MY85 / MY85C



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

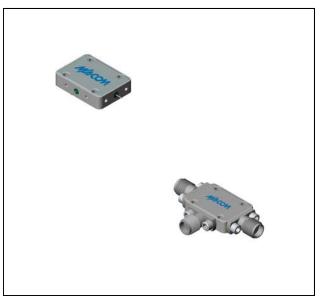
Description

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

Ordering Information

Part Number	Package
MY85	Versapac
MY85C	SMA Connectorized

Product Image



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

		Units	Typical	Guaranteed	
Parameter	Test Conditions			+25°C	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 4 to 14 GHz, fL = 3 to 15 GHz, fI = 0 to 1 GHz fR = 2 to 3 GHz, fL = 2 to 3 GHz, fI = 0 to 1 GHz fR = 3 to 18 GHz, fL = 3 to 18 GHz, fI = 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		

typical. Mechanical outline has been fixed. Engineering samples

Commitment to produce in volume is not gui

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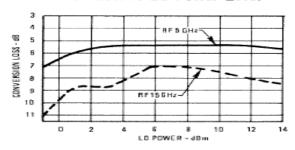


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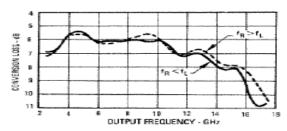
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Typical Performance Curves

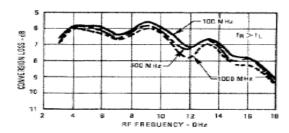
Conversion Loss vs LO Power Level

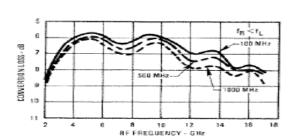


Up Conversion Loss

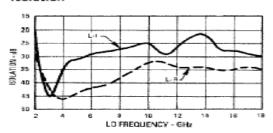


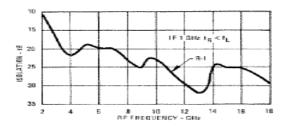
Conversion Loss



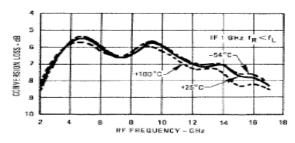


Isolation

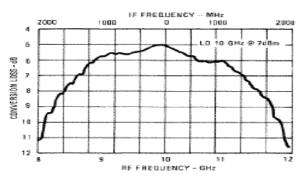




Conversion Loss over Temperature



I Port Bandwidth



2

and/or prototype measurements. Commitment to develop is not guaranteed.

PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology
Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples und/or restructed may be a ailable.

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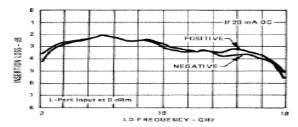
Double-Balanced Mixer

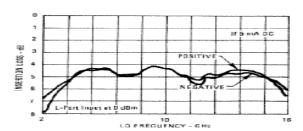
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Absolute Maximum Ratings

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

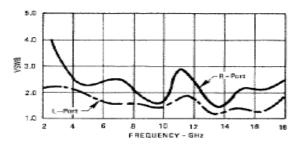
Insertion Loss with DC Driven I-Port

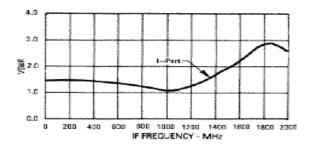




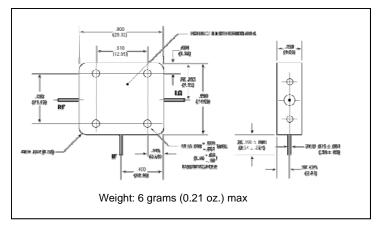
VSWR

3

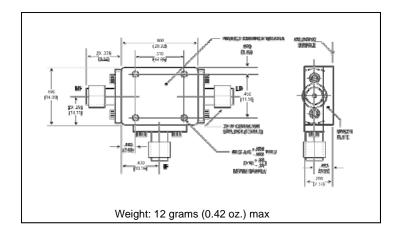




Outline Drawing: Versapac *



Outline Drawing: SMA Connectorized *



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

- ADVANCED: Data Sheets contain information regarding a product M/A-COM Technology Solutions is considering for development. Performance is based on target specifications, simulated results, and/or prototype measurements. Commitment to develop is not guaranteed.
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