MY87 / MY87C

Triple-Balanced Mixer



Rev. V2

Features

- LO 0.5 TO 19 GHz
- RF 0.5 TO 19 GHz
- IF 0.03 TO 5 GHz
- LO DRIVE +13 dBm (nominal)
- VERY WIDE BANDWIDTH

Description

MY87 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	
MY87	Versapac	
MY87C	SMA Connectorized	

Electrical Specifications: $Z_0 = 50\Omega$ Lo = +13 dBm (Downconverter Application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
Farameter	Test Conditions			+25ºC	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 1 to 18 GHz, fL = 0.5 to 18 GHz, fI = 0.03 to 3 GHz fR = 0.5 to 18 GHz, fL = 0.5 to 18 GHz, fI = 0.03 to 4 GHz fR = 0.7 to 19 GHz, fL = 3 to 19 GHz, fI = 0.03 to 5 GHz	dB dB dB	7.5 8.5 10.5	10.5 11.0 12.0	11.0 11.5 12.5
Isolation, L to R (min)	fL = 0.5 to 3 GHz fL = 3 to 19 GHz	dB dB	17 30	10 20	8 18
Isolation, L to I (min)	fL = 0.5 to 5 GHz	dB	32	22	20
1 dB Conversion Comp.	fL = +13 dBm	dBm	+8		
Input IP3	fR1 = 5 GHz at -6 dBm, fR2 = 6.01 GHz at -6 dBm, fL = 7 GHz at +13 dBm fR1 = 15 GHz at -6 dBm, fR2 = 15.01 GHz at -6 dBm, fL =18 GHz at +13 dBm	dBm dBm	+16.5 +18		

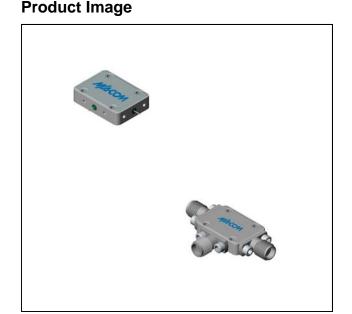
1

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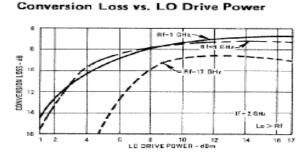
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Triple-Balanced Mixer

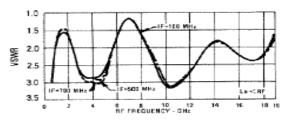


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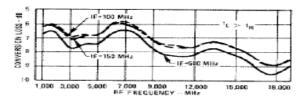
Typical Performance Curves



R-Port VSWR vs. Frequency

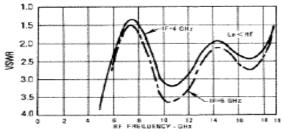


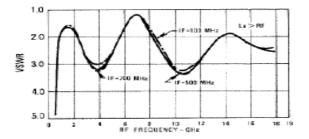
Conversion Loss vs. Frequency LO @ +13 dBm

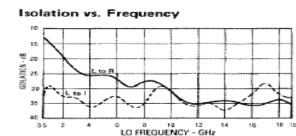


1,000 5,000 5,000 1,000 12,000 15,000 18,000

R-Port VSWR vs. Frequency



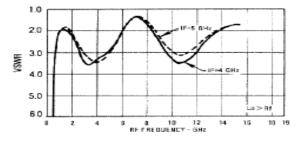




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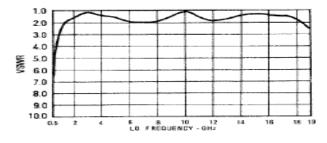


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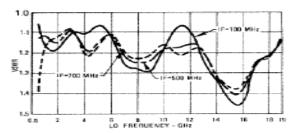
Absolute Maximum Ratings

Parameter	Absolute Maximum		
Operating Temperature	-54ºC to +100ºC		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+26 dBm max @ +25°C +23 dBm max @ +100°C		
Peak Input Current	100 mA DC		

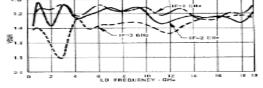
L-PORT VSWR vs. Frequency

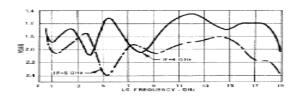


I-Port VSWR vs. Frequency



1-Port VSWR vs. Frequency





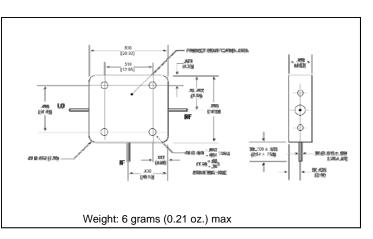
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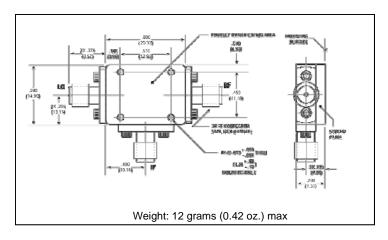
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Outline Drawing: Versapac



Outline Drawing: SMA Connectorized



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

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