

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

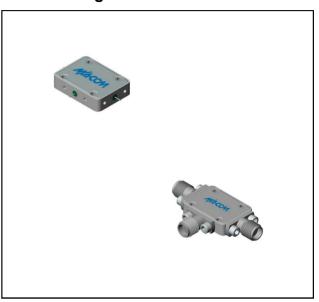
Description

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

Product Image



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

Parramentari	December 2		Typical	Guaranteed	
Parameter Test Conditions		Units		+25°C	-54° to +85°C
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,	dBm	+10		
	fL = 14.5 GHz at +7 dBm	dBm	+10		

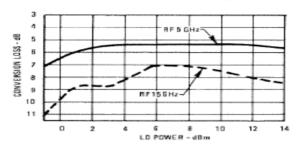


Double-Balanced Mixer

Rev. V3

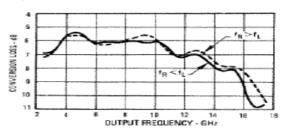
Typical Performance Curves

Conversion Loss vs LO Power Level

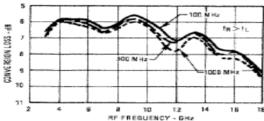


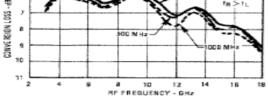
Up Conversion Loss

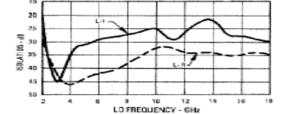
Isolation

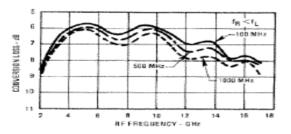


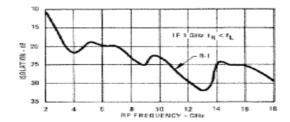
Conversion Loss



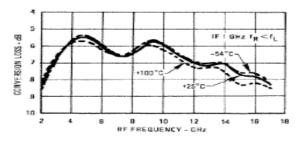




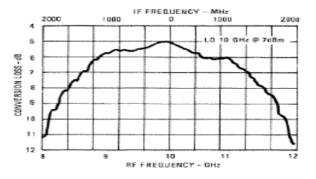




Conversion Loss over Temperature



I Port Bandwidth





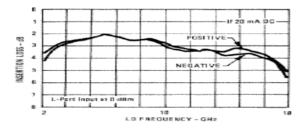
Double-Balanced Mixer

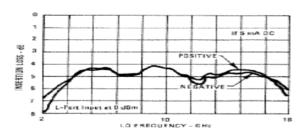
Rev. V3

Absolute Maximum Ratings

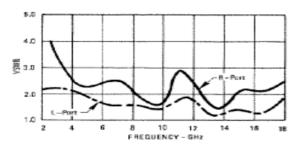
Parameter	Absolute Maximum		
Operating Temperature	-54°C to +100°C		
Storage Temperature	-65°C to +100°C		
Peak Input Power	+23 dBm max @ +25°C +20 dBm max @ +100°C		
Peak Input Current	100 mA DC		

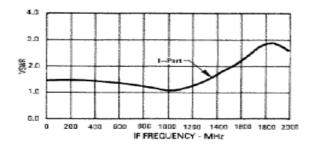
Insertion Loss with DC Driven I-Port



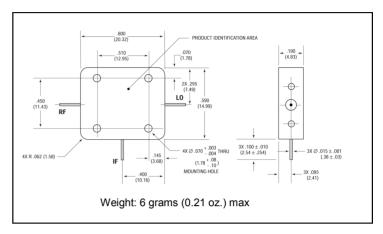


VSWR

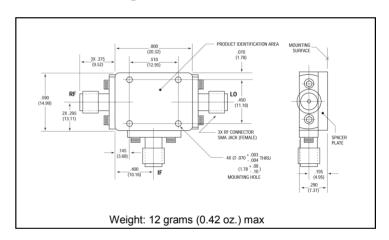




Outline Drawing: Versapac *



Outline Drawing: SMA Connectorized *



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