M50A / M50AC



Triple-Balanced Mixer

Rev. V2

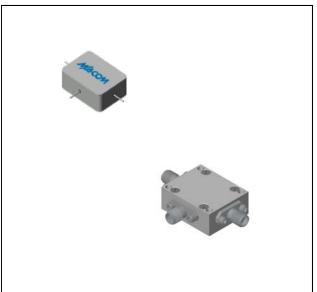
Features

- LO 2 TO 26 GHz
- RF 2 TO 18 GHz
- IF 1 TO 12 GHz
- LO DRIVE: +10 dBm (NOMINAL)
- HIGH COMPRESSION POINT

Description

The M50A 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	
M50A	Minpac	
M50AC	SMA Connectorized	

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

Doromotor	Took Conditions	l luita	Typical	Guaranteed	
Parameter Test Conditions		Units		+25°C	-54º to +85ºC *
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 2.5 to 18 GHz, fL =2 to 18 GHz, fI =1 to 10 GHz fR = 2 to 18 GHz, fL =2 to 26 GHz, fI =1 to 12 GHz	dB dB	7.5 8.0	9.5 10.5	10.0 11.0
Isolation, L to R (min)	fL = 2 to 3 GHz fL = 3 to 26 GHz	dB dB	22 30	15 20	
Isolation, L to I (min)	fL = 7 to 26 GHz fL = 2 to 7 GHz	dB dB	30 22	20 15	
1 dB Conversion Comp.	fL @ +10 dBm	dBm	+5		
Input IP3	fR1 =5 GHz @ -6 dBm, fR2 =5.01 GHz @ -6 dBm, fL=8 GHz @ 10 dBm fR1= 15 GHz @ -6 dBm, fR2 = 15.01 GHz @ -6 dBm, fL = 25 GHz @ 10 dBm	dBm dBm	+15 +12		

^{*} The M50AC specification limits apply at 0°C to +50°C.

Commitment to produce in volume is not guaranteed.

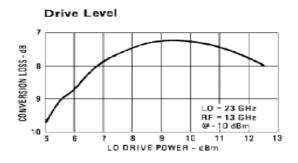
[•] India Tel: +91.80.4155721



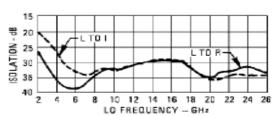
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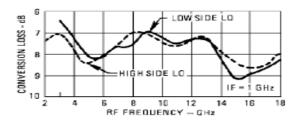
Typical Performance Curves



Isolation vs. Frequency

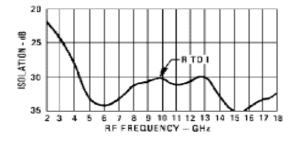


Conversion Loss vs. Frequency LO @ +10 dBm

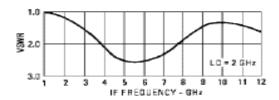


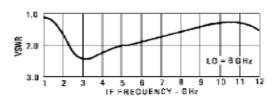
LOW SIDE LO

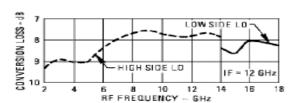
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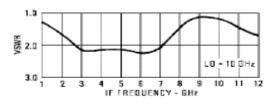
I-Port VSWR vs. Frequency, LO @ +10 dBm







6 8 10 REFREQUENCY



CONVERSION LOSS - de

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- North America Tel: 800.366.2266 Europe Tel: +353.21.244.6400
- India Tel: +91.80.4155721 Visit www.macomtech.com for additional data sheets and product information.
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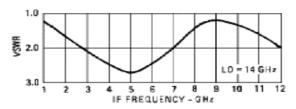
Triple-Balanced Mixer

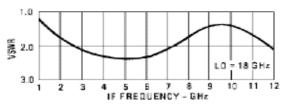
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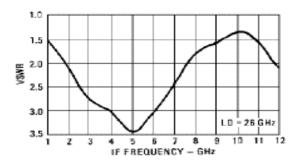
Absolute Maximum Ratings

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

I-Port VSWR

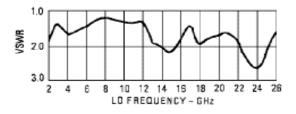




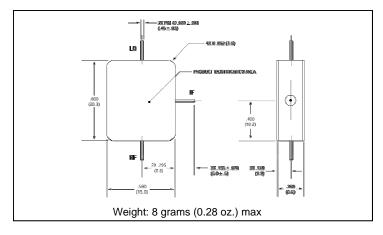


L-Port VSWR

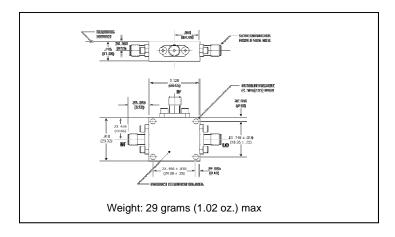
Commitment to produce in volume is not guaranteed.



Outline Drawing: Minpac *

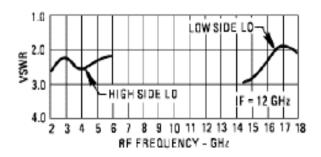


Outline Drawing: SMA Connectorized *



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

R-Port VSWR



PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. • North America Tel: 800.366.2266 • Europe Tel: +353.21.244.6400

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