M52 / M52C

Triple-Balanced Mixer

Rev. V3

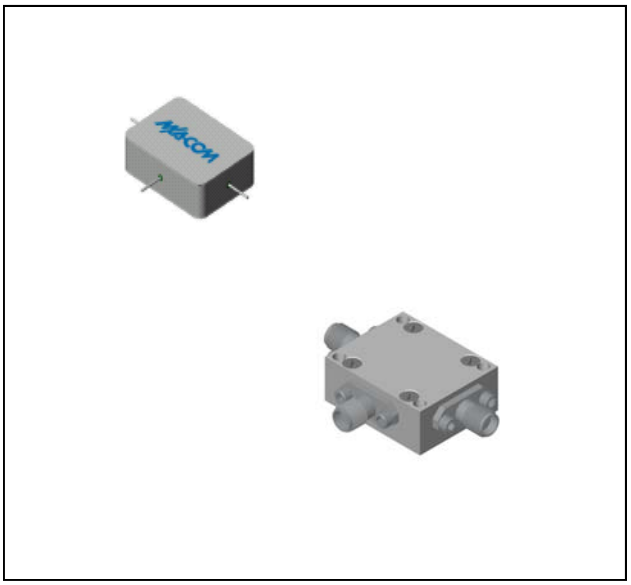
Features

- LO 2 TO 24 GHz
- RF 2 TO 24 GHz
- IF 0.1 TO 5 GHz
- LO DRIVE: +10 dBm (NOMINAL)
- HIGH COMPRESSION POINT
- VERY WIDE BANDWIDTH

Description

The M52 is a triple 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. 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
M52	Minpac
M52C	SMA Connectorized

Electrical Specifications: Z_0 = 50Ω Lo = +10 dBm (Downconverter application only)

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25ºC	-54º to +85ºC *
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 8 to 18 GHz, fL =8 to 18 GHz, fI =0.1 to 4 GHz fR = 2 to 8 GHz, fL =2 to 8 GHz, fI =1 to 4 GHz fR = 2 to 18 GHz, fL =2 to 18 GHz, fI =0.1 to 5 GHz fR = 18 to 24 GHz, fL =13 to 24 GHz, fI =0.1 to 5 GHz	dB dB dB dB	7.5 8.0 8.5 9.5	9.5 10.0 10.5 12.5	10.0 10.5 11.0 13.0
Isolation, L to R (min)	fL = 2 to 24 GHz fL = 4 to 19 GHz	dB dB	18 25	15 20	13 18
Isolation, L to I (min)	fL = 2 to 20 GHz fL = 20 to 24 GHz	dB dB	30 20	22 15	20 13
1 dB Conversion Comp.	fL @ +10 dBm	dBm	+5		
Input IP3	fR1 =3.75 GHz @ -6 dBm, fR2 =3.76 GHz @ -6 dBm, fL=4 GHz @ 10 dBm fR1= 13 GHz @ -6 dBm, fR2 = 13.01 GHz @ -6 dBm, fL = 11 GHz @ 10 dBm fR1= 20 GHz @ -6 dBm, fR2 = 20.01 GHz @ -6 dBm, fL = 24 GHz @ 10 dBm	dBm dBm dBm	+16 +16 +13		

* The M52C specification limits apply at 0ºC to +50ºC.

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• **India** Tel: +91.80.4155721 • **China** Tel: +86.21.2407.1588
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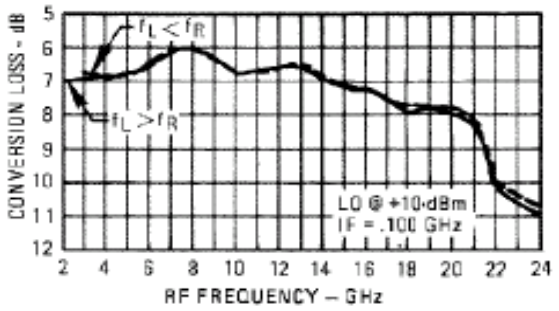
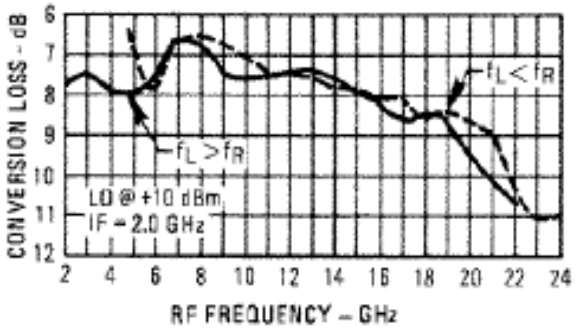
Typical Performance Curves

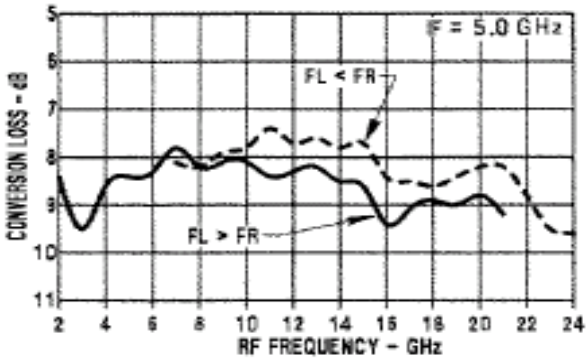
Conversion Loss vs. Frequency



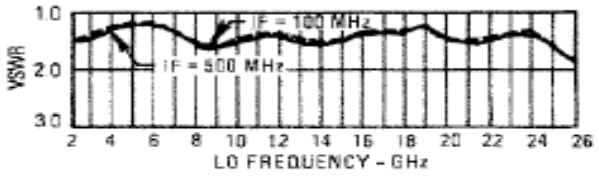
Conversion Loss vs. Frequency

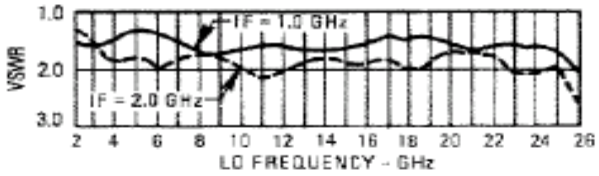


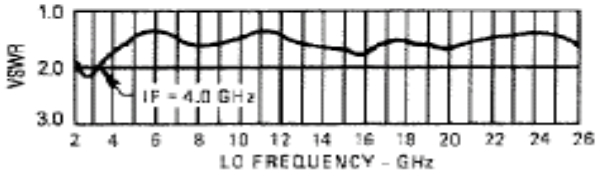
Conversion Loss vs. Frequency



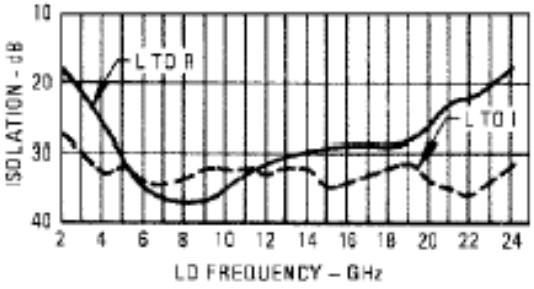
I-Port VSWR

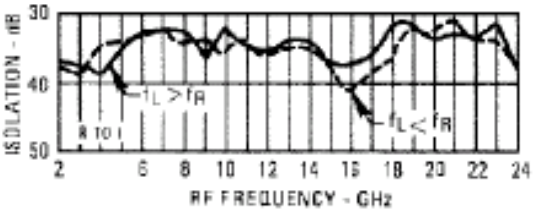






Isolation vs. Frequency





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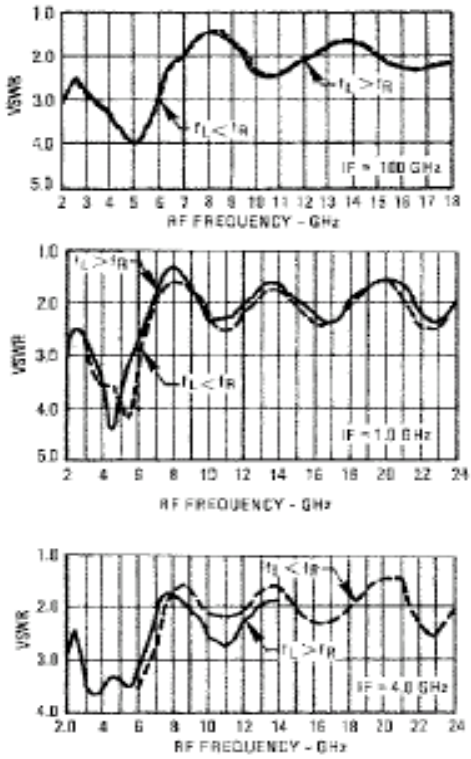
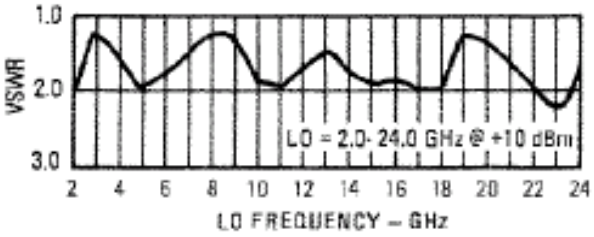
Absolute Maximum Ratings

Parameter	Absolute Maximum
Operating Temperature	-54ºC to +100ºC
Storage Temperature	-65ºC to +100ºC
Peak Input Power	+26 dBm max @ +25ºC +22 dBm max @ +100ºC
Peak Input Current	mA DC

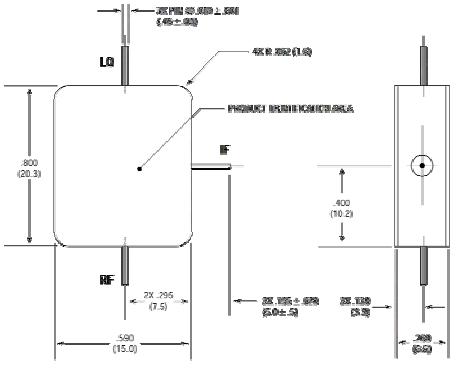
R-Port VSWR



L-Port VSWR

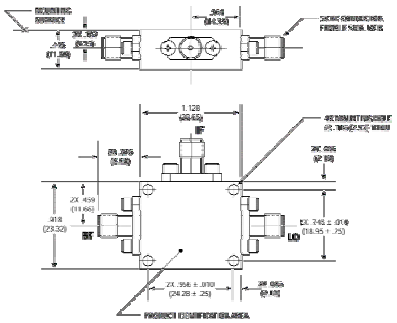


Outline Drawing: Minpac *



Weight: 8 grams (0.28 oz.) max

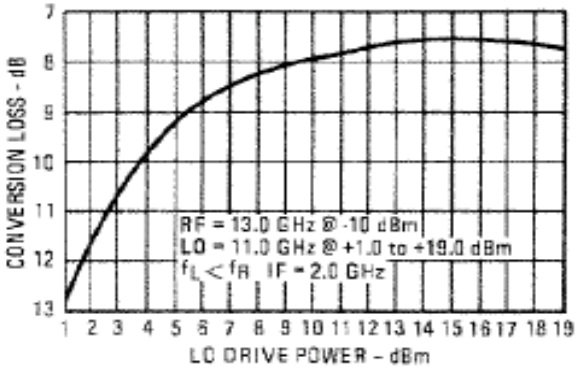
Outline Drawing: SMA Connectorized *



Weight: 29 grams (1.02 oz.) max

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

Drive Level



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