

Double-Balanced Mixer

Rev. V3

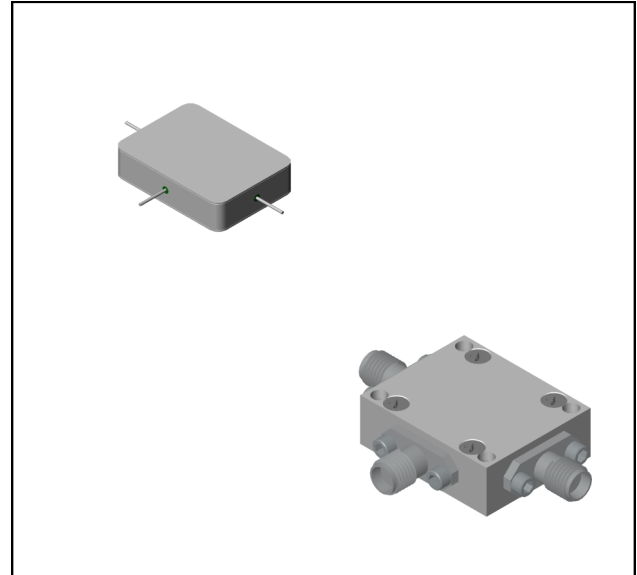
Features

- LO 7 TO 17 GHz
- RF 9 TO 15 GHz
- IF DC TO 2.5 GHz
- LO DRIVE: +10 dBm (NOMINAL)
- LOW NOISE FIGURE: 6.5 dB (TYP.)

Description

The M67 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
M67	Minpac
M67C	SMA Connectorized

M/A-COM Technology Solutions Inc. All rights reserved.

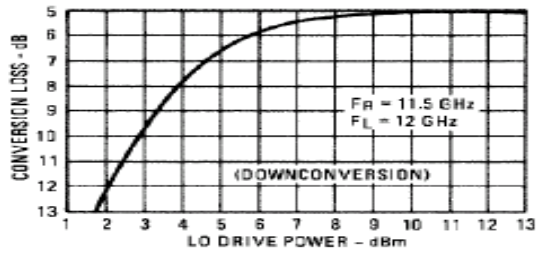
Electrical Specifications is $Z_0 = 50\Omega$, $Lo = +10\text{ dBm}$ (Down Converter Application only) products. These materials are provided by MACOM as a service to its customers and may be used for

Parameter	Test Conditions	Units	Typical	Guaranteed	
				+25°C	-54° to +85°C
SSB Conversion Loss (max) & SSB Noise Figure (max)	fR = 9.5 to 13 GHz, fL = 9 to 13.5 GHz, fl = 30 to 500 GHz	dB	5.5	7.0	7.5
	fR = 9 to 15 GHz, fL = 8 to 16 GHz, fl = 30 to 1000 GHz	dB	6.5	8.5	9.0
	fR = 9 to 15 GHz, fL = 7 to 17 GHz, fl = 30 to 2000 GHz	dB	6.5	9.0	9.5
	fR = 9.5 to 13.5 GHz, fL = 7 to 16 GHz, fl = 30 to 2500 GHz	dB	6.5	9.0	9.5
Isolation, L to R (min)	fL = 7 to 15 GHz	dB	40	22	20
	fL = 15 to 17 GHz	dB	30	10	8
Isolation, L to I (min)	fL = 7 to 17 GHz	dB	25	15	13
1 dB Conversion Comp.	fL = +10 dBm	dBm	+4		
Input IP3	fR1=11.5 GHz at -6 dBm, fR2=11.5GHz at -6 dBm, fL = 12 GHz at +10 dBm	dBm	+11		

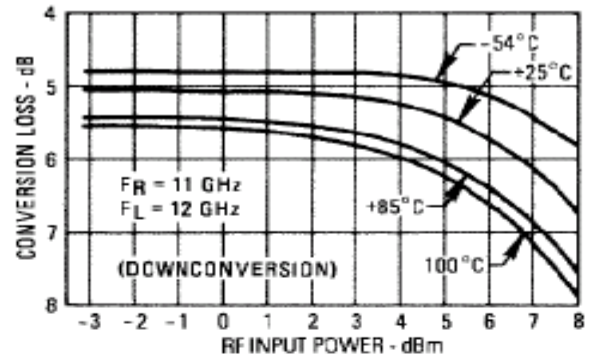
MACOM does not warrant, represent or make any claim for any damages resulting from such improper use or care.

Typical Performance Curves

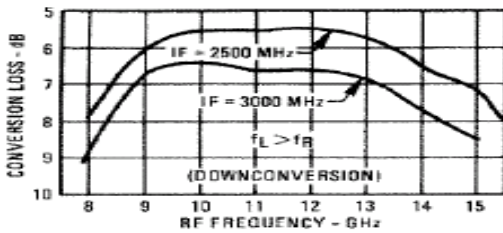
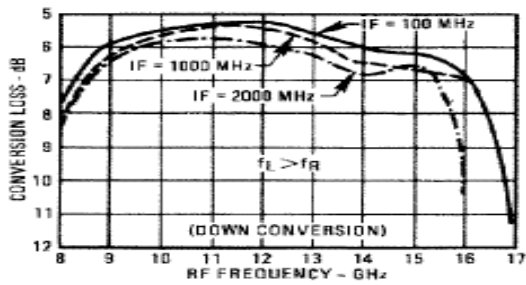
Conversion Loss vs. LO Drive



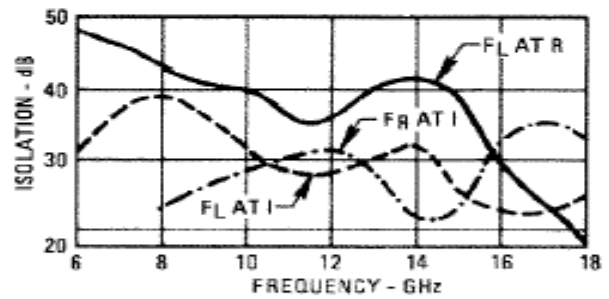
Conversion Loss vs. RF Input Power



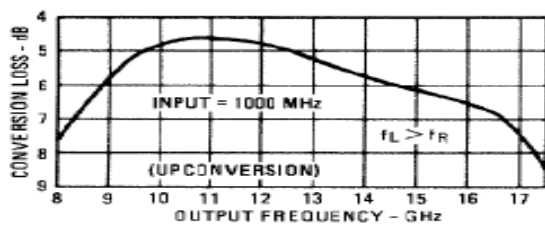
Conversion Loss vs. Frequency



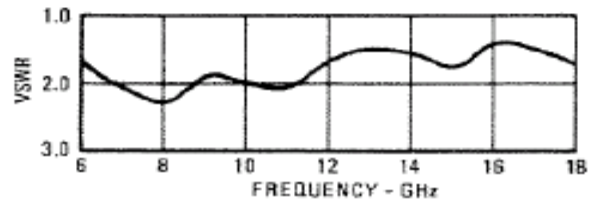
Isolation vs. Frequency



Conversion Loss vs. Output Frequency



L-Port VSWR vs. Frequency



Solutions with DM as a component, MACOM's commitment, MACOM's presence in the market, without compromise. No license required.

WITHOUT THE RISK OF MATERIAL DAMAGE, A PARALLEL INFRARED COMBINATION OF EXTENSIBLE, GRADABLE FLOW LIMITATION, LOST REVENUES OR LOST PROFITS, MATERIALS.

Medical, lifesaving or life sustaining applications. MACOM is not responsible for such applications do so at their own risk and agree to indemnify MACOM from such improper use or sale.

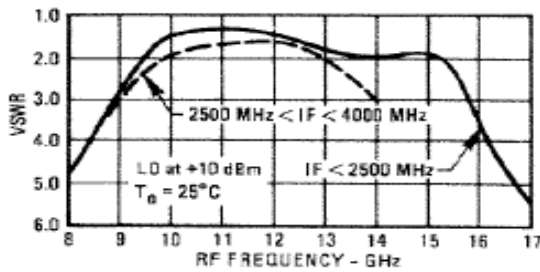
Double-Balanced Mixer

Rev. V3

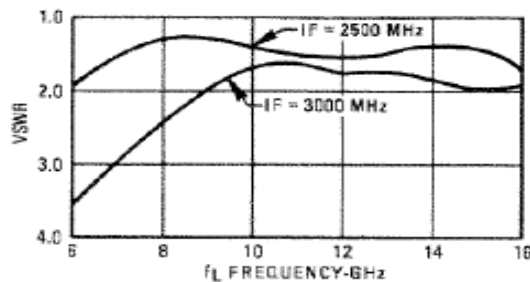
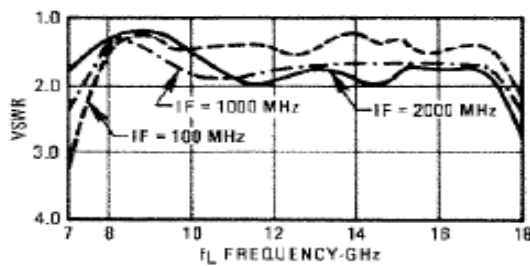
Absolute Maximum Ratings

Parameter	Absolute Maximum
Operating Temperature	-54°C to +100°C
Storage Temperature	-65°C to +100°C
Peak Input Power	+23 dBm max @ +25°C +20 dBm max @ +100°C
Peak Input Current	50 mA DC

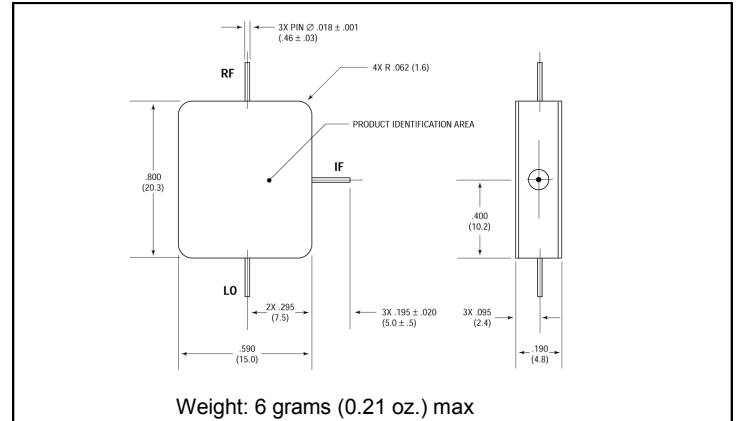
R-Port VSWR vs. Frequency



I-Port VSWR vs. f_L

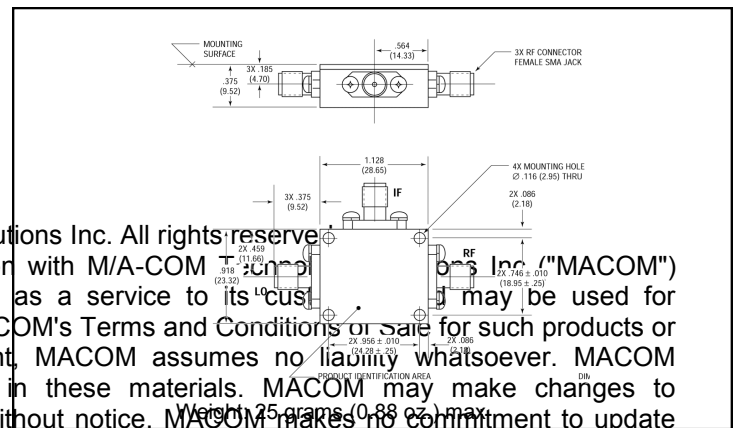


Outline Drawing: Minpac *



Weight: 6 grams (0.21 oz.) max

Outline Drawing: SMA Connectorized *



© 2012 MACOM Technology Solutions Inc. All rights reserved. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage and retrieval system, without permission in writing from MACOM Technology Solutions Inc. ("MACOM"). MACOM may be used for any purpose, provided that the use of MACOM's Terms and Conditions of Sale for such products or services, and the use of MACOM's logo, are in accordance with the terms of the license agreement. MACOM assumes no liability whatsoever for any damages, including consequential, incidental, or punitive damages, arising from the use of this document. MACOM reserves the right to make changes to this document without notice. MACOM makes no commitment to update this document for conflicts or incompatibilities arising from future editions. No license, express or implied, by estoppel or otherwise, is granted by MACOM.

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

MACOM TECHNOLOGY SOLUTIONS INC. MAKES NO WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, FOR THE USE OF ANY OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES THAT MAY APPLY TO A PARTICULAR PURPOSE, CONSEQUENTIAL DAMAGES, INCLUDING INCIDENTAL OR PUNITIVE DAMAGES, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHTS. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THIS DOCUMENT. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING LOST REVENUES OR LOST PROFITS, ARISING FROM THE USE OF ANY OF MACOM PRODUCTS OR SERVICES.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM makes no representation or warranty that its products are suitable for such applications. Users use in such applications do so at their own risk and agree to indemnify MACOM from such improper use or sale.