dB dB	30 22	20 15	
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 = 15 GHz at -6 dBm, fR2 = 15.01 GHz at -6 dBm, fL =25 GHz at +10 dBm	dBm dBm	+15 +12		

Commitment to produce in volume is not guaranteed.

<sup>•</sup> North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400

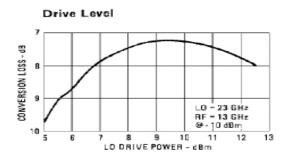
<sup>•</sup> India Tel: +91.80.4155721



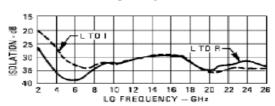
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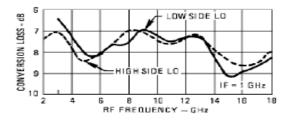
# **Typical Performance Curves**



#### Isolation vs. Frequency

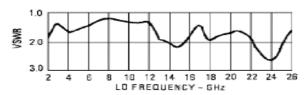


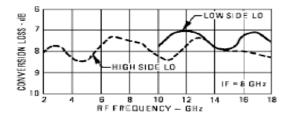
#### Conversion Loss vs. Frequency LO @ +10 dBm



# 20 ISOLATION - dB TDI 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 RF FREQUENCY -- GHz

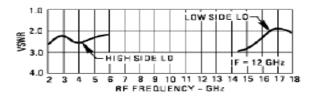
### L-Port VSWR





### CONVERSION LOSS - dB LOW SIDE LO HIGH SIDE LO IF = 12 GHz 6 8 10 12 RFFREQUENCY ~ GHz 16

#### R-Port VSWR



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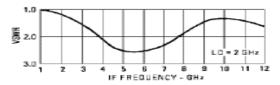
# **Triple-Balanced Mixer**

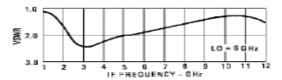
Rev. V2

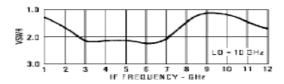
# **Absolute Maximum Ratings**

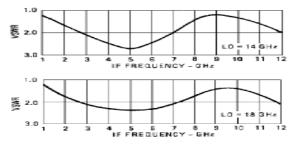
Parameter	Absolute Maximum		
Operating Temperature	-54°C to +100°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+26 dBm max @ +25°C +22 dBm max @ +100°C		
Peak Input Current	mA DC		

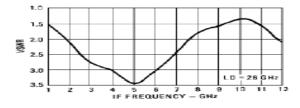
#### I-Port VSWR vs. Frequency, LO @ +10 dBm





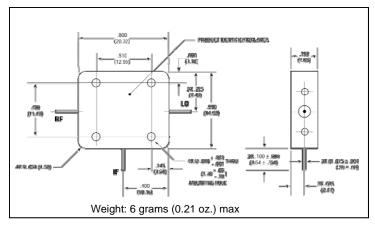




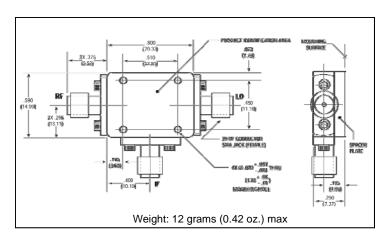


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# Outline Drawing: Versapac



# Outline Drawing: SMA Connectorized



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

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