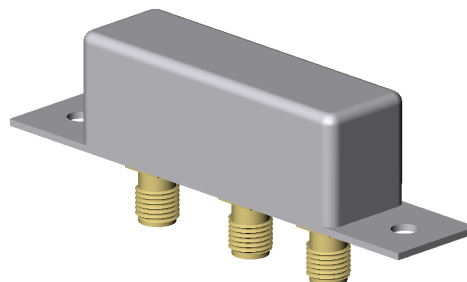


Double-Balanced Mixer

Rev. V2

Features

- LO and RF: 1.8 to 6.2 GHz
- IF: DC to 2 GHz
- LO Drive +7 dBm (nominal)
- High Isolation 35 dB (Typ.)

Guaranteed Specifications¹

Characteristics	Test Conditions	Units	Min	Typ.	Max.
SSB Conversion Loss And SSB Noise Figure	fL & fR 1.8 to 4.2 GHz, fI 0.01 to 1 GHz fL & fR 1.8 to 4.2 GHz, fI 0.01 to 2 GHz fL & fR 1.8 to 6.2 GHz, fI 0.01 to 2 GHz	dB	—	7.0 dB 8.5 dB 9.0 dB	8.5 dB 9.5 dB 10.0 dB
Isolation	fL at R, fL 1.8 to 4.2 GHz fL at I, fL 1.8 to 4.2 GHz fL at R, fL 4.2 to 6.2 GHz fL at I, fL 4.2 to 6.2 GHz	dB	25 dB 15 dB 18 dB 15 dB	40 dB 25 dB 25 dB 20 dB	—
Conversion Compression	fR = 0 dBm fL at +7 dB	dB	—	1.0 dB	—

Notes:

1. Measure 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.

Absolute Maximum Ratings

Storage Temperature	-65°C to +100°C
Operating Temperature	-54°C to +100°C
Peak RF Input Power	+17 dBm
Peak Input Current at 25°C	50 mA DC

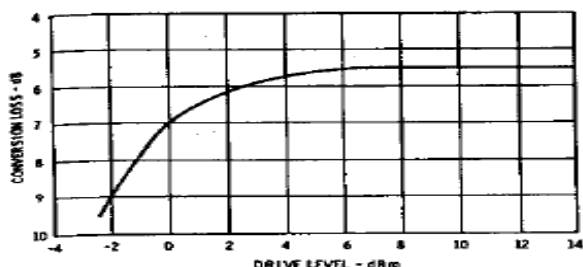
Weight 31 gram (1.1 oz) max.

Double-Balanced Mixer

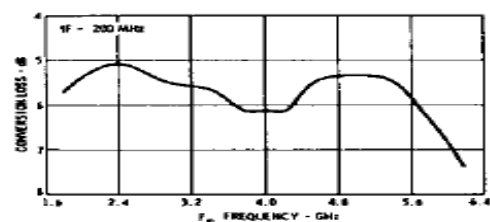
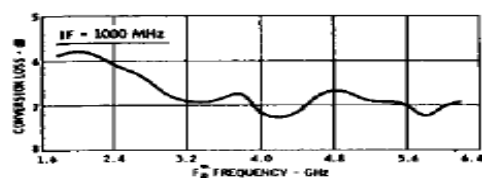
Rev. V2

Typical Performance Curves at 25°C

Conversion Loss

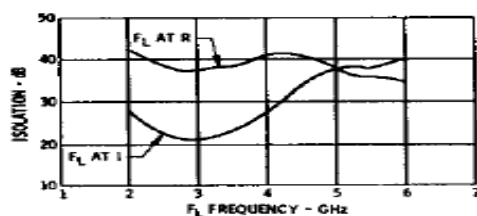


Conversion Loss vs. Drive Level: Conversion loss in an SSB system is a function of drive level (f_L with f_L and f_R at approximately 3 GHz and f_R level at -6 dBm).



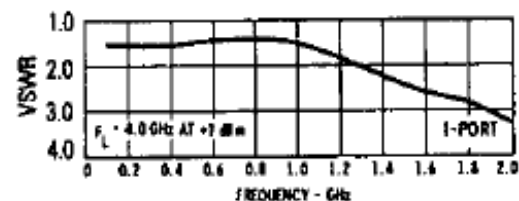
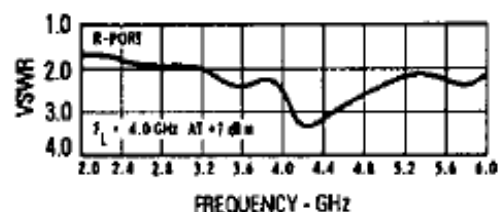
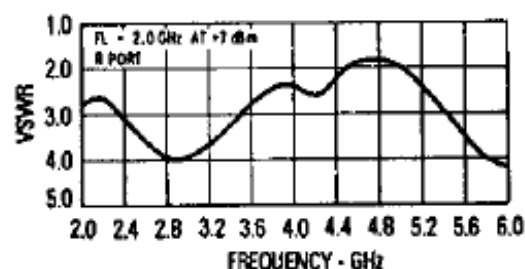
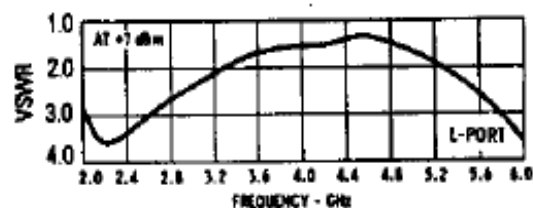
Conversion Loss vs. Input Frequency: The frequency ordinate refers to the report (f_R) with f_L at 200 MHz and 1000 MHz, data plotted with f_L at +7 dBm.

Isolation



Isolation vs. Frequency: Level of the f_L signal fed through to the R- and I-ports with respect to the level of the f_L signal at the L-port.

VSWR

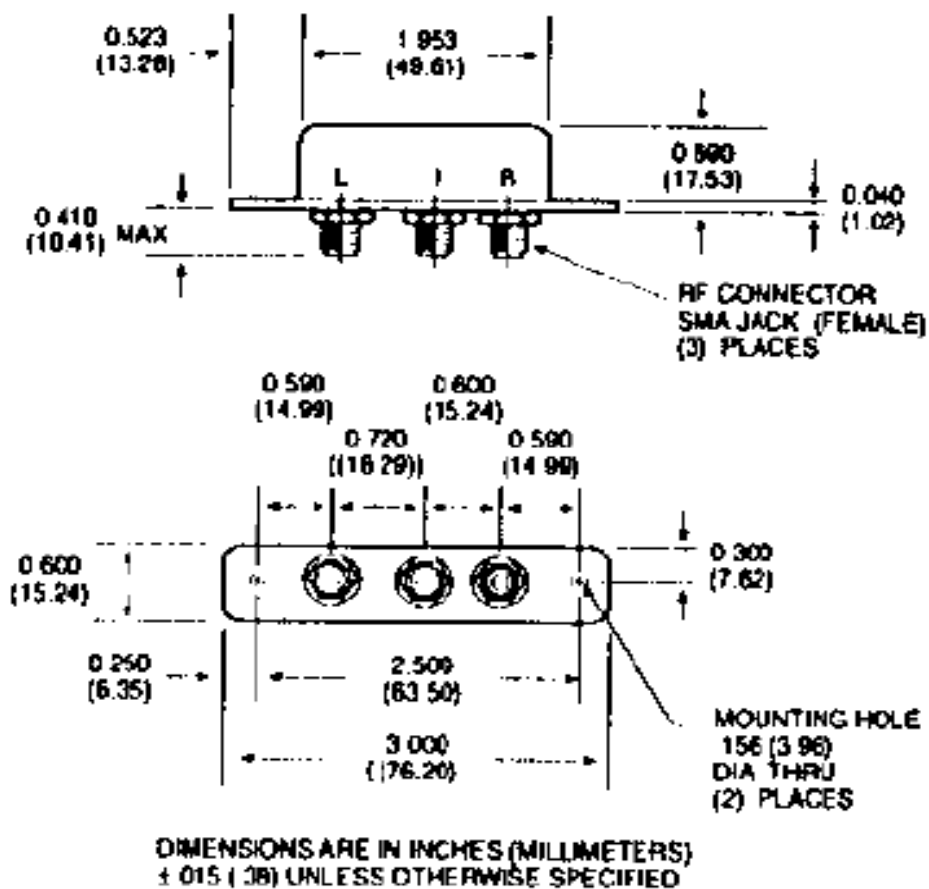


VSWR vs. Frequency: VSWR of the L-, I- and R-ports in a 50-ohm system. Some variation in the R-port VSWR will occur as a function of the L-port frequency as shown above. Curves for R-port VSWR are plotted for L-port frequencies of 2 GHz and 4 GHz. A plot of I-port VSWR is also shown with f_L at 4 GHz.

Double-Balanced Mixer

Rev. V2

Outline Drawing: M1H



Double-Balanced Mixer

Rev. V2

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

Information in this document is provided in connection with M/A-COM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.