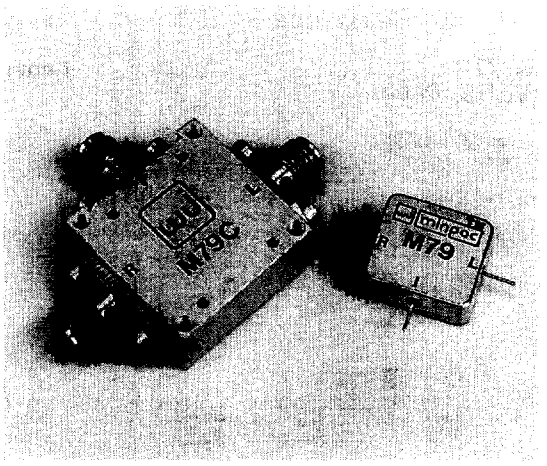
M79 / M79C

DOUBLE-BALANCED MIXER

- LO 5 TO 18 GHz
- RF 7 TO 18 GHz
- IF DC TO 3000 MHz
- LO DRIVE +10 dBm (NOMINAL)
- WIDE BANDWIDTH
- LOW NOISE FIGURE
- MIL–M–28837 EQUIVALENT LEVEL SCREENING AVAILABLE



Guaranteed Specifications [1,2]

Characteristics	Typ.	+25°C	-54°C to +85°C	Test Conditions
SSB Conversion Loss and SSB Noise Figure	5.7 dB	7.5 dB	8.0 dB	f_R 7 to 16 GHz f_L 6 to 17 GHz f_I 30 to 1000 MHz
(Max.)	6.0 dB	8.0 dB	8.5 dB	f_R 7 to 16 GHz f_L 5 to 18 GHz f_I 30 to 2000 MHz
				f_I 30 to 3000 MHz $f_L > f_R$
	6.0 dB	8.0 dB	8.5 dB	f_R 8 to 16 GHz f_L 5 to 16 GHz f_I 30 to 3000 MHz $f_L < f_R$
	7.0 dB	9.0 dB	9.5 dB	f_R 16 to 18 GHz f_L 13 to 18 GHz f_I 30 to 3000 MHz
Isolation (Min.)				
L at R	35 dB	22 dB	20 dB	f_L 5 to 14 GHz
	33 dB	15 dB	13 dB	f_L 14 to 18 GHz
L at I	34 dB	22 dB	20 dB	f_L 5 to 8 GHz
	24 dB	12 dB	10 dB	f_L 8 to 18 GHz
Conversion Compression	1.0 dB			f_R Level +4 dBm f_L Level +10 dBm
Third-Order Input Intercept Point	+14 dBm			f_{R1} 13.00 GHz at -6 dBm f_{R2} 13.01 GHz at -6 dBm f_L 14.0 GHz at +10 dBm
Single Tone IM Suppression				f_R 8 to 13 GHz at -10 dBm
f_L f_R				
2 x 2	60 dB			
2 x 3	> 70 dB			
3 x 2	45 dB			
3 x 3	60 dB			
3 x 4	> 70 dB			
4 x 3	> 70 dB			
4 x 4	> 70 dB			
5 X 5	> 70 dB			

Notes:
1. Measured in a 50-ohm system with nominal LO drive and downconverter application only,unless otherwise specified. The I -Port frequency range extends to DC for phase detection, pulse modulation, or attenuator applications, I-Port VSWR degrades from a 50-ohm system at low IF frequencies.
2. Typical values are measured at +25°C and are not guaranteed.

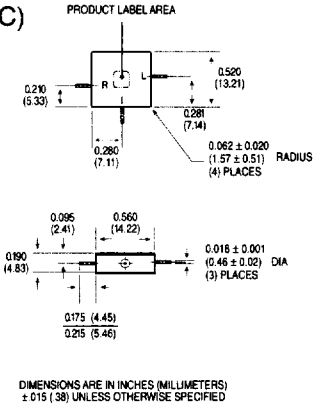
Absolute Maximum Ratings

Operating Temperature ..... -54°C to +100°C
Storage Temperature ..... -65°C to +100°C
Peak Input Power ..... +23 dBm max. at +25°C, +20 dBm max. at +100°C
Peak Input Current at 25°C ..... 100 mA DC

Weight M79: 6 grams (0.21 oz.) max.
M79C: 30 grams (1.6 oz.) max.

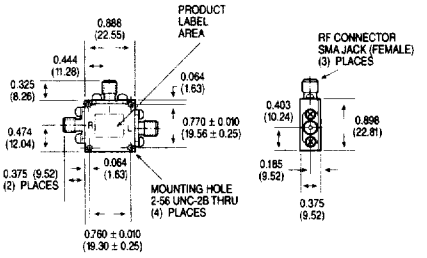
Outline Drawings

M79 (MINPAC)



DIMENSIONS ARE IN INCHES (MILLIMETERS)
±.015 (.38) UNLESS OTHERWISE SPECIFIED

M79C (CONNECTORIZED)



DIMENSIONS ARE IN INCHES (MILLIMETERS)
±.015 (.38) UNLESS OTHERWISE SPECIFIED

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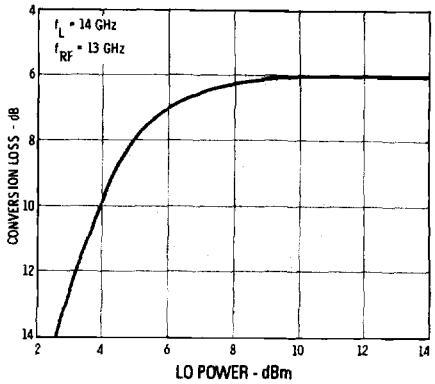
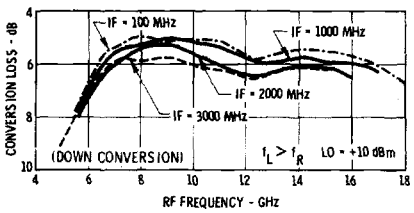
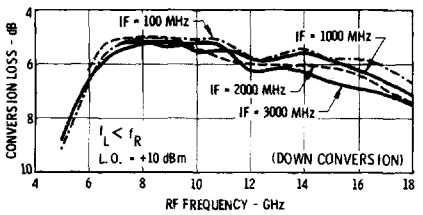
Conversion Loss vs. LO Drive Power.

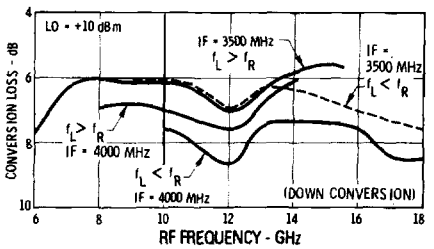


Drive Level: The maximum recommended drive level is +13 dBm. This upper level has been established by the desire to avoid a serious increase in noise figure and a loss of isolation. Operation at +13 dBm is recommended to achieve best two-tone performance and best suppression of the intermodulation products.

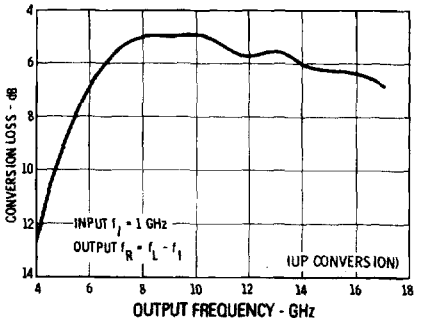
Conversion Loss vs. Frequency.



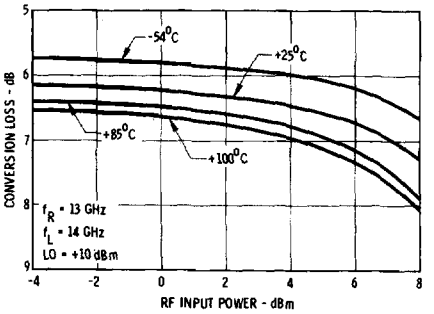




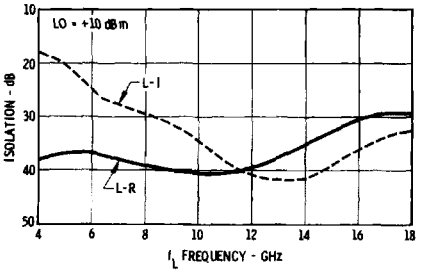
Conversion Loss vs. Frequency

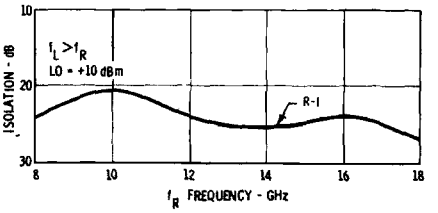


Conversion Loss vs. Input Power and Temperature

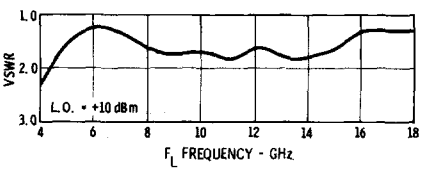


Isolation

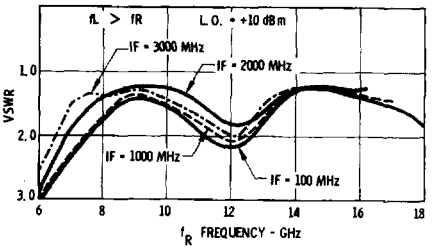


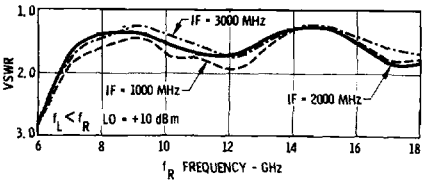


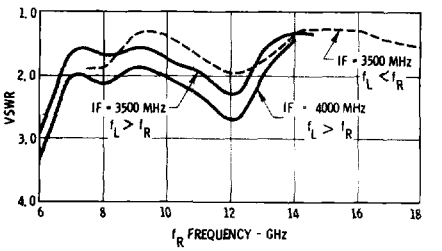
L-Port VSWR



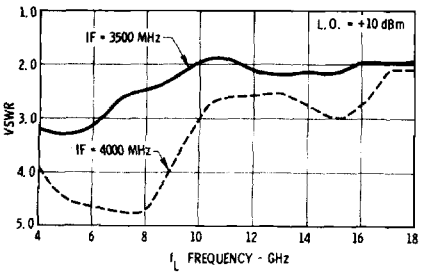
R-Port VSWR

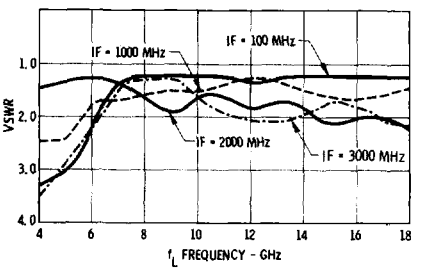






I-Port VSWR





9