tyco Electronics

M/A-COM

Double-Balanced Mixer

M76H/M76HC
V3

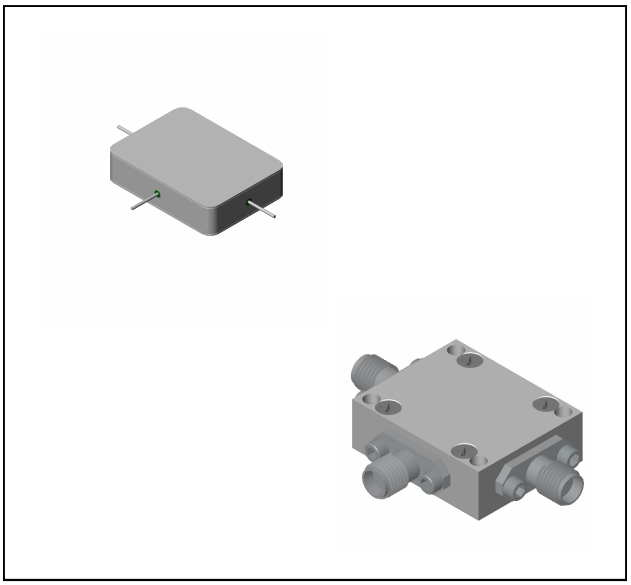
Features

- LO 2.5 TO 11.5 GHz
- RF 4.5 TO 9.5 GHz
- IF DC TO 2.0 GHz
- LO DRIVE: +20 dBm (NOMINAL)
- HIGH THIRD ORDER IP: +24 dBm (TYP.)

Description

The M76H 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.

Product Image



Ordering Information

Part Number	Package
M76H	Minpac
M76HC	SMA Connectorized

Electrical Specifications: $Z_0 = 50\Omega$ Lo = +20 dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25ºC	-54º to +85ºC
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 4.5 to 8 GHz, fL = 2.5 to 10 GHz, fI = 0.03 to 2 GHz fR = 8 to 9 GHz, fL = 6.5 to 10.5 GHz, fI = 0.03 to 1.5 GHz fR = 8 to 9.5 GHz, fL = 6 to 11.5 GHz, fI = 0.03 to 2 GHz	dB dB dB	5.5 6.5 8.0	7.0 8.0 9.5	7.5 8.3 9.8
Isolation, L to R (min)	fL = 2.5 to 11.5 GHz	dB	35	22	21
Isolation, L to I (min)	fL = 2.5 to 6.5 GHz fL = 6.5 to 11.5 GHz	dB dB	22 30	15 20	14 19
1 dB Conversion Comp.	fL = +20 dBm	dBm	+15		
Input IP3	fR1=6.12 GHz at 0 dBm,fR2=6.18 GHz at 0 dBm, fL = 7.2 GHz at = +20 dBm	dBm	+24		

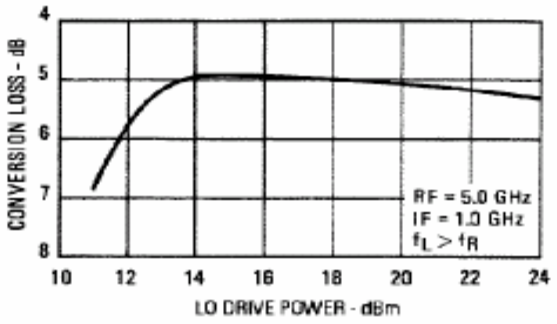
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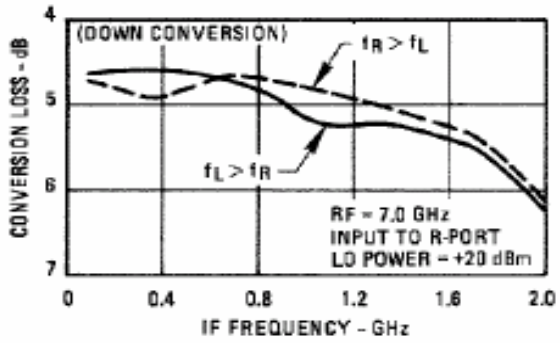
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Typical Performance Curves

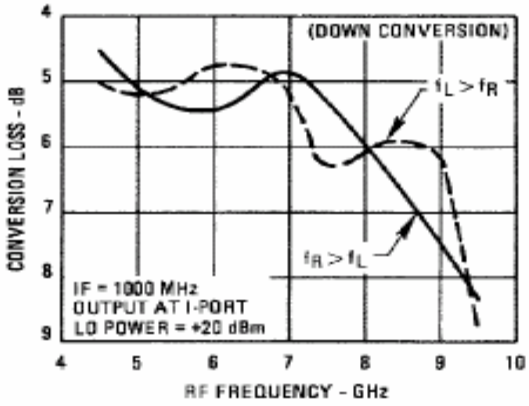
Conversion Loss vs. LO Drive Power

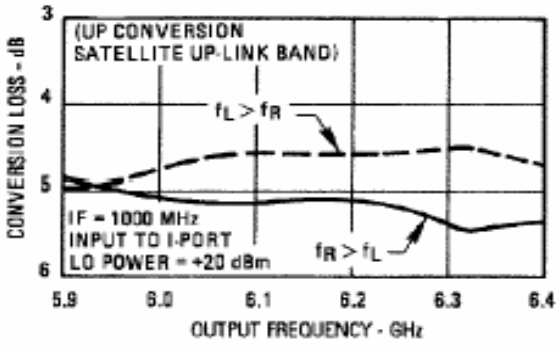


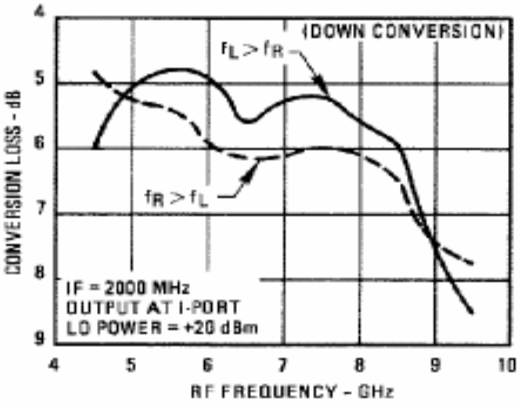
Conversion Loss



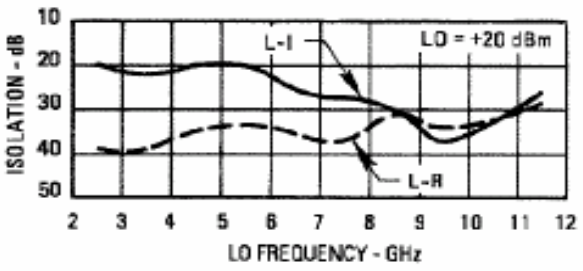
Conversion Loss







Isolation



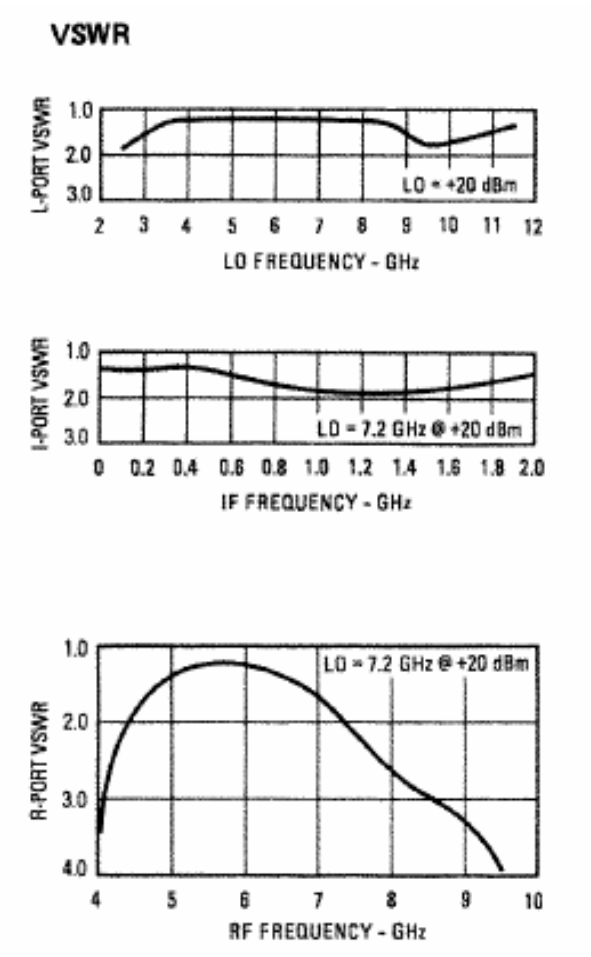
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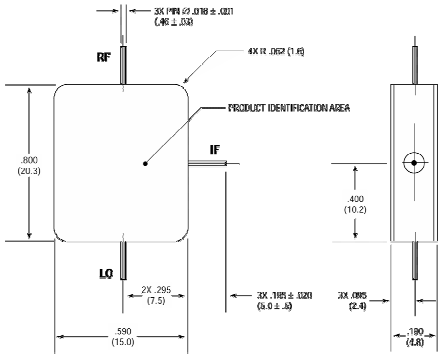
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Absolute Maximum Ratings

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

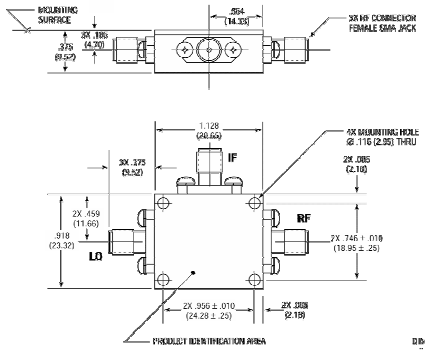


Outline Drawing: Minpac *



Weight: 6 grams (0.21 oz.) max

Outline Drawing: SMA Connectorized *



Weight: 25 grams (0.88 oz.) max

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

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