

Double-Balanced Mixer

Rev. V4

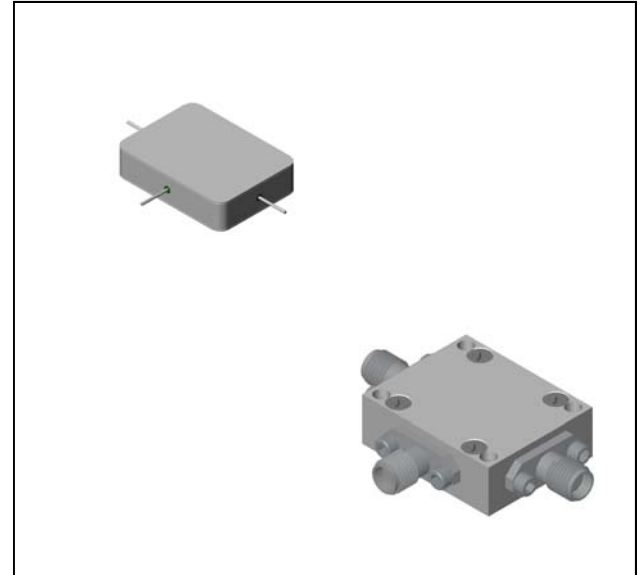
Features

- LO 2.5 TO 10.5 GHz
- RF 4.5 TO 8.5 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

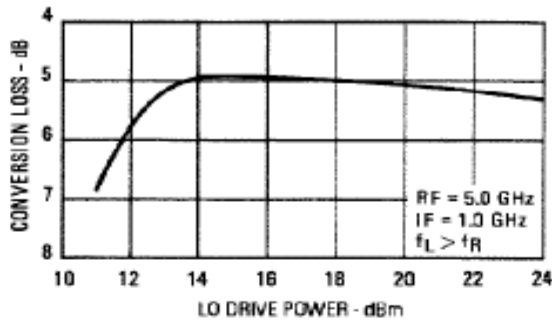
Part Number	Package
M76H	Minpac
M76HC	SMA Connectorized

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

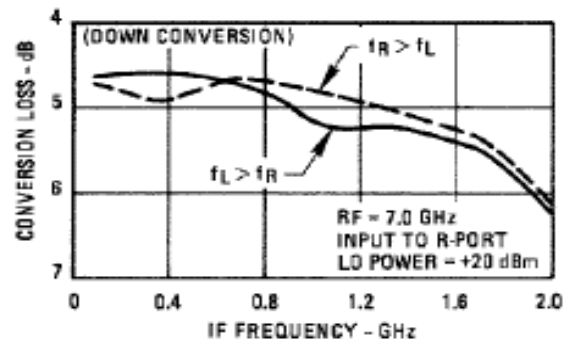
Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 4.5 to 8 GHz, fL = 2.5 to 10 GHz, fI = 0.03 to 2 GHz fR = 8 to 8.5 GHz, fL = 6.5 to 9.5 GHz, fI = 0.03 to 1.5 GHz fR = 8 to 8.5 GHz, fL = 6 to 10.5 GHz, fI = 0.03 to 2 GHz	dB	5.5	7.0	7.5
			6.5	8.0	8.3
			8.0	9.5	9.8
Isolation, L to R (min)	fL = 2.5 to 10.5 GHz	dB	35	22	21
Isolation, L to I (min)	fL = 2.5 to 6.5 GHz fL = 6.5 to 10.5 GHz	dB	22	15	14
		dB	30	20	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		

Typical Performance Curves

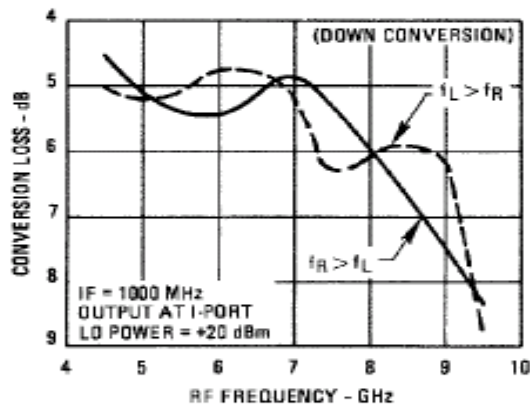
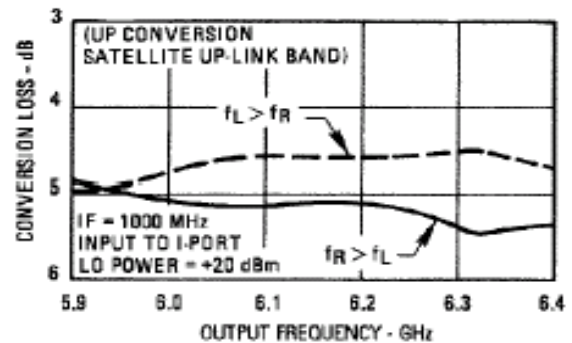
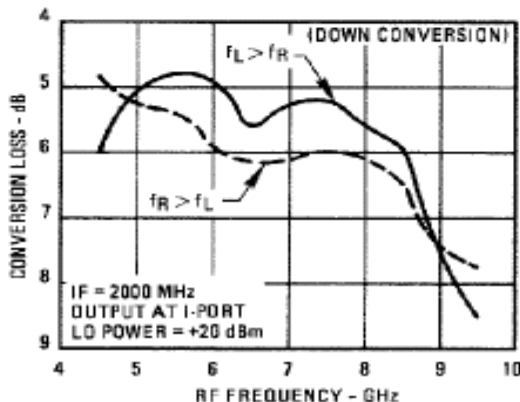
Conversion Loss vs. LO Drive Power



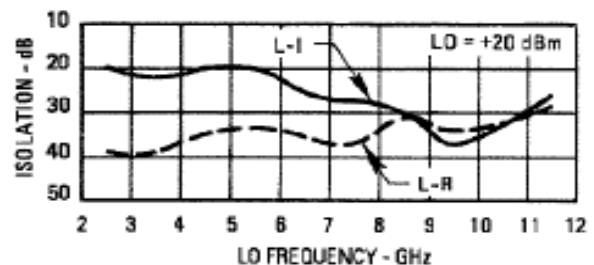
Conversion Loss



Conversion Loss



Isolation



M76H / M76HC

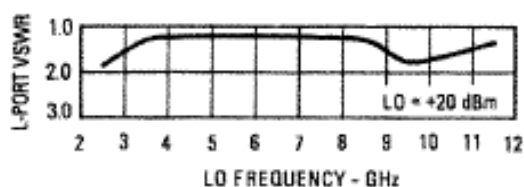
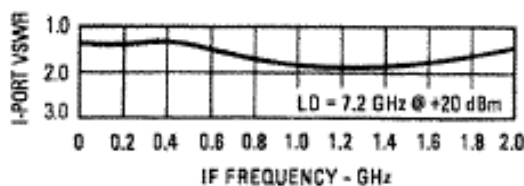
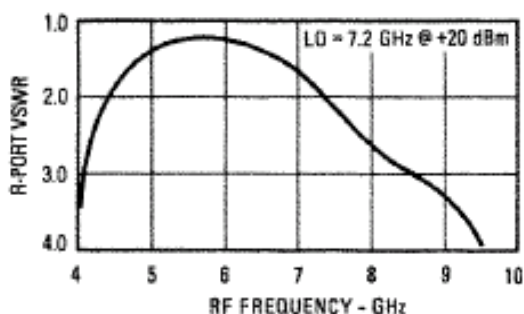
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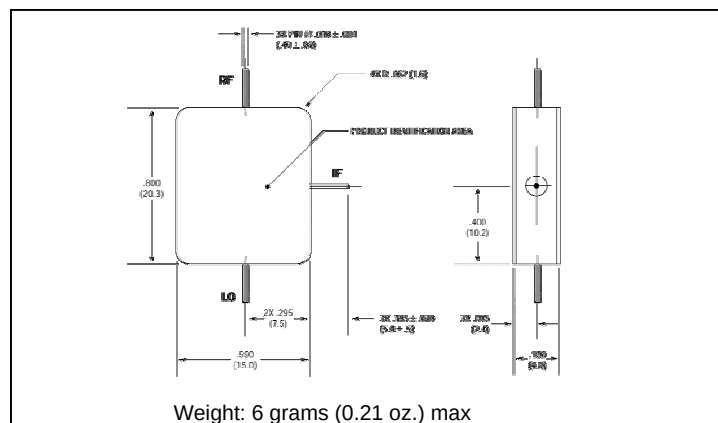
Absolute Maximum Ratings

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

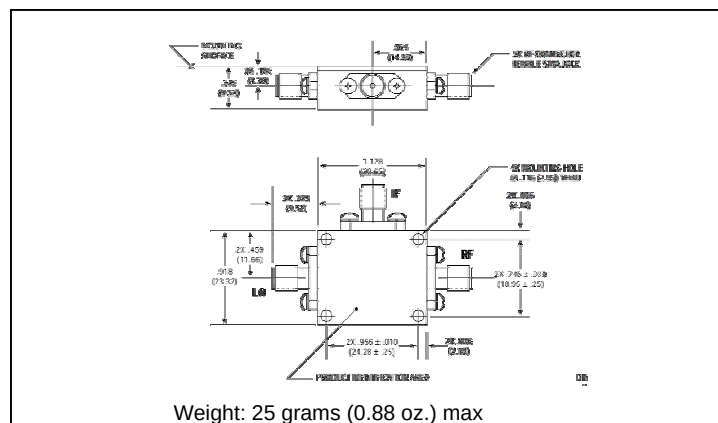
VSWR



Outline Drawing: Minpac *



Outline Drawing: SMA Connectorized *



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