Double-Balanced Mixer



Rev. V3

Features

- LO 2 TO 18 GHz
- RF 2 TO 18 GHz
- IF 0 TO 1000 MHz
- LO DRIVE: +7 dBm (NOMINAL)
- DC COUPLED I-PORT
- WIDE BANDWIDTH

Description

The MY85 is a double 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. This mixer can also be used as a phase detector and/or bi-phase modulator since the IF port is DC coupled to the diodes. The use of high temperature solder and welded 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

Ordering Information

Part Number	Package	
MY85	Versapac	
MY85C	SMA Connectorized	

Electrical Specifications: $Z_0 = 50\Omega$ Lo = +7 dBm (Downconverter application only)

Product Image

Parameter Test Conditions		Unito	Typical	Guaranteed	
Farameter		Units		+25°C	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 4 to 14 GHz, fL = 3 to 15 GHz, fl = 0 to 1 GHz fR = 2 to 3 GHz, fL = 2 to 3 GHz, fl = 0 to 1 GHz fR = 3 to 18 GHz, fL = 3 to 18 GHz, fl = 0 to 1 GHz	dB dB dB	7.0 10.0 8.5	9.0 11.0 10.5	9.5 11.5 11.0
Isolation, L to R (min)	fL = 2 to 18 GHz	dB	35	22	20
Isolation, L to I (min)	fL = 2 to 18 GHz	dB	20	15	13
1 dB Conversion Comp.	fL = +7 dBm	dBm	+1		
Input IP3	fR1 =5 GHz at -10 dBm, fR2 = 5.01 GHz at -10 dBm, fL = 5.5 GHz at +7 dBm fR1=15 GHz at -10 dBm, fR2=15.01GHz at -10 dBm, fL = 14.5 GHz at +7 dBm	dBm dBm	+10 +10		

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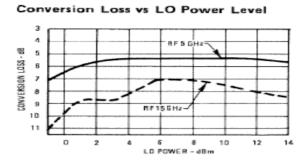
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Double-Balanced Mixer

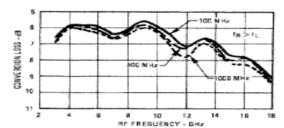
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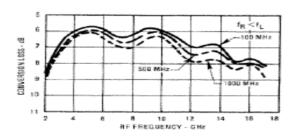
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Typical Performance Curves

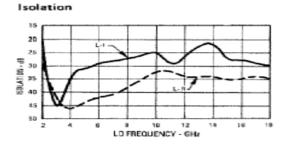


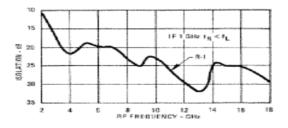
Conversion Loss



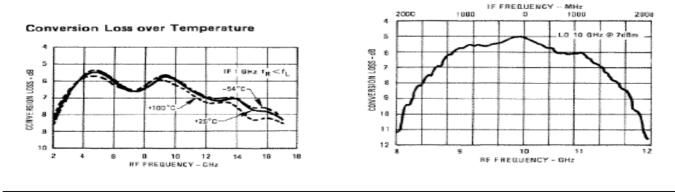


Up Conversion Loss





I Port Bandwidth



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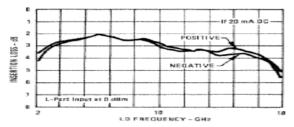
Double-Balanced Mixer

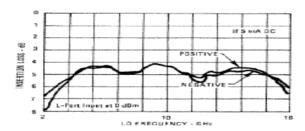
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Absolute Maximum Ratings

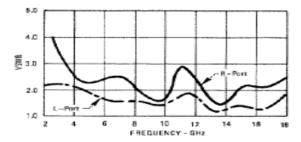
Parameter	Absolute Maximum		
Operating Temperature	-54°C to +100°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+23 dBm max @ +25℃ +20 dBm max @ +100℃		
Peak Input Current	100 mA DC		

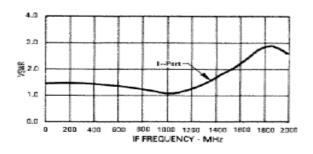
Insertion Loss with DC Driven I-Port



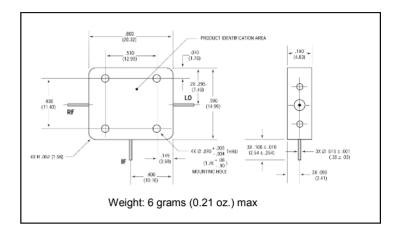




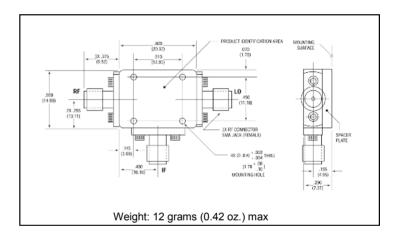




Outline Drawing: Versapac *



Outline Drawing: SMA Connectorized *



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

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