

Double-Balanced Mixer

MY76/MY76C

V3

Features

- LO 2.5 TO 11.5 GHz
- RF 4.5 TO 9.5 GHz
- IF DC TO 2.0 GHz
- LO DRIVE: +10 dBm (NOMINAL)
- LOW NOISE FIGURE 5.5 dB (TYP.)

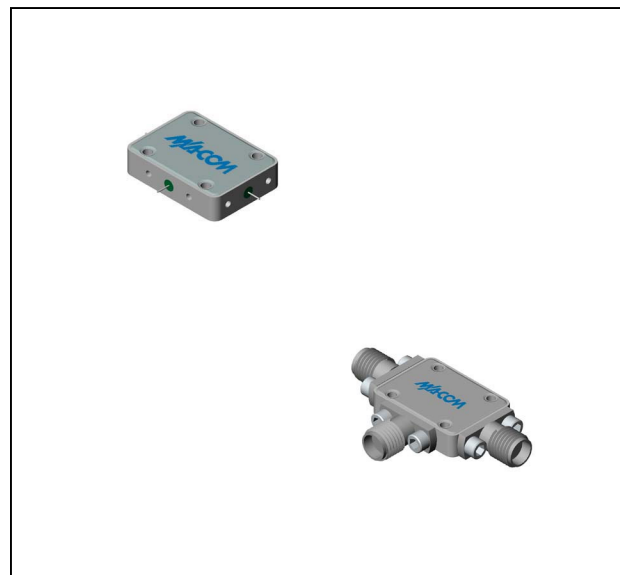
Description

The MY76 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 and ferrite 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-DTL-28837, consult factory.

Ordering Information

Part Number	Package
MY76	Versapac
MY76C	SMA Connectorized

Product Image



Electrical Specifications: $Z_0 = 50\Omega$ $L_o = +10$ dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 6 to 8 GHz, fL = 4 to 9 GHz, fI = 0.03 to 2 GHz fR = 5 to 9 GHz, fL = 4 to 9 GHz, fI = 0.03 to 1 GHz fR = 4.5 to 9.5 GHz, fL = 2.5 to 11.5 GHz, fI = 0.03 to 2 GHz	dB	5.5	7.0	7.5
			5.5	7.0	7.5
			6.0	8.0	8.5
Isolation, L to R (min)	fL = 2.5 to 9 GHz fL = 9 to 11.5 GHz	dB	40	25	23
			30	20	18
Isolation, L to I (min)	fL = 4 to 11.5 GHz fL = 2.5 to 4 GHz	dB	25	15	13
			20	10	8
1 dB Conversion Comp.	fL = +10 dBm	dBm	+3		
Input IP3	fR1 = 7 GHz at -6 dBm, fR2 = 7.01 GHz at -6 dBm, fL = 8 GHz at +10 dBm	dBm	+13		

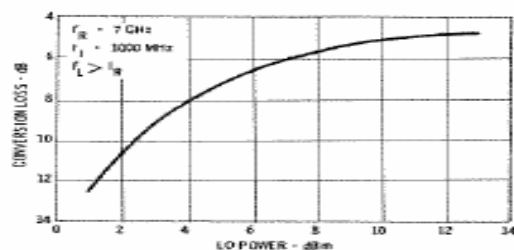
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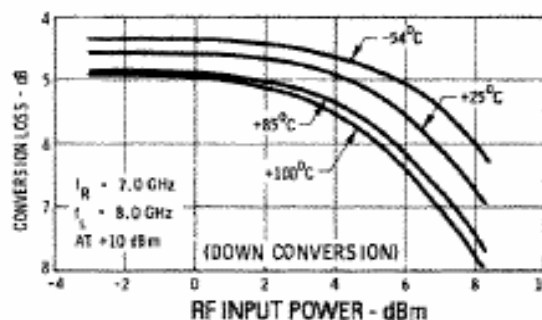
V3

Typical Performance Curves

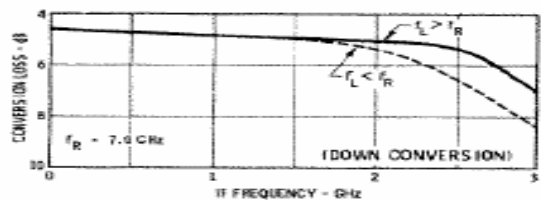
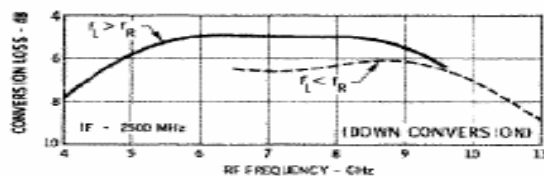
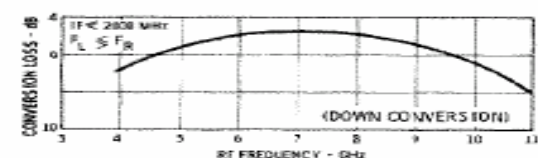
Conversion Loss Vs. LO Drive



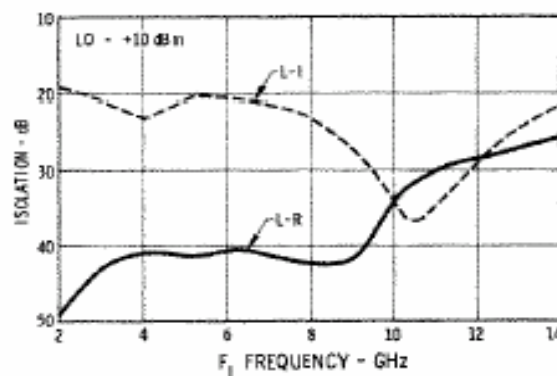
Conversion Loss vs. RF Input Power



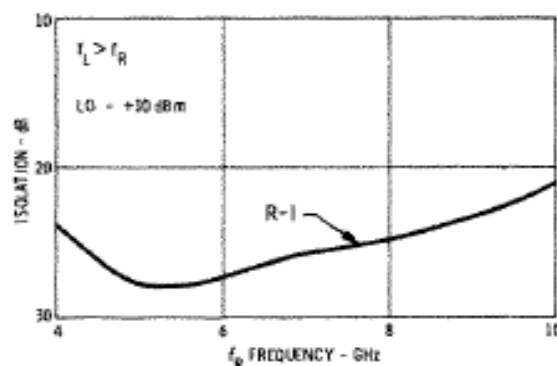
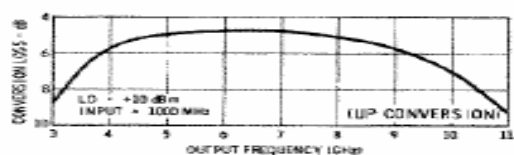
Conversion Loss vs. Frequency



Isolation vs. Frequency



Conversion Loss vs. Output Frequency

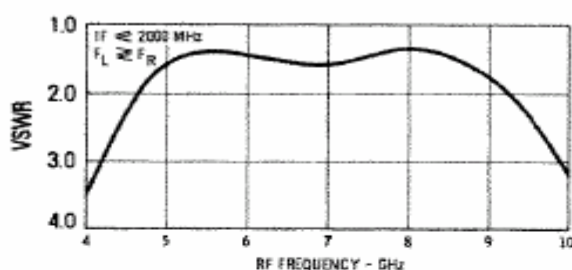


MY76/MY76C

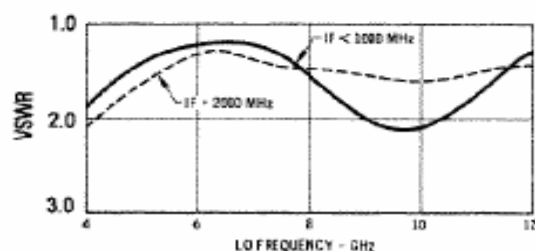
Absolute Maximum Ratings

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

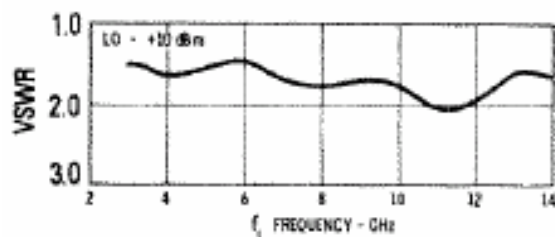
R-Port VSWR vs. Frequency



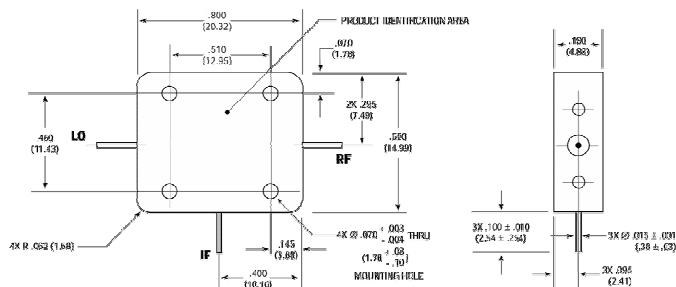
I-Port VSWR vs. f_L



L-Port VSWR vs. Frequency

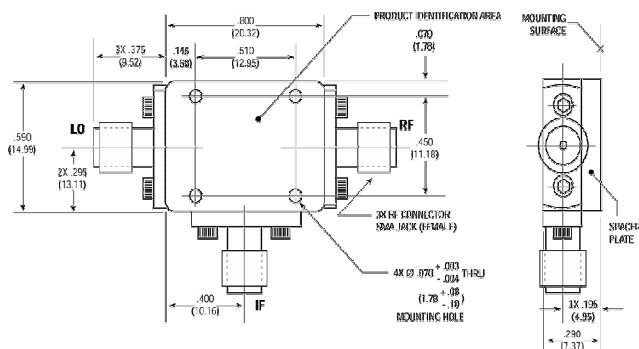


Outline Drawing: Versapac *



Weight: 6 grams (0.21 oz.) max

Outline Drawing: SMA Connectorized *



Weight: 12 grams (0.42 oz.) max

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